

GANDESHWARA RANI CHANNAMMA UNIVERSITY BELAGAVI



COURSE STRUCTURE AND SYLLABUS

FOR

B.Com

2nd YEAR

(IV SEMESTER)

w.e.f. Academic Year 2016 - 17 & Onwards

Rani Channamma University, Belagavi

Department of Post Graduate Studies and Research in Commerce

Proposed B.Com Course Structure of III & IV Semester

w. e. f. Academic year 2016-17

Paper/No	Title of the Paper	Weekly Teaching Hours	Exam Duration	Maximum marks		
				Internal Assessment	Semester End Examination Marks	Total
THIRD SEMESTER						
3.1	Retailing Management	4	3	20	80	100
3.2 (A)	Principles of Entrepreneurship Development	4	3	20	80	100
3.2 (B)	Entrepreneurship Development (Vocational) P 1C	4	3	20	80	100
3.3	Corporate Accounting – I	4	3	20	80	100
3.4	Banking Law and Practice	4	3	20	80	100
3.5.	Commercial Arithmetic-I /Business Statistics – I	4	3	20	80	100
3.6(A)	Industrial Economics	4	3	20	80	100
3.6 (B)	Tax Procedures & Practice (Vocational) 2C	4	3	20	80	100
3.7	Computer Application in Business – II	4+2	3	20	80	100

Paper/No	Title of the Paper	WTHs	ED	Maximum marks		
				IA	SEE	Total
FOURTH SEMESTER						
4.1	Financial Management	4	3	20	80	100
4.2	Modern Business Law	4	3	20	80	100
4.3	Corporate Accounting - II	4	3	20	80	100
4.4 (A)	Business Communication	4	3	20	80	100
4.4 (B)	Entrepreneurship Development (Vocational) 1 D	4	3	20	80	100
4.5	Commercial Arithmetic-II /Business Statistics – II	4	3	20	80	100
4.6 (A)	International Business Economics	4	3	20	80	100
4.6 (B)	Tax Procedure& Practice (Vocational) 2D	4	3	20	80	100
4.7	Computer Application in Business – III	4+2	3	20	80	100

Note: 1. WTHs: Weekly Teaching Hours

2. ED: Examination Duration

3. IA: Internal Assessment Marks

4. SEE: Semester End Examination Marks

1. English

Detailed Syllabus for B. Com. / B.B.A.
(With effect from 2017-18 onwards)
Semester IV: Additional English
Teaching Hours: 5 per Week

Text Book: *Invisible Man* by H.G. Wells (Roopa Publications, New Delhi)

Grammar and Composition

- 1) Misspell words (Pair of words)
- 2) Organizing a written composition
- 3) Expansion of outlines into a story
- 4) A) Letters to News paper editors
B) Letters of complaint to the concerned authorities

Pattern of Question Paper
(80 Marks per paper of three hours and 20 Marks for I.A)

1) Objective type questions on the novel	10X1= 10
2) Comprehension Questions on the novel (Answer in a sentence or Two)	5X2=10
3) Essay type question on the novel (one out of two)	1X10 =10
4) Essay type question on the novel (one out of two)	1X10=10
5) Short Notes on the novel (two out of four)	2X5=10
6) A) Misspell words (Choosing a Correct Spelt word) B) Orgnising a written composition	5X1= 05 5X1= 05
7) Expansion of outlines into a story	10
8) A) Letters to News paper editors B) Letters of complaint to the concerned authorities	1X5= 05 1X5=05
	80

2. Kannada

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3. Hindi

B.Com. IVth Semester

Basic: Hindi

1) Examination : a) One Paper carrying 80 Marks and 3 hours of Duration.

b) Internal Assessment Marks 20

2) Teaching : 5 hours per week

3) Course : 1) Collection of Short Stories

2) General Essays.

4) Distribution of Marks

I	Objective type Questions 10/14	10 Marks
II	Annotations from Collection of Short Stories 2/4	10 Marks
III	General questions based on Collection of Short Stories 2/4	30 Marks
IV	Short Notes on Collection of Short Stories 3/5	15 Marks
V	General Essay with Options 1/3	15 Marks
	Total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Text Books-

1) Collection of Collection of Short Stories Marks : 65

कथा मंजर प न के लए ('मचंद से महप संह तक)

संपादक : मह कुल ठ

राजपाल ए ड स ज

१९९०, मदरसा रोड, क मीर गेट

नई द ल - ११०००६

2) General Essays (नबंध रचना) Marks : 15

Reference Books

1. साठो तर ह द कहानी म पा और चर च ण : राम साद
2. ह द कहान्य म दंदः सुमन महरो ।
3. आज क कहानी : वजय मोहन संह
4. ह द कहानी का वकास : देवेश ठाकूर
5. नई कहानी म आधुनकता का बोध : साधना शाह
6. ह द कहानी का श प - वधान : राधेशाम गुत
7. 'ठ ल लत नबंध : कृण बहार म
8. आकलन और समी । : संसार चंद
9. नार : अभ यीत और ववेक : पु पावती खेतान

4. Marathi

**B.Com
Semester IV
Basic Marathi**

Course: Literary from: Autobiography

Text: Aai Samjun Gethana : Uttam Kamble

Lokwangamaya gruh, Mumbai.

5. Urdu

B.Com IV Semester Urdu Basic (MIL)

Paper IV: Prose, Poetry & Business Correspondence

Scheme of Teaching: Duration 16 weeks, 5 hours/week

Prescribed Text books

I. KAYANATE-ADAB

(Detailed Text)

(VOL-I Part 2 Prose & Poetry)

Ed By: M.N. Sayeed

Pub By: Hameem Publishers

3, First Floor Lal Masjid

Building A street

Shivaji Nagar

Bangalore- 560051

II. KAROBABR-I-KHAT-O-KI-TABAT

(Page No. 86 – 99 only)

By: Khaleel Ahmed Ibn-Makhdoom

Pub By: Hareer Academy,

Bangalore-560098

SCHEME OF EXAMINATION (III & IV SEMESTER)

Total Marks – 100 marks (Theory- 80 + Internal Assessment- 20)

- a) Each paper of 100 marks shall carry 20 marks Internal Assessment, 4+10 shall be for I.A Test and remaining 3+3 shall be for home assignment and attendance respectively
- b) In each paper 2 tests shall be conducted for the award of I.A marks. First test of one hour duration for maximum 20 marks reduced to 4 marks shall be conducted in 8th week. Second test

in 12th week of respective semester of 80 marks and of 3 hours duration then reduced to ten marks.

The question paper shall be broadly based on the following pattern (III & IV semester)

Q. No. 1: Multiple choice questions from both the texts
(10 out of 10) $10 \times 1 = 10$

Q. No. 2: Essay type questions on Prose
(1 out of 2) $1 \times 10 = 10$

Q. No. 3: Reference to Context
(4 out of 6) $4 \times 2.5 = 10$

Q. No. 4: Summary of Poem
(1 out of 3) $1 \times 10 = 10$

Q. No. 5: Appreciation of verses (Gazals)
(4 out of 6) $4 \times 2.5 = 10$

Non-Detailed Text

Q. No. 6: Essay type questions
(2 out of 4) $2 \times 10 = 20$

Q. No. 7: Letter writing
(1 out of 2)
(From the text only) $1 \times 10 = 10$

6. Sanskrit

Bsc Part -II Basic – Sanskrit			
Fourth Semester			
Teaching Hours	:	5 Hours per week	
Exam Marks	:	80+20=100 of 3 hours Duration	
Text : स्वप्नवासवदत्तम् K. U. Dharwad Publication Pavate Nagar Dharwad - 3			
1.	स्वप्नवासवदत्तम्	:	70 Marks
2.	व्याकरणम् (सर्वनामशब्दाः)	:	10 Marks
3.	Internal Assessment	:	20 Marks
	1. Internal Test – 14 2. Assignment, Class Records Skill – Development – 06		
		Total	100 Marks

Bsc Part -II

Basic – Sanskrit

Question Paper Pattern

Fourth Semester

1.	New type questions / select the correct answer (any ten out of twelve)	10 Marks
2.	Translate & explain (any three out of five)	18 Marks
3.	Explain with reference to context (any four out of six)	16 Marks
4.	Critical notes (any two out of four)	14 Marks
5.	Answer the following questions (with internal choice)	12 Marks
6.	Grammar (Recognize the pronouns forms)	10 Marks
		Total 80 Marks

7. Arabic

SYLLABUS OF ARABIC SUBJECT BCom. Fourth Semester Arabic Basic

Paper : Prose, Poetry and History of Arabic Literature

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al Qiraatur Raashida part I (Prose)

By: Abul Hasan Ali Nadvi

Pub.By: Nadvatul Ulama Lucknow (u.p)

Following Lessons

- (1) As Sa-atu. (2) Al Futooru. (3) Al Amanatu. (4) AS Saidu.
- (5) Madubatun (6) Birrul Walidaini. (7) Fazeelatush-Shugli

2. Qaseeda-e-Burdah (Poetry)

By: Imam Boosary

Pub.By: Azeem Book Depo Deoband (u.p)

Chapter No.10.

3. Mukhtasar Tareekh-e- Adabiyat-e-Arabi

By: Dr.syedAbul Fazl

Pub.By:Deccan Traders Book Seller
& Publisher 23-2-378, Moghalpura, Hyderabad.

Chapter No.III 3rd & 4th period (daur)

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Suratul Humazah

The question paper should be broadly based on the following pattern.

1)	Multiple choice from first and second text	10x1	=	10
2)	Summary from first and second text with choice	2x7½	=	15
3)	R.C. from first and second text with choice	3x5	=	15
4)	Appreciation of verses from second text 3 out of 5	3x5	=	15
5)	Question from third text with choice	2x7½	=	15
6)	Question on Sura	1x10	=	10

			80	

8.Persain

B.Sc. 4th Semester

Basic Persian

Teaching Hours : 5 Hourse per Week

Modern Prose

1. Prescribed text book

Following portion only

Maruf-E-Iran

Textbook

Shukhan-E-Naw(Part-II) by Manzoor Ahmed Khan

Pub:-Educational book house Aligarh.

2. Prescribed textbook

Following portion only

Manzumate-Aqlaque

Textbook

Shukhan-E-Naw(Part-I) by Dr.Gulam Sarwar Muslim University.

Pub:-Educational book house Aligarh.

Scheme of Examination

1. Total marks-100 Theory -80 marks Internal test Assessment 17 and attendance 3 marks=20.

2. In each paper two tests shall be conducted for the award of Internal Assessment marks, and each of one hour duration for a maximum of 20 marks reduced to 17 later. First test shall be conducted in 8th week and 2nd test in 12th week of respective semester. The Average marks obtained in the two tests for 17 marks shall be taken as final Internal Assessment Marks test component.

Scheme of Examination

Q1.Multiple choice questions	1*10=10
Q2.Essay type questions from the text	3*05=15
Q3.Questions on R.C from the text	3*05=15
Q4.Translation & Explanation from the text	3*05=15
Q5.Summary of the Passage/Poem from the text with choice	1*15=15
Q6.Short notes with choice (On the history of Persian Literature)	2*05=10

B. Com IV Semester Syllabus implemented from academic year 2016-17

B. Com IV Semester

4.1 FINANCIAL MANAGEMENT

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES: To enrich the students' knowledge on importance of Finance in business.

Units	Topics	No of periods
I	INTRODUCTION: Basics of Finance- Financial Management- Meaning-Definitions- Functions-Objectives-viz. Profit maximization and Wealth maximization- Calculation of NPV i.e. application of Discounting Technique & other objectives-Finance decisions (four)-Factors influencing financial decisions (Internal & External) - Responsibilities of finance manager towards various stakeholders.	10
II	CAPITALIZATION: Meaning and Definition- Theories (Cost and Earnings)- Causes- Effects- Remedies of Over-capitalization and Under-capitalization- Fair Capitalization- Features- Determination of capitalization status (Problems based on BV and RV)	10
III	CAPITAL STRUCTURE AND LEVERAGE: Capital Structure- Meaning and Definition- Determination of capital mix based on EPS- Point of Indifference (only Debt and Equity mix) Leverage- Meaning- Computation of three types of leverages.	10
IV	COST OF CAPITAL: Cost of Capital- Meaning- Computation of specific costs i.e. Cost of debt, Cost of Preferred Stock, Cost of Equity, and Cost of Retained Earnings and Weighted Average Cost of Capital (WACC).	10
V	WORKING CAPITAL: Working Capital- Meaning- Factors- Types- Estimation of working capital on basis of Current Assets and Current Liabilities.	10

SKILL DEVELOPMENT:

1. Calculations on superiority of wealth maximization.
2. Activities regarding determination of Capitalization Status of business firm.
3. Activities on raising of funds based on cost of capital.
4. Preparation of chart showing the working capital requirement of firm .

SUGGESTED REFERENCE:

1. Principles of Financial Management: S.K. Gupta, R.K Sharma & Neeti Gupta, Kalyani publications New Delhi.
2. Principles of Financial Management: Maheshwari S.N, S.Chand & Sons, New Delhi.
3. Financial Management : Khan and Jain , TMH New Delhi
4. Financial Management: Reddy and Appannaiahya, Himalaya Publications, Mumbai.
5. Financial Management: Kulkarni & Satyaprasad, Himalaya Publications, Mumbai.
6. Financial Management: Dr.R. M. Patil & Prof. Jalawadi
7. Financial Management: Dr R V Diwan and Dr R G Allagi
8. Financial Management: Dr.G.B.Baligar, Ashok Prakashan, Hubli.
9. Financial Management by R M Patil & Jalanadi

4.2 MODERN BUSINESS LAW

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES To acquaint the student with Business Laws and its interpretation and help them to apply basic principles of Business Laws to solve practical problems.

Units	Topics	No of periods
I	Law of Contract 1872: Meaning, definitions and essentials of Contract, Classification. – Meaning and essentials of offer and acceptance, capacity of parties to contract, consideration, free consent, legality of object, Agreement declared void.	10
II	Law of contract 1872 (continued) Discharge of contract – Remedies for breach of contract-Quasi Contracts.	10
III	Indemnity and Guarantee: Meaning, definitions and essentials of Indemnity, Guarantee, Bailment and Pledge. Distinctions between Indemnity and Guarantee and Bailment and Pledge.	10
IV	Right to Information Act, 2005. Background- Definition, Right to information and obligation of public authorities. Central information commission and the state information commission, powers and functions of the information commission, appeals and penalties.	10
V	Cyber Law- Meaning, types of Crimes, Punishment.	10

SUGGESTED REFERENCE:

1. Kapoor, N.D. : Business Laws, Sultan Chand & Sons, New Delhi.
2. Bulchandani,K.R. : Business Laws, Himalaya Publishing House, Mumbai.
3. Kuchhal, M.C. : Mercantile Law, Vikas Publication, New Delhi.
4. Pomeroy,D.A. : Business Laws, South Western Publications, Cincinnati.
5. Anderson & Others : Business Laws, South Western Publication, Cincinnati.
6. S.S. Gulshan : Business Laws
7. Garg, Chawla, Sarin Sharma: Business Laws, Kalyani publications
8. R.S.N Pillai & Bhagavati: Business Laws, S.Chand publications

4.3. CORPORATE ACCOUNTING - II

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES To enable the students to prepare financial statements of Joint Stock, Insurance and Banking Companies.

(Note: The Company Final Accounts only in Vertical Form)

Unit	Topic	No of periods
I	Amalgamation, Absorption and External Reconstruction: Merger Method Amalgamation in the nature of merger: Meaning, Calculation of purchase consideration – Accounting Treatment in the books of transferor and transferee Companies(as per Accounting Standard 14, excluding inter- company holdings) Vertical Balance Sheet	10
II	Amalgamation, Absorption and External Reconstruction: Purchase Method, Amalgamation in the nature purchase: Meaning, Calculation of purchase consideration - Treatment in the books of transferor and transferee (as per Accounting Standard 14, excluding inter- company holdings) Vertical Balance Sheet.	10
III	Internal Reconstruction: Meaning, Alteration of Share Capital, Reduction of Share Capital, Writing off Accumulated Losses. Accounting Entries. For re-organisation & alteration of capital, Legal Provisions in respect of alteration of capital,	10
IV	Forensic and creative accounting – meaning significance – methods. (theory only)	10
V	Accounts of Holding Companies (AS-21): Meaning, Need and Relevance of Group Accounts , Preparation Consolidated Financial Statements in case of Wholly Owned and Partly Owned Subsidiaries: (CFS) : AS-21,- : Calculation of Minority Shareholders and Minority Interest, Consolidated Balance Sheet with Inter Company adjustments.	10

Suggested Readings:

1. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta, Sultan Chand & Sons
2. Corporate Accounting by Dr.R.V.Diwan and V.A Patil.
3. Accountancy–III: Tulasian, Tata Mcgraw Hill Co.
4. Accountancy–III: S.P. Jain & K.L Narang, Kalyani Publishers
5. Modern Accountancy (Vol-II): Haneef & Mukherjee, Tata Mcgraw Hill
6. Advanced Accounting (Vol-II): Chandra Bose, PHI
7. Advanced Accountancy: Shukla and Grewal, S.Chand & Co
8. Advanced Accountancy: R.L.Gupta & Radhaswamy, Sultan Chand & Sons
9. Corporate Accounting: Goyal VK, Excel
10. Advanced Accountancy (Vol-II): S.N.Maheshwari & V.L.Maheshwari

4.4 A. BUSINESS COMMUNICATION

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

1. To create awareness among the students about Business communication Skills.

Unit	Topics	No of Periods
I	Introduction- Meaning, Definition, Components, types, barriers to communication. The Process of writing-- Planning, purpose of writing, audience analysis, role of persuasion communicating. Drafting, revising for content, style, correctness, formatting, proof reading.	10
II	Writing Skills: Choosing the right words, writing effective sentences, developing logical paragraph, writing concise message.	10
III	Basic Correspondence: Routine message, routine request, routine replies, claim letters, adjustment letters, write purchase letters and sales letters, bad news message, bad news replies, bad news announcements.	10
IV	Business report writing: Planning the report characteristics & Purpose of business reports, reporting process, drafting, revising, formatting and managing the reports.	10
V	Employment Communication: Self analysis and planning, preparing resume, electronic resume, Drafting application letters. Interview-- Meaning ,Types, Strategies for success at interviews.	10

SUGGESTED REFERENCES:

1. Darmar Fisher, Communication in Organizations, Jaico Publishing House, Mumbai, 1999.
2. Bovee and Thill: Business Communication Today, Tata McGraw Hill, New Delhi.
3. Randall E. Magors: Business Communication, Harper and Row, New York.
4. Balasubramanyam: Business Communications: Vikas Publishing House, Delhi.
5. Kaul: Effective Business Communications, Prentice Hall, New Delhi
6. Patri V.R.: Essentials of Communications; Greenspan Publications, New Delhi.
7. Allan Pease, Body Language, Sudha Publications, New Delhi.
8. Taylor, Shirley: Model Business Letters. Pearson Education Asia, New Delhi

4.4 - B ENTREPRENEURSHIP DEVELOPMENT (VOCATIONAL) 1D

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Objectives : The purpose of this paper is to prepare a ground where the students view Entrepreneurship as a desirable and feasible career option.

Units	Topics	No. of Periods
I	Installing and utilizing project capacity selecting appropriate technology & cost purchase techniques.	10
II	Concept and steps of marketing management tools and techniques, Market survey – concept and practices assessment of demand and supply preparation of survey questionnaire.	10
III	Working capital –Understanding working capital Cycle. Assessment of working capital requirement. Financial ratio and their importance tools and techniques for calculating financial ratios.	10
IV	Importance of business communication –exercises on improving oral and written communication.	10
V	Knowing entrepreneurial competency profile and how to developing entrepreneurial competencies.	10

SKILL DEVELOPMENT:

1. Preparation of questionnaire, market survey reports.

SUGGESTED REFERENCE:

1. H. Holt : Entrepreneurship PHI, New Delhi
2. Hisrich Peters : Entrepreneurship TMH, New Delhi
3. C. B. Gupta : Entrepreneurship & Small Business Management, Sultan Chand & Sons, New Delhi

4.5. A - COMMERCIAL ARITHMETIC – II

(For the students who have already studied Statistics at PU I & II/XI & XII)

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives: To train the students of commerce to become familiar with the practical problems relating to commerce and business environment and make them acquainted with actual commercial problems existing in the modern world.

Units	Topics	No of periods
I	Simple interest: Concept of Principal, Interest, Rate of interest, Period of interest and Amount. Calculation of interest, period, rate, amount. Other examples. Compound Interest: Formula to find amount. Problems based on this formula. Varying rates of compound interest. Nominal and effective rates of compound interest. Problems based on these. Concept of depreciation, Calculations of Value, period, Original price and rate. Varying rates of depreciation. Problems based on depreciation.	10
II	Bills of Exchange: Definition of bill of exchange. Discounting of a bill. Problems based on these. Present worth, sum due, true discount, banker's discount and banker's gain problems	10
III	Average Due date: Definition of equated period and average due date. Nominal due date and legal due date. Finding average due date in different cases.	10
IV	Installment buying and annuities: Concept of installment buying. Finding rate of interest and value of installment. Definition of annuities. Formula for amount of an annuity. Annuity immediate and annuity due. Present worth of an annuity. Problems based on these.	10
V	Time, Work and Speed: Relation between time and the work done. Relation between speed and time. Problems on these.	10

SUGGESTED REFERENCE:

1. Commercial Arithmetic by Prof. R. H. Dhareshwar
2. Commercial Arithmetic by Iyer and Bari
3. Commercial Arithmetic by Patvardhan and Joshi
4. Commercial Arithmetic by Sutaria

4.5 – B. BUSINESS STATISTICS - II

(For students who have not studied Statistics at PU I & II / XI & XII classes)

Lecture per Week: 4 hours Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives: To train the students of commerce to become familiar with the elementary tools of statistics which are used in the analysis of a collected data.

Unit	Topics	No of periods
I	Binomial and Poisson Distributions: Probability mass functions of Binomial and Poisson distributions, properties of Binomial and Poisson distributions. Mean and variance of Binomial and Poisson variance (Without derivation) and problems based on theory (without fitting).	10
II	Normal Distribution: Definition of a normal variate. Properties of normal curve. Standard normal variate (S.N.V.) Standardization of a normal variate. Problems using Normal Curve. Relation between Binomial-Poisson-Normal distributions (No Problems on fitting).	10
III	Control Charts: Concept of S.Q.C. Control charts and their uses. Control limits for mean and Range, P and C- charts. Problems and interpretation.	10
IV	Correlation and Regression: Meaning and Definition of Correlation, types- Positive, negative and Zero Correlation, methods of measurement of Correlation- Scatter Diagram, Karl-Pearson and Spearman's Rank Correlation Coefficient. Properties Of Correlation simple examples. Meaning and Definition of Regression, Regression equations, properties of regression lines and regression coefficients and problems based on theory.	10
V	Transportation Problem- Meaning and Definition Statement of T.P, Feasible, basic feasible solution, degenerate solution, non degenerate solution and optimal solution of T.P. Balanced and unbalanced T.P. Finding initial basic feasible solution by North-West Corner Rule, Method of matrix minima (lowest cost entry method) and Vogel's approximation method. Calculation of total transportation cost.	10

Suggested Readings:

- 01 Business Statistics by Prof. R. H. Dhareshwar
- 02 Business Statistics by S. C. Gupta
- 03 Business Statistics by S. P. Gupta
- 04 Business Statistics by Rajamohan
- 05 Operation Research by Kalavati
- 06 Operation Research by Goeal and Mittal

4.6 A. INTERNATIONAL BUSINESS ECONOMICS

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES: To make students to understand international trade and business pattern in LPG era.

Unit	Topics	No of Periods
1.	Introduction : Nature and importance of international trade, competitive cost theory, modern theory of international trade, terms of trade	10
2	Balance Trade and Balance of payments – Causes for disequilibrium in BOP & correction of BOP, Devaluation of Indian Rupee, tariffs & Quotas	08
3	Foreign Exchange – meaning and importance of exchange rates, types – spot, forward, fixed & flexible exchange rates, purchasing power parity theory, forex markets and its functions.	10
4	Nature and Scope of International Business : Meaning and definition of international business, characteristics of international Business, Domestic V/s international Business, Model of entry in international business	10
5	Multinational companies (MNCs): Meaning and definition of MNCs, Characteristics, Growth of MNCs, Advantages and disadvantages of MNCs, Control of MNCs in India. International co-operation – SAARC, BRICS International Institutions, IMF, IBRD, WTO.	12

Suggested Reference:

- 01 Sawyer & Sprinkle – International Economics, PHI New Delhi
- 02 Sodersten – International Economics NEW Delhi
- 03 D. M. Mithani – International economics HPH Mumbai
- 04 Bhutani – Principles of Economics, Taxmann new Delhi
- 05 Srivastav – International Economics, Kalyani Publishers, New Delhi
- 06 A. B. N. Kulkarni & A. B. Kalkundrikar – International Economics, R. Chand Publications, New Delhi
- 07 Ashwatappa – International Business, TMH New Delhi
- 08 Donald Ball, Interantional Business, Kalyani Publishers, New Delhi
- 09 Balla&Shivaramu, International Business, Anmol Pub. New Delhi
- 10 Guledagudda M. L. International Business, Sai Publication

4.6. B - TAX PROCEDURE & PRACTICE (VOCATIONAL) 2D

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES: To gain the knowledge of VAT, Wealth Tax

1. To gain the knowledge of provisions of K-VAT, Wealth Tax
2. To gain the ability to compute the VAT liability, Assessment of Wealth.

Units	Topics	No. of Periods
I	Principles of Value added Tax: Introduction to value added tax (VAT) meaning of the terms –Value, Value Addition, Comparison of VAT with Sales Tax, Single point Tax, Multi Point Tax and Equations for value Addition – Addition Equation.	10
II	Methods of calculation of VAT –Addition methods and subtraction methods Disadvantages of Addition and Subtraction methods, Input Tax Credit method –How to formulate it? Coverage of Goods under VAT, VAT rates and classification of commodities, Revenue Neutral rate, Tin, Tax Invoice, Computerization.	10
III	Karnataka Value Added Tax Act 2003: Introductions under KVAT Act 2003 –Dealer, Input Tax, Maximum retail price, Registered Dealer, Place of Business, Return, Taxable Sales, Tax Invoice, Taxable turnover works contract year, levy of Tax liability to tax and rates thereof Exemption of Tax, Place and time of sale of goods, collection tax by registered dealers, Government and statutory authorities output tax, input tax and net tax , input tax restrictions, composition of Tax, Registration –Liability of Registrar Voluntary Registration, Suo moto registration, cancellation of registration, changes after registration, tax	10

	invoices and bills of sale credit and debit notes, electronic records, Returns, Interest charged for defaults, rate of interest, assessment and re-assessment payment and recovery of tax, penalties interest and other amounts production and inspection of documents and powers of check posts and inspection, goods in movement, Authorities, practical problems.	
IV	Wealth Tax Act 1957: Charge of wealth Tax I) Individual ii) HUF Incidence of Wealth Tax - i) Individual ii) HUF Valuation date and tax Rate, Assets belonging to others but includable in the net wealth of an individual Assets exempt from wealth tax, net wealth and its computation, debts and liabilities, Rounding off of Net Wealth, Location of Assets and debts valuation of assets such as building assets of business, Jewellery and other assets, practical problems.	10
V	Return of Wealth – Voluntary Return, Return after due date Assessment –Self assessment, Assessment Time limit for completion of assessment and re-assessment, wealth, escaping assessment, appeals, revisions and references. Penalties under Wealth Tax Act 1957.	10

4.7. COMPUTER APPLICATIONS – III

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives: To impart basic knowledge of Programming and to acquaint the students with internet and its applications in commerce

Units	Topics	No of periods
I	BASICS OF PROGAMMING SKILLS: Basics of Problem Solving, Programming Logic, Algorithms, Flowcharts.	10
II	C PROGRAMMING AND INTRODUCTION TO OOPS: Principles of procedure oriented programming, Introduction to C language, Variables, Constants Operators and their hierarchy. Expressions, Tokens, I/O functions, Simple C programs, Decision making and Looping structures. Commerce oriented programs relating to branching and looping like interest, discount, income tax calculation Arrays: Single Dimensional and Two Dimensional. Introduction to object oriented programming (OOP'S CONCEPT): Classes and Objects concept.	10
III	INTERNET: Introduction to internet, evolution of the Internet, Operation of the Internet, IP address and DNS, gateway, accessing internet, services provided by internet, Browsers and search engines, web, web site and web services, Internal security and privacy, cyber crimes – cyber laws.	10
IV	INTERNET BANKING: Introduction to Internet Banking, Computers and Commercial World, Telephone banking, Computerized corporate banking, Electronic funds transfer, importance of Cheques clearing, Magnetic Ink Character Recognition (MICR), RTGS, NEFT, Optical Mark Recognition, Computer output to Microphone (COM), Facsimile transformation.	10
V	WEB BASED MARKETING: Introduction & scope of marketing, marketing and information technology congruence, Advertising and marketing on the internet, Application of 4 P's(product, price, place and promotion) in internet, marketing supply chain management	10

LAB WORK

Practical's on C Programming, Practical usage of internet- creating email accounts, sending and receiving mails and multimedia tools.

Note: Journal preparation mandatory. Case study question from 'C' Programming.

SUGGESTED BOOKS/WEBSITES

1. Microsoft Office 2007 professional
2. MS - Office - Sanjay Saxena
3. Raymond green hall - Fundamentals of the Internet, Tata McGraw Hill.

RANI CHANNAMMA UNIVERSITY

BELAGAVI



COURSE STRUCTURE AND SYLLABUS

FOR

B.Com

(VI SEMESTER)

w.e.f. Academic Year 2017 - 18 & Onwards

Rani Channamma University, Belagavi

Department of Post Graduate Studies and Research in Commerce

Proposed B.Com Course Structure of V & VI Semester w. e. f. Academic year 2017-18

FIFTH SEMESTER						
5.1	Management Accounting	4	3	20	80	100
5.2	Income Tax – I	4	3	20	80	100
5.3	Elements of Costing – I	4	3	20	80	100
5.4	Small Business and Economic Development	4	3	20	80	100
5.5	Computer Application – IV	4+2	3	20	80	100
Group – I Finance and Taxation						
5.6	Indian Financial Markets – I	4	3	20	80	100
5.7	Goods & Services Tax- I	4	3	20	80	100
Group – II Insurance and Banking						
5.6	Fundamentals of Life Insurance	4	3	20	80	100
5.7	Fundamentals of Banking – I	4	3	20	80	100
Group – III Marketing						
5.6	Fundamentals of Rural Marketing	4	3	20	80	100
5.7	Fundamentals of Advertising and Salesmanship	4	3	20	80	100
Group – IV Statistics						
5.6	Advanced Business Statistics - I	4	3	20	80	100
5.7	Advanced Business Statistics – II	4	3	20	80	100
SIXTH SEMESTER						
6.1	Modern Auditing and Practices	4	3	20	80	100
6.2	Income Tax – II	4	3	20	80	100
6.3	Costing Methods and Techniques – II	4	3	20	80	100
6.4	Indian Economics	4	3	20	80	100
6.5	Computer Application in Business – V	4+2	3	20	80	100
Group – I Finance and Taxation						
6.6	Indian Financial Services	4	3	20	80	100
6.7	Goods and Services Tax- II	4	3	20	80	100
Group – II Insurance and Banking						
6.6	General Insurance	4	3	20	80	100
6.7	Computer Applications in Banking	4	3	20	80	100
Group – III Marketing						
6.6	Service Marketing	4	3	20	80	100
6.7	Consumer Behavior and Marketing Management	4	3	20	80	100
Group – IV Statistics						
6.6	Advanced Business Statistics – III	4	3	20	80	100
6.7	Advanced Business Statistics – IV	4	3	20	80	100

Note: 1. WTHs: Weekly Teaching Hours

2. ED: Examination Duration

3. IA: Internal Assessment Marks

4. SEE: Semester End Examination

Marks

B. Com VI Semester Syllabus implemented from academic year 2017-18

B.Com VI Semester

6.1 MODERN AUDITING AND PRACTICES

Lecture per Week: 4 hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

1. To impart knowledge pertaining to basic concepts of auditing.
2. To acquaint oneself with auditing procedure & report writing.

Unit	Topics	No. of periods
I	Introduction to Auditing: Auditing: Meaning – Definition – Evolution – Objectives - Importance. Types of audit: Based on ownership (Proprietorship, Partnership, Companies, Trusts, Cooperative Societies, Government Departments) - Based on time (Interim, Final, Continuous, Balance Sheet)- Based on objectives (Independent, Financial, Internal, Cost, Tax, Government, Secretarial)	10
II	Planning of Audit and Control: Auditor: Qualifications and disqualifications – Qualities - Appointment and Reappointment – Remuneration – Removal – Rights – Duties – Liabilities. Audit planning: Engagement letter - Audit programme - Audit note book - Audit papers - Audit work book - Audit contents - Audit markings – Internal check- Internal control (Sales – Purchases - Fixed assets – Cash – Bank - Pay Roll) - Accounting controls and Sampling in audit.	10
III	Vouching and Audit of Financial Statements: Vouching: Meaning - Vouching of cash and trading transactions – Investigation, Verification and Valuation of assets and liabilities – Differences between vouching, investigation, verification and valuation.	10
IV	Audit of Financial Statements: Receipts – Payments – Sales – Purchases - Fixed assets – Investments - Personal ledger – Inventories - Capital and Reserves - Other assets - Other liabilities	10
V	Report Writing: Audit reports: Structure – Preparation of routine reports and special reports 3CA, 3CB & 3CD forms.	10

SUGGESTED READINGS:

1. Practical Auditing: R.G.Saxena, Himalaya Publications
2. Contemporary Auditing: Kamal Gupta
3. Practical auditing: Spicer & Pegler
4. Principles and Practices of Auditing: Jagdish Prakash
5. Principles of Auditing: Ghatalia
6. Auditing: N.D.Kapoor
7. Practical Auditing: T.N.Tandon
8. Auditing: Dinkar Pagare
9. Fundamentals of Auditing: Kamal Gupta and Ashok Gupta
10. Auditing Principles & Practice: Kumar Sharma, PHI

6.2 INCOME TAX - II

Lecture per Week: 4 hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

1. To gain the knowledge of the provisions of Income Tax to make the B. Com. Graduates more responsive and relevant to the changing Finance Act and Income Tax Act.
2. To make the B. Com. Graduates more knowledgeable in the field of Income tax so that they can be self Employed as Tax Practitioners.
3. To make the B. Com. Graduates more knowledgeable in the field of E-Commerce.

Units	Topics	No. of periods
I	Income from Capital Gains and Other Sources: Meaning of Capital assets, Types of Capital assets, Transfer, Cost of acquisition, Cost of improvement, Selling expenses, Treatment of advance money received, exemptions, Computation of Capital Gains. Income from other sources: Incomes taxable under this head, Grossing up, Computation of income from other sources, Practical problems.	10
II	Set off and carry forward of losses: Intra source and inter head adjustment of losses, Carry forward and set off of losses of house property, business/ profession(speculative and non speculative) losses from Capital gains, Losses of Owning and maintaining race horses, winning from lotteries, card games gambling, contests etc and from other sources. Practical problems	10
III	Deductions from Gross total incomes, rebates and relief's: Deduction available to individual under section 80 C, 80 CCC, 80 CCD, 80 D, 80 DDB, 80 E, 80 G, 80 GG, 80 GGA, 80 GGC, 80 QQB, 80 RRB, 80TTA and 80 U, Computation of total income rebates and reliefs, practical problems.	
IV	Assessment of Individual: Procedure for computing total income& tax liability, Practical problems.	10
V	Assessment of Partnership firm: Assessment of firms, Provision of sections 184 and 40(b), Computation of book profit, set off and carry forwards, Computation of total income of firm & tax liability, Practical problems.	10

SUGGESTED BOOKS:

1. Dr. H. C. Mehrotra & Dr S P Goyal: Income Tax Law & Accounts Sahitya Bhavan Publications, Agra
2. Shri. T. N. Manoharan: Direct Taxes, Snow White Publications
3. Dr. R. V. Diwan, Dr R G Allagi & Prof. G S Bhat: Income Tax – I & II
4. Dr. Vinod Singhania: Student' Guide to Income Tax
5. Dr. Girish Ahuja & Ravi Gupta: Direct Taxes, Bharat Publications
6. B.S. Raman: Income Tax
7. Dr. G. B. Baligar, Income Tax Ashok Prakashan, Hubli.

6.3 COSTING METHODS & TECHNIQUES – II

Lecture per Week: 4 hours
 Exam Duration: 3 Hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

OBJECTIVES:

1. Study of different methods & techniques of costing
2. Ascertainment of Cost Per Unit & Computation of profits
3. Estimation of Costs
4. Ascertainment of losses and gains in process costing
5. Cost Volume profits Analysis & application of different methods of Costing

Unit	Topics	No. of periods
I	Unit, Job Costing & Contract costing: Unit Costing – Meaning - Costing procedure – Cost Sheet – Treatment of Stock – Scrap and By Products , defective products , preparation of tenders or quotations. Job Costing: Meaning, Objectives and application of job orders –Job Cost Sheet. Contract costing – Meaning – Objectives – Estimates – Use of special plant and its depreciation – Valuation of work -in – progress – Treatment of profit on incomplete contract.	10
II	Operating Costing : Meaning of operating costing – Classification of operating costs, Transport Costing; Passenger and Goods transport	10
III	Process Costing: Meaning – features - Accounting procedure – process losses and wastages- Sale of scrap and / or By - products – Accounting of Joint products and By - products 10 Hours	10
IV	Marginal Costing Technique : Definition and Meaning - Characteristics- Advantages and Disadvantages – Treatment of semi Variable costs – Contribution and marginal cost equation – BEP analysis – Profit- Volume Ratio and Margin of Safety . Application of marginal costing (Problems of Key Factor, selection of a profitable product mix Decision to make or buy, decision to accept a bulk order)	10
V	Reconciliation of Profits : Reasons and Significance of Reconciliation of profits between financial accounting and cost accounting – procedure of Reconciliation	10

SUGGESTED REFERENCES:

1. Jain & Narang : Principles & Practice of Cost Accounting Kalyani Publishers,Ludhiana
2. Maheshwari.S.N : Cost & Management Accounting - Sultan Chand & Sons New Delhi
3. Saxena & Vashist: Cost Accounting - Sultan Chand & Sons New Delhi
4. P.T. Pattanashetty & V.A.Patil: Cost Accounting
5. Dr. G. B. Baligar, Elements of Costing and Costing Methods & Techniques, Ashok Prakashan, Hubli.
6. Dr. B. B. Kalatippu & Dr. G. G. Karalatti : Methods & Techniques of Cost Accounting, Siddalingeshwar Prakashan Gulbaraga.

6.4. INDIAN ECONOMICS

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

OBJECTIVES:

1. To make the students well versed with Indian Economy, problems, measures and Prospects.
2. To know the national income and Demographic scenario.
3. To understand economic planning, control of banking, RBI- policies and Union budget.

Units	Topics	No of periods
I	Indian Economy: Meaning and characteristics, Structure of the Indian Economy, Economic reforms and economic development, Environment and economic development. India as a developing economy.	10
II	National Income: Meaning, components, methods of computing, trends in size. Composition of national income. Comparison with selected countries like China and USA.	10
III	Demographic features of India: Size, Density, Rate of Growth, Sex-ratio, Population and Policy. Economic effects of rapidly growing population. Demographic dividend – Advantages to India.	10
IV	Economic Planning – Meaning, General Objectives XI and XII five year plan. Issues before Indian Economy – poverty, Unemployment, inflation, CPIN-measurement, Black Money	10
V	Public Finance: Sources of Revenue of Central Government, Heads of Expenditure of Central Government, Budget: Meaning, Types of Budget, Monetary Policy of R. B. I.	10

SUGGESTED REFERENCES:

- 01 Ruddar Dutt and K.P.M Sundharam : Indian Economy , S.Chand & Sons, New Delhi.
- 02 Mishra and Puri : Indian Economy , Himalaya publications , Mumbai.
- 03 Agarwal: Indian Economy, S.Chand & Sons , New Delhi.
- 04 Dhingra : Indian economy , S.Chand & Sons , New Delhi.
- 05 A.B.N Kulkarni & Dr.A.B.Kalkundrikar : Indian economy - A modern approach : R.Chand & Sons , New Delhi.
- 06 World Development report.

6.5 COMPUTER APPLICATION IN BUSINESS – V

Lecture per Week: 4 hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. To train students in computerized accounting.
2. To make students well versed with tally package and generating reports.
3. To make students well versed with multimedia tools.

Units	Topics	No. of periods
I	Accounting Information System: Basics of Accounting Practices and Preparation of Final Accounts, Introduction to Computerized Accounting Information Systems. Difference between Manual and Computerized Accounting Information Systems, Accounts Receivable System.	10
II	Fundamentals of computerized Accounting: Computerized accounting v/s manual accounting, architecture & customization of tally, features of tally 9.1 version, configuration of tally, tally screens and menus, creation of company, creation of group, Editing and deleting groups , creation of ledgers, Editing and deleting ledgers. Introduction to vouchers, voucher entry, payment voucher, receipt voucher, contra voucher, journal voucher, Editing and deleting vouchers.	10
III	Introduction to Inventories: Creation of stock categories, Creation of stock groups, Creation of stock items, configuration and features of stock items, Editing and deleting stocks, usage of stocks in voucher entry. Purchase order- stock vouchers, sales order. Introduction to cost, creation of cost category, creation of cost centers, Editing and deleting cost centers& categories, usage of cost category & cost, centers in voucher entry, budget & control , , Editing and deleting budgets, generating & printing reports in detail & condensed format.	10
IV	Generation of Reports: Day books- Balance sheet, Trial balance, Profit & loss account, ratio analysis, cash flow statement, fund flow statement, cost center report, inventory report, bank reconciliation statement.	10
V	Multimedia: Meaning and components of multimedia, Purpose, Usage and applications of multimedia. Introduction to multimedia tools Types and working of Input Devices like Scanner, Digital camera. Types and working of Output Devices like Monitors and Printers. Types and working of Storage Devices like CD-ROMS, DVD and Hard disk.	10
	Lab work Tally in detail Note: Journal preparation mandatory. Case study question from Tally 9.1.	

Suggested books /Websites:

1. Computer Applications in Business- Dr S.V Srinivasa- Sultan Chand publication
2. E-Commerce- Dr Shivani Arora
3. E-commerce: A managerial perspective: Michael change
4. Multimedia Systems Design- Andleigh P.K & Thakrar K
5. Frontiers of E-commerce: Ravi Kalakota & A.B Whinston
6. www.amazon.com
7. Tally 9 by Dr. Namrata Agarwal
8. Tally 9 by Vishnupriya Singh

Group I
FINANCE AND TAXATION
6.6 INDIAN FINANCIAL SERVICE

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Objectives:

1. To make students understand about the emerging financial services.
2. To increase the knowledge of students about processes involved in demat, remat, forfaiting and factoring.
3. To upgrade the students' knowledge on financial judgment regarding lease evaluation.

Units	Topics	No of periods
I	Financial services – Meaning- Features- Classification- Importance- Stages in the growth of Financial Services.	10
II	MERCHANT BANKING: Merchant banking – Meaning - Functions – SEBI Regulations –Registration –Code of Conduct- Books of Accounts- Responsibilities and obligations – Powers.	10
III	LEASE FINANCING: Meaning-definition-Types of Lease- Merits and Demerits- Evaluation of Lease Financing- Purchase V/s Leasing- Borrowing V/s Leasing-Evaluation from Lessor and Lessees point of view.	10
IV	FACTORING AND FORFAITING: Meaning- Objectives and Types of Factoring-Process- Advantages and Disadvantages- Factoring V/s Bills Discounting-Cost benefit analysis with practical problems- Forfaiting – Meaning – Forfaiting Process.	10
V	MODERN SERVICES: Dematerialization and Rematerialisation- Meaning-Objectives- Process- Merits and Demerits- Functions. NSDL and CSDL ,online trading Credit Rating –Meaning-Institutions-Process and Symbols.	10

SKILL DEVELOPMENT:

1. Financial Appraisal of Lease.
2. Cost Benefit Analysis
3. Demat and Remat Procedure.
4. Online Trading, visits to the local Broking firms.

SUGGESTED REFERENCES:

1. M.Y.Khan: Financial Services, Tata McGraw Hill Publications, New Delhi.
2. Avadhani V. A : Marketing of Financial Services, Himalaya Publications, Mumbai.
3. Batra. B.S. & Batra B.S: Management of Financial Services, Deep & Deep Publications, New Delhi.
4. Donnelly & Others: Marketing Financial Services, Homewood IL, Dow-Jones, Irwin.
5. Pezzullo, M.A. : Marketing Financial Services, Macmillan India Ltd, New Delhi.
6. Srivastav R.M. : Indian Financial System, Rishi Publishers, Hyderabad.
7. Bharati Pathak P.Mohan Rao: Indian Financial System. Person Education, Delhi.
8. R.L.Hyderabad : Financial Services, Deep & Deep, Delhi
9. Verma J.C: Merchant Banking – Bharat Law House Delhi.
10. Vasant Desai: Indian Financial System and Development, HPH New Delhi.
11. Prasanna Chandra: Financial Management Tata McGraw, New Delhi.
12. S. O. Halasagi & S. O. Halasagi : Financial Sevices, Onkar Prakashan , Kagwad.
13. Dr P.P.Anvekar: Financial Sevices

6.7 Goods and Services Tax (GST)- II

Lecture per Week: 4 hours
 Exam Duration: 3 Hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Objectives: 1. To equip the students with the knowledge of Goods and Service Tax.
 2. To make the B. Com students more knowledgeable in the field of GST so that they can be self employed as tax consultants / practices.

UNITS	Topics	Hours
I	GST Rates: Zero rating, Zero rating of exemptions, Exemption and lower rate of tax for certain items such as food and health care, Abatements (i.e deductions), GST structure rates.	10
II	Valuations under GST: Introduction to valuation under GST, Meaning and types of consideration <ul style="list-style-type: none"> a) Consideration received through money b) Consideration not received in money c) Consideration received fully in money Valuation rules for supply of goods and services <ul style="list-style-type: none"> a) General valuation rules b) Special valuation rules Other cases for valuation of supply, Imported services, Imported goods, Valuation for discount, Transaction value meaning and conditions for transaction value, Inclusive in transaction value, Exclusive discount excluded from transaction value. Methods of valuation, Computed value method, Residual value method, Rejection of declared value. Problems on GST.	
III	Input tax credit and Tax invoice: Meaning of input tax credit, Manner of taking input tax credit, Tax invoice, credit note, debit note. Problems on input tax.	
IV	Payment process in GST and returns of GST <ul style="list-style-type: none"> A) Payment process in GST <ul style="list-style-type: none"> Features of payment process Methods of payment in GST <ul style="list-style-type: none"> A) Payment by tax payers by internet banking through authorized banks B) Over counter payment through NEFT (RTGS) from any bank B) Return in GST <ul style="list-style-type: none"> Meaning of returns Obligations for filing return Assessee required to file return in GST 	

	<p>Types of Return</p> <ul style="list-style-type: none"> a) GSTR - 1 return for outward suppliers made by tax payer b) GSTR – 2 return for inward suppliers received by the tax payer c) GSTR – 3 Monthly return d) GSTR – 4 Quarterly return for computing dealer e) GSTR – 5 Return for non – resident foreign tax payer f) GSTR – 6 ISD return g) GSTR – 7 TDS return h) GSTR – 8 Annual return <p>Time period for filing return under GST</p>	
V	<p>Refund under GST: Meaning of refund, Excess payment of tax due to mistake, Export of goods or services under claim of rebate or refund, Refund in case of provisional assessment, Refund of pre – deposit for filing appeals, Refund during investigations where no or lesser actual liability arises. Refund due to year end or volume based discount by credit note. Time period for filing of return applications</p>	

SUGGESTED REFERENCES:

1. Goods & Service Taxes : V.S.DATEY, Taxmann.
2. Glimpse of Goods and Service Tax, Sathpal Puliana, M. A. Maniyar, Karnataka Law Journal Publications, Bangalore.
3. Goods and Service Tax by Pullani and Maniyar, published by Law Journal Bangalore.
4. www.gst.gov.in, ctax.kar.nic.in

GROUP II
INSURANCE & BANKING
6.6 GENERAL INSURANCE

Lecture per Week: 4 hours

Exam Duration: 3 Hours

Objectives:

Max Marks: 80 (End Sem) + 20 (IA) = 100

Units	Topics	No of Periods
I	Introduction to Risk and General Insurance: Risk and Insurance - Concept of Risk pooling and Risk sharing - Role of General insurance in economic development - General Insurance Market in India – General Insurance intermediaries.	10
II	Principles of General Insurance: Principle of Insurable Interest - Utmost Good Faith- Indemnity – Contribution – Subrogation – Proximate Cause	10
III	Insurance Forms: Proposal Forms – features - Insurance Policy- Definitions - Conditions - Cover notes- Certificate of insurance - Endorsements- Renewal notice.	10
IV	General Insurance Policies: Fire Insurance; Marine Insurance; Miscellaneous insurance – Motor and Liability insurance policies.	10
V	Claims: Identify and classify risks – Map the general insurance market companies – familiarize with IRDA norms for agency license.	10

Lab Work:

1. Practical application of these principles through select case studies
2. Filling up Proposal forms and collecting various documents.
3. Evaluating a Fire, Miscellaneous policy by approaching any general insurance company.
4. Claims – Surveyors - Investigation – Negotiation and Assessment –Reserves and Claims Expenses.
5. Examining and documenting a claim by approaching a Surveyor.

Suggested Reference:

1. Luthardt, Constance M et. Al. (1999): Property and liability Principles, (3rd Edition), Insurance Institute of America, Malvern, Pa.
2. KSN Murthy and Dr. KVS Sarma: Modern law of Insurance in India (4th Edition), Lexis Nexis Butter Worths India, New Delhi, 2002.
3. Principles of Insurance, Insurance Institute of India.
4. Mothiar, M. (2004): Insurance Principles, Practices Management & Salesmanship (1st Edition). Sharada Pustak Bhawan, Allahabad.
5. P. K. Gupta: Principles & Practice of Non-Life Insurance, Himalaya
6. P. K. Gupta: Insurance in Risk Management, Himalaya
7. Tripathi & Pai; Insurance Theory & Practice, PHI

6.7 COMPUTER APPLICATIONS IN BANKING

Lecture per Week: 4 hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. The purpose of this course is to equip the students with fundamental aspects of computers and communication and their application in banking.

Units	Topics	No of periods
I	Introduction: Computers and Commercial world - Principles of Computer science with reference to banking operations - Different approaches to mechanizations - Security information systems - Audit of computerized banking systems.	10
II	Banking Reconciliation: approaches to bank computerization computer in banks and Indian experiment - Process for withdrawing cash Teller machines at Bank counters - A TM in India Electronic Commerce the emerging trends – Internet as a Network Infrastructure - Business of internet commercialization electronic. Commerce and WWW consumer Oriented Electronic commerce Electronic Payment Systems - Advertising and Marketing on the internet, Software agents - Working of Credit Cards and Debit Cards in India.	10
III	Home Banking: Telephone banking - Computerized corporate banking - Electronic funds transfer, importance of cheques clearing Magnetic Ink Character Recognition – RTGT – NFT - Optical Mark Recognition (OMR) - Computer output to Microphone (COM) - Facsimile transformation	10
IV	Inter Branch Reconciliation: Uses in foreign exchanges, documentation handling systems Cheque sorting and balancing systems (MICR and OCK, etc.)' -Document storage and retrieval systems (Micro films, etc.) - Documentation transmission systems (Fax etc.)	10
V	Cash management systems in banks: investment management -Systems - Statistical analysis transmission - Magnetic Stripe.	10
	Lab Work: A report is to be prepared on approaches to computerization of banking operations in Nationalized and private banks. “E-Commerce powered by E-Banking” be practically studied by selecting Commercial banks in India. Identifying lapses in security measures & laws- Rules & Regulations for on detection of fake currency	

SUGGESTED READINGS:

1. Sony and Agarwal: Computers and Banking.
2. Indian Institute of Bankers study material on 'Introduction to Computers in Banking Industry.
3. Ravi Kalakota & Andrew B. Whinston: Frontiers of Electronic Commerce, Addison Wesley Publications.
4. Dr. M. Sri Nivas: e-Banking Services in India, Himalaya.
5. Vasanth Desai: Bank Management, Himalaya.
6. Revathy Sriram:Core Banking Solution: Evaluation of Security & Controls, PHI

GROUP III
MARKETING
6.6 SERVICE MARKETING

Lecture per Week: 4 hours
 Exam Duration: 3 Hours

Max Marks: 80 (End Sem) + 20 (IA) = 100

Objectives:

1. To let the students realize that service sector is gaining importance
2. To teach them that service marketing requires special skill and strategy

Unit	Topics	No of periods
I	Introduction to services: What are services, why service marketing, Difference between Goods and Service marketing, Myths about services, Service marketing triangle, P's of service marketing	10
II	Consumer behavior in services: Consumer expectation of services, Two levels of expectation, Zone of tolerance Consumer perception of services - Factors influencing perception of services, Service encounters,	10
III	Understanding customer expectation through market research: Using market research to understand customer expectation, Types of service research, Building customer retention strategies, 3 level retention strategies, GAP – reasons for GAP	10
IV	Service Marketing in specific areas: Use of 4 P's in Tourism , Hotel industry, Banking, Insurance & Medical Services	10
V	Services Marketing in Indian Perspective: Problems in Service marketing in India; Remedies	10

SUGGESTED REFERENCE:

1. Services Marketing: Valarie A Zeithmal & Mary Jo Bitner TMH
2. Services Marketing : S M Jha HPH
3. Services Marketing: Rajendra Naragundakar TMH
4. Services Marketing – P N Reddy and others

6.7 CONSUMER BEHAVIOR AND MARKETING RESEARCH

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

1. To teach them on different patterns of consumer behavior
2. The knowledge of buying motive and determinants will help them to be good consumers and marketing people

Units	Topics	No. of periods
I	Consumer Behaviour: Consumer behaviour, Factors influencing buying behaviour, , Stages in buying decision process	10
II	Factors determining Consumer Behaviour: Determinants of Buying behaviour: Psychological, Sociological, Political and Environmental Buying motives Models of Consumer behaviour - Howard – Shet	10
III	Marketing Research: Meaning, Definitions of Marketing Research, Areas, Objectives, Importance and Limitations of MR	10
IV	Collection of Data: Primary and Secondary data, Observations, Experimentation, Surveys, Sampling methods Preparation of Questionnaire, Interviewing	10
V	Reporting: Marketing Research Reports: Oral and Written, Guidelines for drafting.	10

SUGGESTED REFERENCE:

1. Consumer Behaviour – Leon Schiffman, Lesslie Lazur Kanuk , Perarson PHI
2. Consumer Behaviour in Indian perspective – Suja Nair, HPH
3. Marketing Research – Tull and Hawkins
4. Marketing research – D. D. Sharma, Sultan chand.

GROUP IV
STATISTICS
6.6 ADVANCED BUSINESS STATISTICS -III

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. Practice an operation research (O.R.) approach to management problems
2. Apply analytical techniques and sensitivity analysis to problems and data sets
3. Summarize and present the analysis results in a clear and coherent manner

Unit	Topics	No of Periods
I	Linear Programming Problem(L.P.P.): Meaning, Definition, Formulation of L. P.P. , Graphical Method of solving L. P.P.	10
II	Games Theory Problem: Meaning, Definition of Game, n-person game, 2 person zero-sum game, saddle point, mixed & pre strategies, solution of game minimax & maximin principle and principles of Dominance Method.	10
III	Transportation theory problem: Meaning & Definition of balanced and unbalanced transportation problem. Finding feasible solution by Morth-west corner rule, matrix-minima method and vogels approximation method.	10
IV	Assignment and Replacement Problems: Meaning & Definition of assignment problem, assignment-algorithm and problems on its need for replacement, replacement of items that deteriorate with time (Discrete case only) without considering change in the money value – problems on it.	10
V	Inventory theory problem: Meaning of inventory and its need. Inventory costs, head time, stock replenishment. Time horizon, EOQ model with and without shortages (without derivates) case of deterministic uniform demand, instantaneous production and no lead time.	10

Practical:

Sl. No.	Title of experiments	No. of experiments
I	Linear programming problem (LPP)	01
II	Games theory problem	01
III	Transportation theory problem	02
IV	Assignment problem	01
V	Replacement theory problem	01
VI	Inventory theory problem	02

Suggested References:

1. Kanti Swaroop, P. K. Gupta, Manmohan Operation Research- Sultan Chand & S, New Delhi.
2. Goel & Mittal – Operatin Research
3. S. D. Sharma –Operation Research Nath & CO.
4. P. K. Gupta- Operation Research Sultan Chand & Co New Delhi.

6.7 ADVANCED BUSINESS STATISTICS -IV

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. Use statistical techniques in business decision making.

Unit	Topics	No of Periods
I	Industrial Statistics: Meaning & Definition of statistical quality control (S.Q.C) and uses. Chance and assignable variation. Process and product control. Out line of control charts-control charts for variables and attributes –mean chart(X), range chart (R), number of detective chart (np chart), fraction defective chart (p-chart) and number of defective chart (c chart)	10
II	Demographic Method –I: Definition of demography, vital events, source of vital statistics, uses of vital statistics, fertility and mortality rates. Its applications reproduction rates-gross and net reproduction rates.	10
III	Sampling Techniques: Meaning and scope of sampling, types of sampling-simple random sample (S. R. S.), stratified random sampling (St. R. S.) & systematic random sampling (Sy. R. S)-its applications merits and demerits.	10
IV	Index Numbers: Meaning & Definition, uses & limitation of index numbers, steps in the construction of price index number, weighted and un-weighted index numbers, laspersy's paaschey's, fisher's, marshale – index number tests-time reversal test (T.R.T) and factor reversal test (F. R. T.) Problems on it.	10
V	Consumers price index number: Meaning & Definition, uses and limitations of cost & living index number. Steps in the construction of cost of living index number. Problems on cost of living number by aggregative expenditure method and family budget method.	

Practical:

Sl. No.	Title of experiments	No. of experiments
I	Statistical quality control	01
II	Fertility rates & Mortality rates	02
III	Sampling techniques	01
IV	Index number	01
V	Consumer Index number	01

Suggested References:

1. S. C. Gupta- Fundamentals of statistics, HPH, New Delhi.
2. Sancheti & Kapoor – Business Statistics Sultan Chand & Sons, New Delhi.
3. Sukhatme & Sukhatme- Sampling techniques theory.
4. Agarwal & Bharadwaj – Business Statistics, Kalyani- New Delhi.



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.Sc**

II Semester

w.e.f.

Academic Year 2017-18 Onwards

B.Sc
I – Semester

Group – I

1. BASIC – ENGLISH

**Detailed Syllabus for B. Sc. / B.Sc. Comp-Sc / BCA / B. Sc. in CCJ
(With effect from 2016-17 onwards)**

**Semester II: Basic English
Teaching Hours: 5 per Week**

I Text: Prose

1. A Chameleon – Anton Chekhov
2. The False Gems – Guy de Maupassant
3. The Secret of Work – Swami Vivekanand
4. Duty – Mulk Raj Anand
5. Our Home in Space – Sir James Jeans

Poetry

1. Hunger – Jayant Mahapatra
2. Telephone Conversation – Wole Soyinka
3. The Diameter of the Bomb – Yehuda Amichai
4. This is a Photograph of Me – Margret Atwood
5. The Emperor of Ice Cream – Wallace Stevens

II Grammar and Communication Skills

- A) Synonyms and Antonyms text based
- B) Frame Wh- questions
- C) Communicative Skills
- D) Short Speech Skills - Global Warming, Water Scarcity, Pollution, Terrorism, Anti-social activities, Startups, Plantation, bio-diversity, rain harvesting, women education, Clean Mission India, Impact of strikes, Alcoholism, First day in college, Mother's day, Yoga day, Environment day and Science day. (about 100-150 words)
- E) Preparing an Advertisement - Notebook, Pen, Soap, Smart Phone, TV, Computer, Shoes, etc.
- F) Resume and CV writing

Pattern of Question Paper
 (80 Marks paper of three hours and 20 Marks for I.A)

1)	Objective type questions (5 from Prose and 5 from Poetry)	10X1=10
2)	Reference to Context (One from Prose and (one from Poetry out of four)	2X5=10
3)	Essay type question on Prose (one out of two)	1X10=10
4)	Essay type question on Poetry (one out of two)	1X10=10
5)	Short Notes (One from Prose and (One from Poetry out of four) A) Synonyms B) Antonyms B) Framing Wh- questions	2X5=10 5X1=05 5X1=05 5X1=05
7)	A) Short Speeches B) Preparing an Advertisement C) Resume Writing/CV	1X5=05 1X5=05 1X5=05
		80

Additional English:

Detailed Syllabus for B. Sc. / B.Sc. Comp-Sc / BCA / B. Sc. in CCJ
(With effect from 2016-17 onwards)
Semester II: Additional English
Teaching Hours: 5 per Week

Text: The Cutting Edge: Science & Scientists

(Ed. Colin Swatridge (Macmillan))

Only the following biographical sketches are to be taught.

1. Rene Descartes (1596-1650)
2. Antoine Lavoisier (1743-94)
3. Ivan Pavlov (1849-1926)
4. Sigmund Freud (1856-1939)
5. Werner Heisenberg (1901-1976)

Grammar and Composition

- 1) Relative Clauses
- 2) Conditionals and ‘wish’
- 3) Use of words as Two different forms of Speech
- 4) Report Writing (functions, seminars, excursion, tours, accident, earthquake, flood, etc.)

Pattern of Question Paper

(80 Marks per paper of three hours and 20 Marks for I.A)

1) Objective type questions	10X1= 10
2) Comprehension Questions on the biographical sketches	5X2=10
3) Essay type question on the biographical sketches (One out of two)	1X10 =10
4) Essay type question on the biographical sketches (One out of two)	1X10=10
5) Short Notes on the biographical sketches (Two out of four)	2X5=10
6) A) Relative Clauses B) Conditionals and ‘wish’	5X1=05
7) Use of words in a sentence as two different forms of Speech	5X2 = 10
8) Report writing 10	80

2. BASIC - KANNADA

ಸಾಹಿತ್ಯ ಕೌಮುದಿ-೨ ಬಿ.ಎಸ್.ಎರಡನೆಯ ಸೆಮಿಸ್ಪರ್ಶ

ಅನುಬಂಧ – ೨

ಪದ್ಯ ಭಾಗ

೧.	ಕಾವ್ಯ ಪ್ರಯೋಗ ಪರಿಣತಮತಿಗಳು	-ಶ್ರೀವಿಜಯ
೨.	ವಚನಗಳು	-ಬಸವಣ್ಣ ಮತ್ತು ಅಕ್ಷಮಹಾದೇವ
೩.	ಭೇದದಲ್ಲಿ ಹೊಕ್ಕಿರಿದನೋ ಮಥುಸೂದನ	-ಹುಮಾರವ್ಯಾಸ
೪.	ಬ್ಲೇನ್ ಹೀಟ್ ಕದನ	-ಬಿಂಬಿ
೫.	ಕುರುಡು ಕಾಂಚಾಣಾ	-ದ. ರಾ. ಬೇಂದ್ರೆ
೬.	ನೀವಲ್ಲವೆ?	-ಕೆ. ಎಸ್. ನರಸಿಂಹಸ್ವಾಮಿ
೭.	ನನ್ನ ಹಣತೆ	-ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
೮.	ಯಾತಕವ್ವಾ ಹುಬ್ಬಳಿ-ಧಾರ್ವಾಡ!	-ಬೆಟ್ಟಗೇರಿ ಕೃಷ್ಣಶರ್ಮ
೯.	ಕೋರಿಕೆ	-ರಂಶ್ವರ ಸಣಕಲ್ಲು
೧೦.	ಸಂಕ್ಷಾಂತಿ	-ಶ್ರೀರಾಮ ಇಟ್ಟಣಿವರ

ಗದ್ಯ ಭಾಗ

೧೧.	ಧನ್ಯಂತರಿಯ ಚಿಕಿತ್ಸೆ	-ಹುವಂಪು
೧೨.	ಸಂಸ್ಕೃತಿ ಮತ್ತು ಸಾಹಿತ್ಯ	-ಎ.ಎನ್. ಮೂರ್ತಿರಾವ್
೧೩.	ಸಿ. ವಿ. ರಾಮನ್	-ಜೆ. ಆರ್. ಲಕ್ಷ್ಮಿರಾವ್
೧೪.	ಪ್ರೇಡ್ ಹಾಯ್ಲ್: ಅಪ್ರತಿಮು ವಿಭಾಗ ವಿಜ್ಞಾನಿ	-ಡಾ. ಶಂಕರ ಆರ್. ಕಂದಗಲ್
೧೫.	ಶ್ರೀಯದಶೀರ್ ಅಶೋಕ	- ಮಾಸ್ತಿ ವೆಂಕಟೇಶ ಅಯ್ಯಂಗಾರ
೧೬.	ದೇವಿ	- ಶಾಂತಾದೇವಿ ಕಣವಿ

4. BASIC - MARATHI

B.Sc

Semester II

Basic Marathi

Course: Literary Form: Translation : The Kalam

Efect : P. M. Nayar

Translation : Meera Shete-Shambu

Vishwakarma Publications, Pune.

4. BASIC-ARABIC

SYLLABUS OF ARABIC SUBJECT

BSc. Second Semester

Arabic Basic

(With effect from 2016-17 onwards)

Paper : Prose, Poetry and History of Arabic Literature

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al-Qiratul Wadhiha Part-II (Prose)

Following Lessons.

1.Al Firashatu wazzahratu. 2.Azziyaratu. 3. Fis sooqi

4.Al Mahattatu. 5. Usratul amm. 6. Dukaanul Fawakhi

By:Waheeduz.zama Al-Kiranvi.Pub.By:Maktaba Husainia
Deoband (U.P)

2. Mukhtaaraatul Adab (Poetry)

By: Zaidaan Badraan

Pub.By: Majlis-e- Isha atul uloom Jamia Nizamiya Hyderabad.59

Following Poems

1.AtTaa ir 2. AnNasheedul madrasi 3. Alkitabu 4. Unsheedatul Eid

5.Al Alamu. 6. Unshudatus Sabah.

3. Tareekh Adab-e-Arabi

Chapter No.I Teesri fasl

By: Dr.syed tufail Ahmad madaniPub.By:Deccan Traders Book Seller

& Publisher 23-2-378, Moghalpura, Hyderabad. (A.P)

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Sura-Alam Nashrah.

The question paper should be broadly based on the following pattern.

1)	Multiple choice from first and second text	10x1	= 10
2)	Summary from first and second text with choice	2x7½	= 15
3)	R.C. from first and second text with choice	3x5	= 15
4)	Appreciation of verses from second text 3 out of 5	3x5	= 15
5)	Question from third text with choice	2x7½	= 15
6)	Question on Sura	1x10	= 10

			80

5. BASIC – URDU

B.Sc Second Semester Urdu-Basic(MIL)

(With effect from 2016-17 onwards)

Paper-II. Prose, Poetry and Essays

Scheme of teaching:- Duration- 16 Weeks- 5hours per Week

Prescribed text books.

Detailed Text

by

I.Zouqey Adab(Vol 1) (Part 2) Prof. M.N Saeed.
Pub. By Hamim Publishers
3, 1st floor, Lal Masjid Building
Shivaji Nagar, Bangalore-51.

Non-Detailed Text:

II. Jaded Ilme Science by Wazarat Hussain
(Lessons 3,4,5 Only) Pub. By Educational Book House
(Page 76 to 130) Aligarh-202002.

Scheme of Examination (I & II Semester)

Total Marks – 100(Theory-80 Marks + Internal Assessment 20- Marks

- a) Each Paper of 100 Marks shall carry 20 Marks Internal Assessment out of 20 Marks , 4+10 shall be for semester test and remaining 3+3 shall be for H. Assignment & Attendance.
- b) In each paper 2 test shall be conducted for the award of Internal Assessment Marks, first test of 1 hour duration for maximum of 20 marks reduced to 4, shall be conducted in 8th week . Second test in 12th week of respective semester of maximum 80 marks & of 3 hours duration then reduced to 10 marks.

The question paper should be broadly based on the following pattern. (I & II Semester)

1. Multiple Choice questions from Detailed and N.D text. $10 * 1 = 10$
(10 out of 10)

Detailed text (Prose & Poetry)

2. Essay type question on Prose (1 out of 2) $1 * 10 = 10$
3. Question on reference to the context $4 * 2^{1/2} = 10$
(4out of 6)
4. Summary of the Poem (1 out of 3) $1 * 10 = 10$
5. Appreciation of verses from Gazals (4 out of 6) $4 * 2^{1/2} = 10$

Non-Detailed text

6. Essay type question $2 * 10 = 20$
(1 out of 2)
- Short Notes (2 out of 4) $1 * 10 = 10$

7. BASIC – SAMSKRIT
(With effect from 2016-17 onwards)

Bsc Part -I Basic – Samskrit			
Second Semester			
Teaching Hours	:	5 Hours per week	
Exam Marks	:	80+20=100 of 3 hours Duration	
Text : संस्कृत काव्य सुषमा (Samskrit Kayya Sushama) Samaja Pustakalaya Depot Dharwad			
1.	भवानी भाव परीक्षा	:	35 Marks
2.	मातडग वृत्तान्त :	:	35 Marks
3.	व्याकरण Grammer स्त्रीलिङ्ग शब्दः:	:	10 Marks

Bsc Part -I
Basic – Samskrit

Question Paper Pattern

Second Semester

1.	New Type Questions [Fill in the blanks]/ Select correct answer (any ten out of twelve)	10 Marks
2.	a) Translate & Explain (any two out of three) Stanza's b) Translate & Explain from prose (any two out of three)	10 Marks 10 Marks
3.	Explain with reference to context (any two out of four)	16 Marks
4.	Short notes (any two out of four)	08 Marks
5.	Answer the following question (any one from each section)	16 Marks
6.	Grammar (Feminine genders)	10 Marks
	Total	80 Marks

7. BASIC – PERSIAN

Teaching Hourse: 5 Hours per Week

PREScribed TEXTBOOK

Following portion only

Gulastaan-E-Saadi

Baharistan-E-Jaami

Textbook

Shahkar-E-Farsi by Hafez Abdul Alim Khan

Pub by:-Ram Narayanlal Bani mahdho2

katra road Allahabad(U.P)

8. BASIC – HINDI

Syllabus of B. Sc/BCA II Semester

Hindi Basic 2016-17 onwards

Teaching hours per week: 05 hours Total Marks: 100 Marks

Examination: 03 hours Theory: 80 Marks

Internal Assessment: 20 Marks

Text Books:

1. काव्य सरगम– सं. संतोष कुमार चतुर्वेदी, लोकभारती प्रकाशन, इलाहाबाद–१
(अध्ययन के लिए मैथिलीशरण गुप्त से अशोक वाजपेयी तक की कविताएँ)
2. सामान्य निबंध
3. अनुवाद

Distribution of Marks

काव्य सरगम – 55 अंक

सामान्य निबंध – 15 अंक

अनुवाद – 10 अंक

A	Objective Type Questions (10 out of 14)	10 Marks
B	Annotations from Text Book (3out of 5)	15 Marks
C	Essay Type of Questions from Text Book (2 out of 4)	20 Marks
D	Short Notes from Text Book (2out of 4)	10 Marks
E	General Essay (सामान्य निबंध) (1out of 3)	15 Marks
F	Translation (अनुवाद) (Kannada/English in to Hindi)	10 Marks
	Theory total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Reference Books:

१. छायावाद- डॉ. नामवर सिंह
२. प्रगतिवाद- डॉ. शिवकुमार मिश्र
३. अज्ञेय और प्रयोगवाद- शैल सिन्हा
४. पैमचंद के श्रेष्ठ निबंध- डॉ. सत्यप्रकाश मिश्र
५. अनुवाद विज्ञान- डॉ. भोलानाथ तिवारी
६. अनुवाद कला- डॉ. विश्वनाथ अय्यर
७. निबंधों का खजाना- आरती अग्निहोत्री
८. श्रेष्ठ हिंदी निबंध- ब्रज किशोर प्रसाद सिंह

Group – II

OPTIONAL / COMPULSORY SUBJECT FOR THE DEGREE IN SCIENCE SUBJECTS

Science Subjects: (any three subject of equal importance to be chosen as per the grouping given by Rani Channamma University, Belagavi)

DETAILED SYLLABUS OF FOLLOWING PAPERS WITH PRACTICALS

(With effect from 2017-18 onwards)

1. MICROBIOLOGY (Optional)

SEMESTER- II

PAPER –2.1 MICROBIOLOGICAL TECHNIQUES

Total Hours Allotted: 50

1. Microscopy:

Principles of Microscopy- resolving power, numerical aperture, working distance and magnification. 2. Principles of photomicrography. 3. Working principles and applications of a) Dark field microscope b) Phase contrast microscope c) Fluorescence Microscope e) Electron Microscopy- TEM and SEM

8 Hours

2. Sterilization:

A) Physical methods and their mode of action.

i) Heat

- a) Dry heat-Hot air Oven
- b) Incineration
- c) Moist heat-Autoclave and Pressure cooker.
- d) Tyndallizations(Fractional Sterilization)

ii) Filtrations-Types of filters and laminar air flow.

iii) Radiation methods-UV and Gamma Radiation.

B) Chemical methods:

- a) Definitions of terms-Disinfectants, Antiseptics Sanitizers.

Microbicides- Bactericides, Viricides, Fungicides &Sporicides, Microbiostatic, Bacteriostatic and fungi biostatics agents.

- b) Use and mode of action- Alcohol, Aldehydes, Halogens, Phenols, Heavy metal Detergents: Quaternary ammonium compounds.

12 Hours

3. Culturing of microorganisms:

Culture media-Synthetic and non-synthetic-solid, liquid and semisolid media, Special media-Enriched, Selective, Transport, Differential media. Methods of isolation of bacteria, fungi- Serial dilution, Pour plate, Spread plate and Streak plate. Different methods for maintenance of pure culture.

Cultivation of anaerobic bacteria- Anaerobic jars method. **12 Hours**

4. Strains and Staining Techniques:

Principles and types of stains- Preparation of bacterial stains for light microscopy. Fixation, Simple staining (Positive and Negative), Differential staining (Gram staining and acid fast staining), Structural staining (capsule and endospore staining). **12 Hours**

5. Instruments:

Working principles of Centrifuge, pH meter, Colorimeter and Spectrophotometer and their applications.

6- HOURS

PRACTICALS-2.2 Microbiological Techniques:

1. Study of microscope. Structure and working principle of Light microscope.
2. Preparation of the culture media: Broth, Semisolid and solid. Pour plate, Streak plate and Spread plate techniques.
3. Isolation and Enumeration of microorganisms using serial Dilution techniques.

4. Staining methods Simple staining, Gram staining, Acid fast staining and structural stains.
5. Demonstration of slides culture techniques of Fungi.
6. Demonstration of laboratory instruments: Autoclave, Hot air Oven, Incubator, Centrifuge, Spectrophotometer and pH meter.

REFERENCES:

1. Aneja K.R, Experiments in Microbiology, Plant Pathology, Tissue culture and Mushroom cultivation, New Age International, New Delhi.
2. Atlas.R.M. "Microbiology- Fundamental and Applications" Mac Millian Publishing company New York.
3. Benson Harold. J " Microbial Applications" WCB McMillian Publishing Co, New York.
4. Bhattacharya " Experiments with Microorganisms"-Emkay Publishers.
5. Colwod. D 1997 "Microbial Diversity" Johan Wiley.
6. Cooper,D 1997 :The tools of Biochemistry" Johan Wiley and sons.
7. Peleczar M.J. and Chand ECS and Kreig NR- 1982 "Microbiology" Tata McGraw Hill Book Co. New York.
8. Salle. A.J. "Fundamentals Principles of Bacteriology" Tata McGraw Hill Publishing Company Ltd. New Delhi.
9. Stainer. R.Y. and Ingraham J.L " General Microbiology" Prentice Hall of India Pvt. Ltd, New Delhi.
10. Sullia S.B. and Shantaram S 1998 " General Microbiology" oxford and IBH Publishing Co Pvt.Ltd.New Delhi.
11. Sunderrajan " Tools and Techniques of Microbiology"- Anmol Publications.

2. PHYSICS (Optional)

(With effect from 2017-18 onwards)

Physics 2.1: SOUND AND THERMAL PHYSICS (Total Hours: 50)

17BSCPHYT12

UNIT I

SOUND

Free, forced and sustained vibrations, resonance with examples.

Analytical treatment of undamped, Damped and forced vibrations, Condition for amplitude at resonance, phase of forced vibrations, effect of damping on phase of forced vibrations. Theory of Helmholtz Resonator and determination of unknown frequency.

Transducers and their characteristics: Pressure microphone (Carbon), moving coil loud speaker.

Problems.

(9 + 1 = 10hours)

UNIT II

KINETIC THEORY OF GASES

Postulates of kinetic theory of gases, Maxwell's law of distribution of velocities (derivation assuming constants a and b). Average, r.m.s and most probable velocity (derivation). Mean free path, derivation of Clausius expression, & Maxwell's expression. Brownian Motion and derivation of Einstein's equation for translational Brownian motion.

Problems.

(9 + 1 = 10 hours)

UNIT III

THERMODYANMICS

Heat engines: Otto Engine, Otto Cycle, expression for efficiency.

Diesel engine: Diesel cycle, expression for efficiency and Carnot's Theorem.

Entropy: Concept of entropy. change in entropy in reversible and irreversible processes. Entropy – Temperature diagram, Second law of thermodynamics.

Maxwell's Relations : Derivation of Maxwell's Relations .

Applications to Clausius – Clapeyron's equation.

Problems.

(8 + 2 = 10 hours)

UNIT IV

LOW PRESSURE AND TEMPERATURE

Production of low pressure: Exhaust pump and its characteristics (Exhaust pressure, degree of vacuum attainable, speed of pump).

Expression for speed of pump.

1. Diffusion pump: Principle, construction and working.

2. Ionization gauge: Principle, construction and working.

Production of low temperature: Joule Thomson effect, porous plug experiment with analytical treatment concept of is version temperature.

Problems.

(9 + 1 = 10 hours)

UNIT V

Radiation

Radiation pressure (qualitative), Stefan's Law and its derivation using radiation pressure. Determination of Stefan's constant. Energy distribution in the Black body spectrum. Wein's displacement law and Rayleigh – Jean's Law (qualitative). Planck's law and its derivation. Derivation of Wein's Displacement law & Rayleigh Jean law from Planck's law.

Problems.

(9 + 1 = 10 hours)

PHYSICS 2.2 : LAB – II

17BSCPHY22

LIST OF EXPERIMENTS

1. Helmholtz Resonator.
2. Frequency of A.C using sonometer.
3. Velocity of sound through material of wire using sonometer.
4. Characteristics of loud speaker (Tweeter and Woofer).
5. Determination of thermal conductivity of bad conductor by Lee's method.
6. Determination of Stefan's constant.
7. Verification of Stefan's law.
8. Specific Heat of Liquid by method of cooling.
9. Characteristics of microphone.
10. Determination of solar constant.

NOTE:

1. Experiments are of four hours duration.
2. Minimum of eight experiments to be performed.

REFERENCE BOOKS:

1. A text book of Sound (II Edition) – Brijlal and Subramanyam, Vikas Publishing House, 1977.
2. Text book of Sound (I Edition) – Khanna and Bedi, Atmaram and Sons, 1985.
3. Text book of Sound (III Edition) – M. Ghosh, (S.Chand.)
4. Kinetic Theory of Gases (I – edition) – Ideal Book Service, Pune. (1967)
5. Kinetic Theory of Gases – Kelkar V N.
6. Heat and Thermodynamics and Statistical Physics (XVII Edition) –Singhal, Agarwal and Satyaprakash
7. Heat and Thermodynamics and Statistical Physics (I Edition) – Brij lal Subramanyam and Hemne (S.Chand , 2008).
8. Heat and Thermodynamics (I Edition) – D.S.Mathur (S.Chand, 1991).
9. A treatise on Heat – Saha and Srivastava.
10. A text book of heat – J.B.Rajam.
11. A text book of Heat and Thermodynamics-Sears and Salinger
12. Kinetic theory of gases – R. S. Bhoosanurmath

3. GEOLOGY (Optional)

SYLLABI FOR B.SC.I & II SEMESTER GEOLOGY (OPTIONAL)

2017-18

S. No.	Paper Code	Title of the Paper	Marks			Exam Time	Inst. Hrs/ week
			Theory/ Practical	Internal	Total		
	B.Sc Semester I						
1.		DYNAMIC GEOLOGY, CRYSTALLOGRAPHY & FIELD GEOLOGY	80	20*	100	3 hrs	4
2.		PRACTICAL : STUDY OF TOPOSHEETS, GEOMORPHOLOGICAL MODELS & CRYSTAL MODELS	40	10**	50	4 hrs	4
	B.Sc Semester II						

3.		MINERALOGY & OPTICAL MINERALOGY	80	20*	100	3 hrs	4
4.		PRACTICAL: MINERALOGY & OPTICAL MINERALOGY	40	10**	50	4 hrs	4
*Theory Internal 20 marks covers: Two theory tests in each semester; AND **One Practical internal test of 10 marks in each semester.							

- a) **Student batch:** As this is a semi technical and at present available only at GSS College, each batch should consist of not more than 10 students for the regular practical classes.
- b) **Study Tour:** There will be a Geological Study Tour to the places of geological interest mainly to study the field occurrence of geological features during each SEMESTER. It carries weightage in the final practical marks. Each student shall submit a consolidated study tour report along with the journal.
- c) **Practical Record:** Submission of a well-maintained Journal of the Practical Work done during the semester is necessary before the Practical Examination.
- d) **Assignments:** The students will be given assignments, which are to be submitted before the 2nd Internal Test examination.
- e) **Attendance:** All the students need to attend and maintain 75% minimum.

All this carries 10 marks including viva-voce.

OBJECTIVES: Introduce the ward to the geological processes, earth resources, our natural environment and the human interactions from a geological perspective. Topics to be covered will include; Earth Materials and Structure, Human interactions with nature, Environmental Hazards, Pollution of the Environment, Natural Resources, Energy Sources and their exploitation. Through these objectives the students will achieve the following know how:

- Develop the understanding of earth and its material.
- Develop greater self-awareness of personal role regarding environmental issues.
- Increase awareness of environmental issues and how they affect society.
- Develop skills and insight into critical thinking and situational awareness of surrounding environment.
- Gain an understanding of the physical processes that operate in and on earth.
- Understand the interactions between humans and the geological processes.
- Understand past, present, and future environmental issues and how they affect the earth and our society.

NATURE OF THEORY AND PRACTICAL EXAMINATION

a) Theory Examination: (Total 100 Marks)

i) There will be one theory paper of 80 marks in each semester.

Each paper will contain THREE Sections, which are to be written in the same answer book.

PART A: TWELVE Questions (Definitions/two sentence answers) numbered I-12, each of 2 marks. Students need to answer ANY TEN questions. $(2 \times 10 = 20 \text{ Marks})$

PART B: SIX Questions (Short answers) numbered as 13,14,15,16,17 & 18. Each of FIVE marks students need to answer ANY FOUR questions $(4 \times 5 = 20 \text{ Marks})$

PART C: FIVE Questions (Descriptive answers) numbered 19,20,21,22 & 23. Each of TEN marks, students need to answer ANY FOUR questions $(4 \times 10 = 40 \text{ Marks})$

ii) The remaining 20 marks are allotted for Internal Assessment Marks – of 1 hour 15 minutes for two internal tests in theory.

- a. Two internal tests of 20 marks each reduced to 10 marks.
- b. Internal Assignment/Seminars/Student project work/Viva-voce (10 marks): Students are given assignments/seminars on the subject taught or a student project work.

b) Practical Examination: Total 50 Marks.

- a. Practical examination will have 3 or 4 Questions of **30 marks**.
- b. Practical Record (Journal), Field study tour report and Viva Voce carry (**10 marks**).
- c. Practical Internal test: One internal test of 20 marks reduced to 10. (**10 marks**).

B.Sc (GEOLOGY OPTIONAL) SEMESTER II

MINERALOGY & OPTICAL MINERALOGY

Max. Marks: 80

Total teaching hours: 50 (4 hrs/week)

UNIT	TOPIC	Hrs
A. MINERALOGY		
I	Definition of mineral. Properties depending upon light- color, streak, diaphaneity, luster. Properties depending upon state of aggregation- form- columnar, lamellar and granular. Imitative shapes- reniform, botryoidal, mamillary, amygdaloidal, vesicular, dendritic, stalactitic and stalagmitic.	10
II	Forms- Isomorphism, polymorphism, pseudomorphism Properties depending upon cohesion and elasticity - Cleavage, fracture, hardness (Moh's scale of hardness) and tenacity; Other properties: taste, odour, feel, magnetism, electricity. Specific Gravity – Walker Steel Yard Balance.	10
III	Silicate Mineral Structures. General characters and uses of following group of minerals: Quartz, Felspar, Mica, Pyroxene, Amphibole, Olivine & Garnet Gemstones: Definition, Specifications - Carat, Color, Clarity, Rarity, Durability. Types of gemstones and uses.	10
B. OPTICAL MINERALOGY		
IV	Nature of light – Electromagnetic wave. Ordinary and polarized light – Reflection, refraction and refractive index, critical angle and total internal reflection. Double refraction. Petrological microscope: Introduction to parts of microscope. Preparation of thin section. Polarization: polarization by reflection, Brewster's law - polarization by refraction, polarization by absorption.	10
V	Construction of Nicol Prism – Behavior of light in the microscope without mineral, with isotropic mineral and with anisotropic mineral. Optical Accessories: Mica plate, Gypsum Plate and Quartz Wedge. Optical properties of mineral: in plane polarised light- colour, pleochroism, form, cleavage, fracture, relief. Properties in analysed/crossed nicols- Isotropism and anisotropism; Interference Colours; Birefringence; Extinction - types, extinction angle; Zoning and Twinning.	10

PRACTICAL
MINERALOGY & OPTICAL MINRALOGY

Max. Marks: 40

Time: 4 hrs/week

Total 50 hrs

1. **Mineralogy:** Study of general characters and uses of following minerals.
Quartz- Rock Crystal, Amethyst, Chalcedony, Agate, Flint, Jasper, Opal. Felspars- Orthoclase, Microcline, Plagioclase; Zeolites- Natrolite, Stilbite; Mica- Biotite, Muscovite, Pyroxene- Hypersthene, Augite, Diopside; Amphibole- Hornblende, Olivine, Garnet; Calcite, Dolomite, Magnesite, Kyanite, Corundum, Beryl, Tourmaline, Talc, Serpentine, Asbestos & Barites.
2. Determination of specific gravity by Walker steel yard balance.
3. **Optical Mineralogy:** Optical properties (under plane polarized and analysed light) of following minerals- Quartz, Orthoclase, Microcline, Plagioclase, Muscovite, Biotite, Hypersthene, Augite, Hornblende, Olivine, Kyanite, Calcite, Corundum, Garnet, Magnetite & Hematite.
4. Determination of Extinction and Cleavage angle under microscope.

BOOKS RECOMMENDED

1. Rutley's Elements of Mineralogy	H.H. Read
2. Optical Mineralogy	Kerr.P.F
3. Optical Mineralogy	Winchel
4. Mineralogy for students	M.I. Batty
5. Mineralogy	Berry & Mason
6. Dana's Text book of Mineralogy	W.E. Ford
7. Mineralogy	Berry & Mason
8. Mineralogy for students	M.I. Batty
9. Optical Mineralogy	E.E. Wahlstrom
10. Optical Mineralogy	F.F. Kerr
11. Elements of Optical Mineralogy	A.N. Winchell
12. Engineering Geology	Parbin Singh
13. Principles of Engineering Geology	K.M.Bangar
14. Treatise of Minerals of India	R.K.Sinha
18. Principles of Engineering Geology	Bangar

4. CHEMISTRY (Optional)

COURSE PATTERN

Semester	Particulars	Instruction Hours per week	Duration of Exams	Internal Assessment Marks	Examination Marks
I	Theory Paper-I	4hrs	3hrs	20	80
	Practical-I	4 hrs	4 hrs	10	40
II	Theory Paper-II	4hrs	3hrs	20	80
	Practical-II	4 hrs	4 hrs	10	40
III	Theory Paper-III	4hrs	3hrs	20	80
	Practical-III	4 hrs	4 hrs	10	40
IV	Theory Paper-IV	4hrs	3hrs	20	80
	Practical-IV	4 hrs	4 hrs	10	40
V	Theory Paper-Va	4hrs	3hrs	20	80
	Theory Paper-Vb	4hrs	3hrs	20	80
	Practical-Va	4 hrs	4 hrs	10	40
	Practical-Vb	4 hrs	4 hrs	10	40
VI	Theory Paper-VIa	4hrs	3hrs	20	80
	Theory Paper-VIb	4hrs	3hrs	20	80
	Practical-VIa	4 hrs	4 hrs	10	40
	Practical-VIb	4 hrs	4 hrs	10	40

B.Sc. II SEMESTER

CHEMISTRY TEACHING HOURS : 50 HOURS

INORGANIC CHEMISTRY

Chemical bonding-II	10 hours
Hybridization: Salient features of hybridization, geometry of molecules with respect to sp , sp^2 , sp^3 , dsp^3 , sp^3d^2 hybridization.	
VSEPR theory- Postulates, regular and irregular geometry(BF_3 , CH_4 , NH_3 and H_2O). Molecular orbital theory: LCAO concept, elementary account with respect to H_2 , He_2 , Li_2 , B_2 , N_2 , O_2 , O_2^+ , O_2^- and O_2^{2-} molecules, calculation of bond order, stability, magnetic property etc.	
Hydrogen bonding: Types, significance of hydrogen bonding, properties explained by hydrogen bonding like a)State of H_2O and H_2S b) Melting and Boiling point c) Ice has less density than water.	

Organic reagents in inorganic analysis	02 hours
Sensitivity, selectivity and specificity, advantages of organic reagents over inorganic reagents - Dimethyl glyoxime, 8-hydroxyquinoline(oxime).	

ORGANIC CHEMISTRY

Alkenes, Dienes and Alkynes	04 hours
Alkenes: Methods of preparation of alkenes by (i) dehydration of alcohols (ii) dehydro halogenation. Saytezaff's elimination (Formation of highly substituted alkene, 2-butene), Hofmann orientation (Formation of least substituted alkene, 1-pentene).	
Chemical reactions of alkenes- Peroxide effect and its mechanism, hydroboration, oxidation, oxy-mercuration-reduction and mechanism, ozonolysis with respect to 2-butene and 2-methyl-2-butene, oxidation with $KMnO_4$.	

Dienes: Classification and Nomenclature	
Preparation of 1,3 butadiene; 1,2 and 1,4 addition reactions (addition of halogens and halogen acids), Diel's-Alder reaction, polymerization of 1,3 butadiene.	

Alkynes: Acidity of Alkynes, reactions of acetylene -metal ammonia reduction, oxidation and polymerization	
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Aromatic Hydrocarbons	04 hours
Resonance in benzene, Aromaticity-Huckel's $4n + 2$ rule with respect to benzene, furan, pyridine and [10]-annulene.	

Mechanism of electrophilic aromatic substitution-halogenation, nitration, sulphonation and Friedel-Craft's reaction (evidences for two step mechanism and evidences for formation of electrophile).

Poly nuclear hydrocarbons: Classification, examples, constitution of naphthalene, Haworth synthesis, nitration and sulphonation of naphthalene.

Conversions **02 hours**

- a) Alkanes to alkyhalides to alcohols and vice versa
- b) Alkanes to alkyl cyanides to carboxylic acids
- c) Benzene to p-nitrobenzoic acid
- d) Benzene to m-bromoaniline
- e) Naphthalene to 1,4-naphthaquinone
- f) Naphthalene to anthranilic acid

PHYSICAL CHEMISTRY

First law of thermodynamics **05 hours**

Statement, isothermal and adiabatic process, expression for work done in the reversible expansion of adiabatic expansion of an ideal gas ($PV\gamma=\text{Constant}$) Joule-Thomson effect, Joule-Thomson experiment, derivation of Joule Thomson coefficient for an ideal gas and inversion temperature.

Thermochemistry - Kirchoff's equation, bond energies and bond dissociation energies, calculation of bond energy and bond dissociation energies by taking simple molecules. Numerical problems.

Liquid State: Physical Properties of Liquids **06 hours**

Surface Tension: Effect of temperature on surface tension. Determination of surface tension of liquid by drop numbers method, parachor and its application.

Viscosity: Effect of temperature on viscosity, determination of relative, absolute and intrinsic viscosity of liquids by ostwald's viscometer method.

Refractive index of liquid: Specific and molar refractions, determination of refractive index of liquid by Abbe's refractometer.

Liquid Crystals **02 hours**

Types and applications.

Colloids **04 hours**

Emulsions: Types of emulsions, Preparation and emulsifiers.

Gels: Classification, preparation and properties, general applications of colloids.

Solids **04 hours**

Space lattice, unit cell, crystal systems, calculation of particles per unit cell, laws of crystallography, x-ray diffraction of crystals, derivation of Brag's equation,

Miller indices, determination of structure of NaCl by rotating single crystal method.

REFERENCE BOOKS

Inorganic Chemistry

- | | |
|--|-------------------------------|
| 01. Advanced Inorganic Chemistry | Cotton and Wilkinson |
| 02. Concise Inorganic Chemistry | J.D. Lee |
| 03. Inorganic Chemistry | Huhe and Keiter |
| 04. Inorganic Chemistry | Shriver and Atkin |
| 05. Principles of Inorganic Chemistry | Puri and shrama |
| 06. Inorganic Chemistry | A. G. Sharpe |
| 07. Essential Chemistry | R. Chand |
| 08. University Chemistry | Mahan and Myers |
| 09. Modern Inorganic Chemistry | Madan |
| 10. Modern Inorganic Chemistry | Satya prakash |
| 11. Inorganic Chemistry for Under graduates | R. Gopalan |
| 12. College Practical Chemistry | Ahluwalia, Dhingra and Gulati |
| 13. Instrumental method of chemical analysis | Willard, Martin and Dean |

Organic chemistry

- | | |
|---|---------------------------------|
| 01. Organic Chemistry | I.L. Finar Vol I and II |
| 02. Organic Chemistry | Morrison and Boyd |
| 03. Organic Chemistry | F.A. Carey and R.J. Sundberg |
| 04. Reaction Mechanism in Organic Chemistry | Singh and Mukherji |
| 05. Text Book of Organic Chemistry | Bahl amd Bahl |
| 06. Text Book of Organic Chemistry | C.N. Pillai, Universities Press |

Physical chemistry

- | | |
|------------------------|---|
| 01. Physical Chemistry | Puri and Sharma |
| 02. Physical Chemistry | P.L. Soni |
| 03. Physical Chemistry | Roberty A Alberty |
| 04. Physical Chemistry | M. V. Sangaranarayanan a n d V. Mahadevan |
| 05. Physical Chemistry | Atkins |
| 06. Physical Chemistry | Bahl, Madan and Tuli |

B.Sc. II SEMESTER
CHEMISTRY PRACTICALS

Total number of hours per week: 04

Internal Assessment=10 Marks

Total No. of hours per Semester: 52

Practicals: 40 Marks

A. Organic Spotting: Identification of following organic compounds and preparation of their derivatives and confirmation by melting points :

01. Oxalic Acid
02. Phenol
03. Naphthalene
04. Urea
05. Benzaldehyde
06. 1-Naphthol
07. Phthalic acid
08. 2-Naphthol
09. Aniline
10. Acetanilide
11. Benzamide
12. Benzoic Acid
13. Salicylic Acid
14. Acetone
15. Ethyl benzoate

B. Identification by

01. Element determination
02. Solubility
03. Functional group
04. Physical constant
05. Preparation of derivatives and finding melting points.

5. ELECTRONICS (Optional)

B. Sc. SEMESTER –II

2017-18 onwards

Total Teaching hours: 50, Teaching hours per week : 4 hours

ELE-2: CIRCUITS AND DEVICES

UNIT – I: DIODE CIRCUITS

Dynamic characteristic of diode, Rectifiers - Half wave and full wave; derivation of Efficiency and Ripple factor. Define TUF, PIV and Voltage Regulation & Line regulation. Comparison between half wave and full wave rectifiers.

Filters(Qualitative only);Shunt Capacitor input filter, Inductor filter, Choke input LC filter, π -Section filter. Clipping and clamping circuits (Biased and Unbiased positive & negative).

8Hrs.+2Hrs.Problems =10hr

UNIT – II: REGULATED POWER SUPPLY.

Concept of voltage regulation, unregulated & regulated power supply, block diagram of regulated power supply, Zener diode and its characteristics , Design of Zener diode voltage regulator. Transistor series voltage regulator, Concept of IC, Three pin IC regulator block diagram , 78xx series & 79xx series.

8Hrs.+2Hrs.Problems =10hrs

UNIT – III : ACTIVE DEVICES

Transistor :Introduction, types of transistors, construction and working, characteristics of three modes (CB, CE and CC), relation between α , β and γ .

FET ;Types JFET (construction working, characteristics and their determination). Enhancement MOSFET and depletion MOSFET,(construction working and characteristics)

Optoelectronic devices: Construction, working & applications of LED, LDR, Photodiode, Photovoltaic cell.

8Hrs.+2Hrs.Problems =10hrs

UNIT – IV : TRANSISTOR BIASING

Amplifying action of a transistor, amplification, load line concept(dc and ac), need for biasing ,operating point, stabilization techniques, stability factor and thermal runaway.

Types of biasing circuits; Fixed bias, Collector feedback bias, Emitter feedback bias and Voltage divider bias (Explanation , derivation of stability factor, advantages & disadvantages in each case). Brief account on heat sink.

8Hrs.+2Hrs.Problems =10hrs

UNIT – V: AMPLIFIERS

Amplifiers: Analysis of a transistor common emitter amplifier using h parameters, determination of voltage gain, current gain, input impedance, output impedance and power gain.

Designing of single stage RC coupled common emitter amplifier, effects of various components and frequency response, Bandwidth.

FET common source amplifier (construction and working only).

. **Power amplifier :** Introduction, Classification of power amplifiers, Conversion efficiency of class A amplifier, class B amplifier and class C amplifier. Transformer coupled push pull amplifier.

8Hrs.+2Hrs.Problems =10hrs

Reference Books:

1. Electronics theory and Applications - S.L Kakani and K.C.Bhandari.
2. Electronics fundamentals and applications - D.Chattopadhyay and P.C.Rakshit
3. Principles of electronics - B.V.Narayana Rao Vol –II
4. Electronics Devices and circuits - David.A.Bell 4th edition
5. Elements of Electronics - Bagade and Singh
6. Basic Electronics and Linear circuits - Bhargav, Kulshrestha & Gupta
7. Principles of Electronics - V.K.Mehta.
- 8 Integrated electronics - Millman & Halkias
9. Electronics Principle - Malvino
10. Linear integrated - D. Roy Choudhary, Shaila.B.Jain
11. Semiconductor devices & circuits - R.L.Boylested

LIST OF EXPERIMENTS

Lab – 2:

Each experiment is of four hours duration. Minimum EIGHT experiments are to be performed in the semester course

1. Zener diode characteristics apply it to study regulation..
- 2; Diode as Clamper(Biased and Unbiased both Positive and Negative).
3. Diode as Clipper(Biased and Unbiased both Positive and Negative).
4. Full wave bridge rectifier with LC / π - section filter
5. LED characteristics (Minimum Three LEDs)
6. Transistor h-parameters(CE configuration)
7. Biasing circuits . I) Fixed biasing
II) Base bias with collector feedback

8. Biasing circuits
 - I) Base bias with emitter feedback
 - II) Voltage divider
9. CE amplifier (Designing, Frequency response curve)
10. FET characteristics
11. FET common source amplifier
12. Photoconductive cell characteristics(Inverse square law and intensity versus photocurrent)
13. Photovoltaic cell characteristics (fill factor estimation)

6. GEOGRAPHY (Optional)

**B. A. / B. Sc SEMESTER GEOGRAPHY (OPTIONAL)
COURSE STRUCTURE (SCHEME) UNDER CBSE SYSTEM
WITH EFFECT FROM 2015-2016 ONWARDS
THEORY & PRACTICAL PAPER- I & II**

Semester	Title of the Paper	Teaching Hours per Week	Marks	Internal Assessment Marks (IA)	Total Marks	Duration of Examination
I	Theory Paper - I Part – A: Physical Geography Practical Paper - I <i>Representation of Relief</i>	05	80	20	100	3 hours
II	Theory Paper - II Part – B: Physical Geography Practical Paper - II <i>Basics of Cartography (Maps & Scales)</i>	05	80	20	100	3 hours
		04	40	10*	50	4 hours

*Note: Practical IA includes: 07+03=10 Marks for Assignments/Journal work and Attendance only

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – II

THEORY PAPER - II

PART – B: PHYSICAL GEOGRAPHY

Objectives: The aim of this course is to provide an understanding of weather and climate phenomena, dynamics of global climates, interaction between living organisms with climate and physical environment. Further, this paper is to provide in-depth understanding of different oceans, such as evolution of the oceans, physical and chemical properties of seawater, atmospheric and oceanographic circulation.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week (assignment / seminar/ discussion)

Practical : 04 hours per week

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10 IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units	Topic	Teaching Hours
I	Weather and Climate: Definition and significance of Climatology, Distinction between weather and climate, elements and controlling factors of weather and climate, Composition and structure of atmosphere	08
II	Atmospheric Temperature: Insolation and Heat Balance (Budget), Vertical & Horizontal distribution of Temperature & Isothermal Maps. Atmospheric Pressure: measurement of pressure, pressure belts and Isobaric Maps. Winds: Planetary, Seasonal & Local winds, Cyclones and Anti-Cyclones	16
III	Atmospheric Moisture: Hydrological Cycle, Humidity, Clouds and its types, condensation and types of Rainfall.	08
IV	Oceanography: Meaning & Significance of Oceanography, Distribution of Land and Water bodies, Hypsographic curve, Bottom relief of Oceans; continental shelf, slope and deep sea plains.	10
V	Distribution of Temperature and Salinity of Ocean Water, Water Waves, Tidal theories and types of tides, Ocean Currents: Pacific, Atlantic & Indian ocean, Coral reefs, Oceans as a store house of mineral and food resources, human impact on marine environment.	18
	Total	60 hours

Reference:

1. Strahler & Strahler: Physical Geography
2. R. N. Tikka: Physical Geography
3. Majid Hussain: Physical Geography
4. Das Gupta & Kapoor: Physical Geography
5. Mallappa P: Physical Geography (Kannada)
6. Ranganath: Physical Geography (Kannada)
7. M.B.Gaudar: Physical Geography (Kannada)

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B. A. /B. Sc. SYLLABUS IN GEOGRAPHY**SEMESTER – II****PRACTICAL PAPER - II****BASICS OF CARTOGRAPHY (Maps & Scales)**

Units	Topic	Teaching Hours
I	Cartography: Definition and importance of Cartography and cartography as a science of human communication	04
II	Maps and Scales: a) Maps: Meaning and Classification of maps, Characteristic features and uses of maps b) Scale: Definition and types of Scale, Conversion of Scale; V.S. into R.F. (five exercises each) and R.F. into V.S. (five exercises each)	06
III	Construction of Scale: Graphical/Plane, Comparative, Time, Pace and Diagonal scale and their importance (2 exercises each)	22

IV	Enlargement and Reduction of Maps by Graphical Method (three exercises each)	08
V	Viva	
		Total 40 hours

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganath: Practical Geography (Kannada)
4. Singh and Kanayia: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karienavar & S. S. Nanjannavar: Practical Geography (Kannada)
7. Pijushkanti Saha & Partha Basu- Advanced Practical Geography.

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B. A. / B. Sc. II Semester (CBCS)

PATTERN/MODEL OF PRACTICAL QUESTION PAPER

Practical Paper- II: BASICS OF CARTOGRAPHY

Center No:.....

Max. Marks: 40

Seat No:

Date:.....

Time : 3 Hours

Instructions:

1. Attempt all questions.
2. This question paper should be attached with the main answer book.
3. Examiner should prepare the question paper covering each unit of the syllabus.

Q. No. 1	1. 2. 3. (For framing the questions, Examiner should refer unit no 1& 2).	6 marks (3x2)
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Q. No. 2	a). Convert the following V. S. into R. F. (any two) i) ii) iii) iv) (Examiner should refer unit no 2).	4 marks
	b). Convert the following R. F. into V. S. (any two) i) ii) iii) iv) (Examiner should refer unit no 2).	4 marks
Q. No. 3	a). Draw/Construct thescale and write its procedure. (Examiner should refer unit no 3).	5 marks
	b). Draw/Construct thescale for the given R. F. and write its procedure. (Examiner should refer unit no 3).	6 marks
Q. No. 4	a). Enlarge the given map (Examiner should refer unit no 4).	5 marks
	b). Reduce the given map (Examiner should refer unit no 4).	5 marks
Q. No. 5	Viva	5 marks
	Total	40 marks

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7. BIOTECHNOLOGY (Optional)

B.Sc Biotechnology (Optional Subjects) Semester System Syllabus (w.e.f: 2017-18 & onwards)

Semester	Title of the paper	Number of hours/week/paper	Duration of Examination	Internal Assessment Marks- 20/10				Semester end Examination Marks
				I Test	II Test	SEM - Assignment	ATTENDANCE	
I	Cell biology and Genetics	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
II	Biochemistry & Biostatistics	04 Hours	03 Hours	04	10	03	03	80 Marks
	LAB	04 Hours	04 Hours	10Marks				40Marks
III	Microbiology and Immunology	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
IV	Molecular Biology & Bioinformatics	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
V Paper I	Plant and animal Biotechnology	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
V paper II	Genetic Engineering & NanoTechnology	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
VI Paper I	Industrial,& Environmental Biotechnology	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40 Marks
VI Paper II	Agricultural & Medical biotechnology	04 Hours	03 Hours	04	10	03	03	80 Marks
	Lab	04 Hours	04 Hours	10 Marks				40Marks

SYLLABUS FOR BIOTECHNOLOGY (OPTIONAL)

B.Sc .II Semester

Paper-2 .1 BIOCHEMISTRY AND BIOSTATISTICS

Teaching hours: 50

Unit: 1 Carbohydrates: Structure, Properties, Classification and functions **(05 Hours)**

Unit: 2 Lipids: Structure, Properties, Classification and Functions **(05 Hours)**

Unit: 3 Amino acids and Proteins: Structure, Properties, Classification and functions of amino acids and proteins. Structural organizations of proteins (primary, secondary, tertiary and quaternary structures) reverse turns and Ramachandran plot **(05 Hours)**

Unit: 4 Enzymes: Nomenclature, classification, properties, factors influencing enzyme catalyzed reactions, enzyme inhibition (reversible and irreversible), outline of purification, industrial application of enzymes. **(05 Hours)**

Unit: 5 Vitamins& Hormones: Dietary source and functions of Water soluble and Fat-soluble vitamins. Chemistry and functions of pituitary and gonadal hormones. **(05Hours)**

Unit: 6 Bioenergetics: Concept of free energy transformations, Redox potentials, Regulations of Glycolysis, Krebs's cycle and Electron Transport System. **(05 Hours)**

Unit: 7 Principles and applications of Solutions, pH and buffers: Theory of water ionization and its purity (kW), pK_a & pK_b acids and bases, Derivation of Henderson-Hasselbalch equation and its significance. Buffers: Criteria for selection of buffers, types of buffers, Buffers in Biological systems and their mechanism of action. **(05 Hours)**

Unit: 8 Analytical techniques: Principles and applications of Chromatography (Paper, thin-layer, column and GLC), Centrifugation (RPM and G, Ultracentrifugation), Spectroscopy (UV-Visible), Isotopes and Radioactivity: Radioactivity, decay laws, Isotopes in Biological studies.

(05 Hours)

Unit: 9 Biostatistics: Data & its types, Tabulation and classification of data, Frequency distribution and Graphical representation of data, Measures of central tendencies: Mean, Median, Mode and their properties, Measures of Dispersion: Mean deviation, Variance, Standard deviation and coefficient of Variation, Different models of data presentation with special reference to biological samples, Chi square test, student T test, introduction to SPSS analysis with examples etc.

(10 Hours)

PRACTICALS -2.2 – BIOMOLECULES AND ANALYTICAL TECHNIQUES

1. Preparation of percent molarity, molality and normality of solution,
Measurement of pH and buffer.
2. Qualitative analysis of Carbohydrates, Amino acids, Proteins and Lipids.
3. Paper Chromatography of amino acids and sugars.
4. Qualitative analysis of body fluids such as blood and urine.
5. Assay of amylase activity.
6. Colorimetric estimation of protein by Biuret method.
7. Colorimetric estimation of blood sugar.
8. Estimation of amino acids.
9. Estimation of creatinine in urine sample.
10. Testing of acid phosphates (Potato) and alkaline phosphates (milk) activity.
11. Demonstration of catalase activity.

1. References:

2. Biomolecules and analytical techniques Boyer Rodney, 1999 "Concepts of biochemistry", Pacific Grove, Brooks/cole publishing company.
3. Deb, A.C. "Fundamental of Biochemistry", New Central Book Agency, Calcutta.
4. Jain, J.L. "Fundamentals of Biochemistry". S. Chand and Company. Keshav Trehan; "Biochemistry", wiley Eastern publication.
5. Lehninger, et.al., 1997: Principal of Biochemistry CBS publishers. Mathews and Van Horde:
6. Moron, L.A. scimegeur, K.G. Hostan, H.R. Ochs, R.S. and Rawn, J.D. 2000: Biochemistry, 3rd edition
7. Biomolecule: Mohan P. Arora Biophysics : Mohan P. Arora
8. Biochemistry: A.C. Deb
9. Biophysics : Pattabh & Gautham
10. Text book of Biochemistry (1997), Devlin, Thomas, M.
11. Biochemistry (1993) Zubay, G.
12. Biochemistry Fundamentals, Voet et al.
13. Biochemistry, Friedfider, D.
14. Practical Biochemistry, Plummer.
15. Physical Biochemistry: Application to Biochemistry and Molecular Biology – Freilder.
16. Principle of Instrumental Analysis – Skoog & West
17. Bliss, C.J.K. (1967) Statistics in Biology Vol 1. I Mc Graw hill. New York
18. Campbell R.C. (1974) Statistics for Biologists, Cambridge Univ, Press, Cambridge
19. Daniel (1999) Biostatistics (3rd Edition) Panima Publishing, Comotation
20. Sward law , A.C. (1985) Practical statistics for Exponents Biologists , Jhon Wiley and Sons, In
21. Khan (1999) Fundamentals of Biostatistics , Publishing Corporation

B.Sc II Sem Biotechnology Practical Examination

(BIOCHEMISTRY AND BIOSTATISTICS)

Time: 04 Hours

Max.Marks:40

.....

Q.No.I. Estimate the amount ofin the given sample (10 marks)

Protein/Amino acid/ Reducing sugar/creatinine

Q.No.II Analyse qualitatively the given sample

Carbohydrate/Amino acid/Protein/lipid

(10marks)

Q.No.III .Write the principle /Application of.....

Paper chromatography/Colorimeter/Electrophoresis//Centrifugation

(05Marks)

Q.No.IV Problems related to graphical distribution of data (05 Marks)

Q.NO.V.Journal (05 Marks)

Q.No.VI. Viva-voce (05 Marks)

B.Sc Degree Examinations

Biotechnology

B.Sc. Biotechnology Theory Question Paper Pattern

Time: 3 Hrs

Max. Marks: 80

Q.No.I. Answer any **TEN** of the following

$2 \times 10 = 20$

1)

2)

3)

- 4)
- 5)
- 6)
- 7)
- 8)
- 9)
- 10)
- 11)
- 12)

Q.NO.II Answer any **FOUR** of the following

$4 \times 5 = 20$

- 13)
- 14)
- 15)
- 16)
- 17)
- 18)

Q.No.III. Answer any **FOUR** of the following

$4 \times 10 = 40$

- 19)
- 20)
- 21)
- 22)
- 23)

MATHEMATICS SYLLABUS FOR THE ACADEMIC YEAR 2014-2015 ONWARDS

B.SC II SEMESTER

PAPER I: DIFFERENTIAL AND INTEGRAL CALCULUS

TOTAL TEACHING HOURS: 50

TEACHING HOURS PER WEEK: 05 HOURS.

UNIT-I

Polar coordinates of a point and polar curve. Angle between the radius vector and the tangent at a point on the curve. Angle of the intersection of two curves. Polar and pedal equation of the curves. Polar sub-tangent and polar sub - normal. **10 hours**

UNIT-II

Dreivative of arc length, Curvature, Radius of curvature in Cartesian. Parametric, polar and pedal forms. Centre of curvature, Evolutes and Involutes. **10 hours**

UNIT III

Limits, continuity of functions of two variables. Partial derivatives, higher order partial derivatives, total derivatives and total differentials, Homogeneous functions, Euler's theorem on homogeneous functions.

10 hours

UNIT - IV

Concavity and Convexity of curves, Points of inflexion of curves, Envelops, and asymptotes.

10 hours

UNIT - V

Reduction formulae for integration of $\sin^n x$, $\cos^n x$, $\tan^n x$, $\cot^n x$, $\sec^n x$, $\cosec^n x$, $\sin^m x \cos^n x$, $x^n e^{ax}$, $x^m (\log x)^n$. **10 hours**

Books of reference:

1. Differential Calculus : Santinarayan and Dr. P.K. Mittal
2. Integral Calculus : Santinarayan and Dr. P.K. Mittal
3. Differential Calculus and integral Calculus : N.P. Bali
4. Text Book of B.Sc Mathematics: G. K. Ranganath
5. Differential Calculus and integral Calculus :P. N. Chatterji.

MATHEMATICS SYLLABUS FOR THE ACADEMIC YEAR 2014-2015 ONWARDS
B.SC II SEMESTER
PAPERII :ALGEBRA AND GEOMETRY

TOTAL TEACHING HOURS: 50 TEACHING HOURS PER WEEK:05 HOURS.

UNIT-I

Boolean algebra: Lattices and algebraic structures. Principle of duality. Distributive and complemented lattices. Boolean lattices and Boolean algebra. Boolean functions and expressions. **10 hours**

UNIT-II

Number theory: Recap of division algorithm, properties of prime and composite numbers. Congruences and its properties, Fundamental theorem of arithmetic, Bracket function, Euler's function, Fermat, Euler and Wilson's theorems. **10 hours**

UNIT-III

Sphere: Equation of a sphere, section of a sphere by a plane, Equation of a sphere through a circle, Equation of a sphere through two given points as ends of a diameter., Equation to a tangent plane of a sphere. Condition for tangency. Radical planes. Orthogonality of two spheres. **10 hours**

UNIT-IV

Cones: Equation of a cone, enveloping cone of a sphere, Right circular cone. **10 hours**

UNIT-V

Cylinder: Equation of a cylinder, enveloping cylinder of a sphere, Right circular cylinder. **10 hours**

Books of reference:

1. Discrete Mathematical structure for Computer Science : Kolman. B .Busy R C (Phi)
2. Discrete Mathematics: C. L. Liu
3. Theory of Numbers Prakash Om (Golden series)
4. Analytical Solid geometry: Santinayyan and Dr. P.K. Mittal
5. Solid Geometry: N.P. Bali

Question paper pattern

Question paper has to be set for total of 80 marks.

Section A:Ten questions to be answered out of twelve, each carry two marks. **2X10 =20.**

Note: two questions to be set from each unit, and last two questions from any unit.

Section B: Five questions to be answered out of six, each carry five marks. **4 x 5 =20**

Section C: Four questions to be answered out of Six, each carry ten marks. **10 X 4 = 40**

Total marks: 80

9. BOTANY (Optional)

B.Sc. SEMESTER-II BOTANY (optional)

Paper-I PLANT PHYSIOLOGY AND BIOCHEMISTRY

**Teaching
hours: 50**

UNIT-I

10 Hours

Water Relations: solutions, suspensions & colloids, true solutions, percentage, molarity, molar, buffer, molal solutions, pH, colloids, emulsion, and gels.

Permeability, diffusion, imbibition, osmosis: membranes, endosmosis, exosmosis, osmotic pressure, turgor pressure (TP), wall pressure (WP), relation between OP, DPD & TP, concept of water potential, plasmolysis, deplasmolysis, significance of osmosis & imbibition. Importance and sources of water, Active and Passive water absorption.

Mechanism of ascent of sap: root pressure theory and cohesion tension (Dixon & Jolly) theory.

Transpiration: types, mechanism, theories of opening & closing of stomata, factors affecting rate of transpiration, antitranspirants and guttation.

Mineral nutrition: macro and micronutrients and their role & deficiency symptoms.

UNIT-II

10 Hours

Photosynthesis: Photosynthetic pigments, action spectrum, concept of two photosystems: Red drop & Emerson enhancement effect, photo phosphorylation, Calvin cycle, C₄ & CAM path way, photorespiration and factors affecting photosynthesis.

Respiration: aerobic, anaerobic & fermentation, glycolysis, Kreb's cycle, electron transport system, redox potential, oxidative phosphorylation, pentose phosphate pathway. Respiratory quotient (RQ) and factor affecting respiration.

UNIT-III

10 Hours

Nitrogen fixation, importance of nitrate reductase, its regulation and ammonium assimilation.

Growth: Photomorphogenesis: photoperiodism, phytochrome, vernalization & concept of biological clock, seed dormancy:- causes and methods of breaking dormancy. Stress physiology:- concept and plant responses to water, salt and temperature stresses.

Growth regulators: physiological roles of Auxins, Gibberellins, Cytokinins, ABA, Ethylene & growth inhibitors.

UNIT-IV

10 Hours

Thermodynamics: Principles, free energy, energy rich bonds phosphoryl group transfer and ATP. Enzymes: Classification, nomenclature (IUBMB) and properties; co-factors and coenzymes, isozymes, mechanism of enzyme action, enzyme inhibition, enzyme kinetics (Michaelis-Menten equation).

Proteins: structure and classification of amino-acids, primary, secondary, tertiary and quaternary structure of proteins.

Carbohydrates: structure of mono, di and polysaccharides, stereoisomers, enantiomers and epimers.

Lipids: structure of lipid (simple and compound) phospho and glycolipids, fatty acid, saturated and non-saturated.

UNIT-V

10 Hours

General account: Pharmacognosy & its importance in modern medicine, Crude drugs, Classification of drugs- Chemical & Pharmacological. Drug evaluation -Organoleptic, Microscopic, Chemical, Physical & Biological

Secondary metabolites: Definition of secondary metabolites & difference with primary

metabolites. Interrelationship of basic metabolic pathway with secondary metabolite Biosynthesis (outline only), major types – terpenoids alkaloids & their protective action against pathogenic microbes & herbivores.

Pharmacologically active constituents: Source plants (one example) parts used & uses of
1.Steroids (diosgenin, digitoxin)
2.Tannins (catechin). resins (gingerol, curcuminoides)
3.Alkaloids(quinine, strychnine,reserpine,vinblastin).

B.Sc. II – SEMESTER Practicals

Total number of hours per week: 04, Internal Assessment=10 Marks, Max Marks: 40 Marks

1. Study of permeability of membrane using different concentration of Organic solvents.
2. Detection of proteins in pulses and cereals by biochemical tests.
3. Separation of chloroplast pigments by solvent method.
4. Determination of osmotic potential of cell sap by plasmolytic /Gravimetric method.
5. Determination of rate of transpiration by using Ganong's/ Farmer's potometer.
6. Determination of rate of photosynthesis at different wavelengths and concentration of CO₂.
7. Determination of RQ of carbohydrates, fats and proteins.
8. Study of hydrotropism, geotropism, phototropism and nastic movements.
9. Study of plant drugs- plant parts used as drugs, powder drugs and steps for examination.
10. Microscopic features of some common powder drugs.
 - a. Adathoda b. Ginger c. Alstonia bark
11. Detection of carbohydrates, fats, oils, alkaloids, enzyme activity in plant tissue.
12. Test for detection of inorganic elements in plant ash.

Suggested Reading.

1. Plant Physiology – S.K. Verma - S.Chand Publication
2. Plant Physiology – S. M. Mukherjee& A.K. Ghosh - New Central Book Agency, Calcutta.
3. College Botany Vol.I- Gangulee Das & Datta
4. College Botany Vol. II- S. Sunder Rajan – Himalaya Publication, Hyderabad.
5. Biochemistry – V. Satyanarayana& V. Chakrapani – Books & Article (P) Ltd., Kolkatta.
6. Biochemistry – Amit Krishna DE – S. Chand & Comp, Delhi.
7. Elementary Biochemistry – J. L. Jain, Sanjay Jain- S. Chand & Com. Ltd. Delhi.
8. Biochemistry - LubertStryer – CBS Publishers and Distributors, Bholanath Nagar, Shahdara, Delhi.
9. Cell physiology and Biochemistry – William D. McElroy - Prentice-Hall of India Private Limited, New Delhi.
10. Book of Pharmacognosy- K.R. Argumugam& N. Murugesu – Sathy Publishers (1993).
11. Text Book of Pharmacognosy- T.E. Wallis Vth Edition – CBS Publishers & Distributors, Delhi.

B.Sc. II Semester Practical Examination**Subject: Botany****Time: 4 Hours****Max Marks: 40**

- Q1. Set up an experiment as per Slip **A**. Write the requirements, principle, procedure and conclusion (show the set up to the examiner). **8 Marks**
- Q2. Perform and write the biochemical test of the given sample **B** for protein/ Carbohydrates/ fats and oils. (Show it to the examiner.) **5 Marks.**
- Q3. Detect the inorganic elements in the given sample **C**.
(Show it to the examiner.) **5 Marks.**
- Q4. Detect the alkaloid/Enzyme activity in the given sample **D**.
(Show it to the examiner.) **5 Marks.**
- Q5. Identify and Give the microscopic features of drugs **E & F**. **6 Marks.**
- Q6. Identify and comment on Physiological phenomena involved in the experiment**G & H**. **6 Marks.**
- Q.7. Journal **5 Marks.**

Instructions to Examiners.

- Q.1. One experiment as per slip **A** (experiment 3 to 7). **8 marks.**
(Requirements -1 mark, Setting- 3 marks, Principle- 1 mark, Procedure and Conclusion -3 marks)
- Q.2. Performing the biochemical test for proteins or carbohydrates or fats and oils in **5marks.**
given sample **B**.
(Performing the biochemical test -3 marks, writing the test- 2 marks).
- Q.3. Detecting the inorganic element in the given sample **C**. **5 marks.**
(Detection -3 marks, writing the test- 2 marks).
- Q.4. Detecting the alkaloid/enzymatic activity in the given sample **D**. **5 marks.**
(Detection -3 marks, writing the test- 2 marks).
- Q.5. Identification and giving the microscopic features of drugs **E** and **F**. **6 marks.**
(Identification -1mark, microscopic features -2 marks).
- Q.6. Physiological experiments **G** and **H** (experiment 1and 8). **6 marks.**
(Identification of experiment-1mark, explanation of physiological Phenomenon-2marks).
- Q.7. Journal **5 marks.**

B.Sc II Semester Theory Examination

Subject: Botany Pattern of Question Paper

Time: 3 Hours

Max Marks: 80

All Questions are compulsory

Q.I - Answer any ten out of twelve (1 to 12 sub- questions)

$$10 \times 2 = 20$$

From Unit I, II and III : 07 sub- questions. From Unit IV – 03,

From Unit-V 02 sub- questions.

Q.II -Answer any six out of Eight (13 to 20 sub- questions)

$$6 \times 5 = 30$$

From Unit I, II, III 5 sub- questions. From Unit IV- 02 sub-questions:

From Unit V- 1 sub -question.

Q.III- Descriptive Answers.

- | | | | |
|----------------------|-----------|-----------------|---------|
| 21. a) From Unit I. | OR | b) From Unit II | 1x10=10 |
| 22. a) From Unit III | OR | b) From Unit IV | 1x10=10 |
| 23. a) From Unit IV | OR | b) From Unit V | 1x10=10 |

Note: - Minor changes in the Question Paper Pattern is permitted, with respect to the teaching hours allotted for each topic.

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10. COMPUTER SCIENCE (Optional)

17BScCSCT21: Data Structures Using C		
Teaching Hours: 4 Hrs/week	Marks: Main	
Exam: 80		IA: 20
Objective: To understand the concepts of Data Structures and its significance in solving problems using programming concepts. Provide holistic approach to design, use and implement abstract data types. Understand the commonly used data structures and various forms of its implementation for different applications using C		
Expected Learning Outcomes:		
<ul style="list-style-type: none">• Design and implement commonly used Data structures• Design Abstract Data types and its implementation• Ability to program various applications using appropriate data structures in C		

UNIT I 10Hrs

Advanced C: Dynamic memory allocation and pointers in C- Declaring and initializing pointers, Pointer & Functions, Pointer & Arrays, Pointer & Strings, Pointer& Structure, Pointer to Pointer. Static and dynamic memory allocation. Memory allocation functions :malloc, calloc, free and realloc. File Management in C: Defining and Opening & Closing File, Input & Output Operations on Files, Random Access to Files,

UNIT II 10Hrs

Introduction to Data structures: Definition, Classification of data structures: primitive and non-primitive. Operations on data structures

Search: Basic Search Techniques- sequential search, Binary search- Iterative and Recursive methods.

Sort- General Background: Definition, different types: Bubble sort, Selection sort, Merge sort, Insertion sort, Quick sort

UNIT III 10Hrs

Recursion: Definition, Recursion in C, Writing Recursive programs – Binomial coefficient, Fibonacci, GCD, towers of Hanoi.

Stack – Definition, Array representation of stack, Operations on stack-push and pop, Infix, prefix and postfix notations, Conversion of an arithmetic expression from Infix to postfix, applications of stacks.

UNIT IV 10Hrs

Queue - Definition, Array representation of queue, Types of queue: Simple queue, circular queue, double ended queue (deque) priority queue, operations on all types of Queues.

UNIT V 10Hrs

Linked list – Definition, components of linked list, representation of linked list, advantages and disadvantages of linked list, Arrays versus linked list, Types of linked list: Singly linked list, doubly linked list, Circular linked list and circular doubly linked list. Operations on singly linked list: creation, insertion, deletion, search and display. Implementation of stack and queues using linked list.

References:

1. A. K. Sharma, Data Structures Using C, 2nd edition, Pearson Education.
2. Achuthsankar S. Nair, T. Makhalekshmi, Data Structures in C, PHI.
3. Mark Allen Weiss, Data Structures and Algorithm Analysis in C, Pearson Education.
4. Samanta. D., Classic Data Structures, Prentice Hall

Additional Reading

5. Richard F. Gilberg, Behrouz A. Forouzan, Data structures-A Pseudocode Approach with C, Thomson Learning.
6. A. M. Tenenbaum, Y. Langsam, M. J. Augstein, R. L. Kruse, B. P. Leung and C. L. Tondo, Data Structures using C, PHI.
7. Trembley, An introduction to Data Structures with applications, Tata McGraw Hill.
8. C. Loudon, Mastering Algorithms, SPD/O'REILLY

17BScCSCT22: Programming Lab- Data Structures using C**Practical Hours: 4 Hrs/week**
exam: 40**Marks: Main****IA: 10**

1. Write a C program to demonstrate the Dynamic Memory Allocation for Structure by reading and printing n student details.
2. Write a C program to read a one dimensional array, print sum of all elements along with inputted array elements using Dynamic Memory Allocation.
3. Write a C program to add two matrices using pointer to an array concept.
4. Write a program to sort array of integers using array of pointers concept.
5. Write a program that takes a file as an argument and counts the total number of lines. Lines are defined as ending with a newline character. Program usage should be count filename.txt and the output should be the line count.
6. Write a C program to read a text file and convert the file contents in capital (upper-case) and write the contents in an output file.
7. Write a C program to find n Fibonacci numbers using recursion.
8. Write a C program to find factorial of any number using recursion.
9. Write a C program to search for an element in an array using Sequential search
10. Write a C program to search for an element in an array using Binary search
11. Write a C program to sort a list of N elements using Bubble sort Technique
12. Write a C program to sort a list of N elements using Merge sort Technique
13. Write a C program to sort a list of N elements using Quick sort Technique
14. Write a C program to sort a list of N elements using Insertion sort Technique
15. Write a C program to demonstrate the working of stack of size N using an array. The elements of the stack may assume to be of type integer or real, the operations to be supported are 1. PUSH 2. POP 3. DISPLAY. The program should print appropriate messages for STACK overflow, Under flow and empty, use separate functions to detect these cases
16. Write a C program to simulate the working of an ordinary Queue using an array. Provide the operations QINSERT, QDELETE and QDISPLAY. Check the Queue status for empty and full.

17. Using dynamic variables and pointers Write a C program to construct a singly linked list consisting of the following information in each node; Roll – No (Integer), Name (Character string). The operations to be supported are :
1. LINSERT Inserting a node in the front of the list
 2. LDELETE Deleting the node based on Roll – No
 3. LSEARCH Searching a node based on Roll-No
 4. LDISPLAY displaying all the nodes in the list
18. Write a C program to implement stack operations using linked list.
19. Write a C program to evaluate postfix expression using stack.
20. Write a C program to convert infix expression to postfix expression using stack

Theory Paper Evaluation Scheme

(i) Internal Test– 20 Marks:

Test: 14 marks Attendance: 03 marks Seminar/assignment: 03 marks

Two tests shall be conducted, one during the mid of the semester and another at the end of the semester for 1hour 15 mnts duration each.

First IA Marks: 20 weightage: 06

Second IA Marks: 20 weightage: 08

Teachers are encouraged to conduct the test either using any open source learning management system such as Moodle (Modular object-oriented dynamic learning environment) Or a test based on an equivalent online course on the contents of the concerned course(subject)offered by or build using MOOC (Massive Open Online Course)platform.

Note: Guidelines given by the University from time-to-time shall be followed for IA.

(ii) Examination-

Max Marks: 80 Duration - 3 Hours.

Theory question paper pattern:-		Remarks
Questions	Marks	
SECTION A Q1. Answer all the questions 10 sub questions (a-j)	2 x 10 =20	ability to write short answers upto 150 words
SECTION B Q2. through Q6: Answer any four questions	4 x 5=20	ability to write answers upto 500 word
SECTION C Q7. through Q11: Answer any four questions	4 x 10=40	ability to write descriptive answers

Note: For Section-B, one question from each unit shall be considered. For Section-C, one question from each unit shall be considered.

Programming Lab. i.e. Practical Evaluation Scheme

(i) Internal Test– 10 Marks:

Test: 05 marks Attendance: 03 marks Seminar/assignment: 02 marks

Two tests shall be conducted, each of 05 marks, and average of the two shall be considered as final.

Duration of IA test: 45 mins.

Students shall design and implement the programs/assignments given from the set of assignments provided at the beginning of the course commencement.

Course teacher are encouraged to test the students by giving the students problems from the course topic other than the set of assignments given to strengthen student's ability in problem solving

Note: Guidelines given by the University from time-to-time shall be followed for IA.

ii) Practical Examination- 40 Marks Duration - 3 Hours.

Certified Journal is compulsory for appearing Practical Examination

Students shall be given two programming assignments taking into consideration of duration of the time allotted to students for writing, typing and executing the programs.

Algorithm/program design : 15

Execution : 15 (includes program code correctness and correct execution results)

Journal : 05

Viva-Voce : 05

12. STATISTICS (Optional)

B.A/ B.Sc. COURSE IN STATISTICS (OPTIONAL) SECOND SEMESTER: THEORY PAPER

Total:50 Hours.

STTH-2: BIVARIATE DATA ANALYSIS AND PROBABILITY DISTRIBUTIONS.

Unit 1: Bivariate distributions:

Bivariate distribution function: Joint, Marginal, Conditional distributions for discrete and continuous variates, Addition and Multiplication law of Expectation. (with proof) Conditional expectation, Covariance, Transformation of two random variables.

06 Hours.

Unit 2: Simple Correlation and Regression:

Definition, Types of Correlation, Scatter diagram Karl Pearson's Correlation Coefficient and its Properties (with proof), Coefficient of determination. Definition and derivation of Rank correlation coefficient. Definition of Regression and derivation of Regression lines, Regression coefficients and their properties (with proof).

10 Hours.

Unit 3: Standard Discrete distributions:

Uniform, Bernoulli, Binomial, Poisson, Negative binomial, geometric distributions, definition, mean, variance and m.g.f., and moments up to fourth order only. Hyper geometric distribution: definition, mean and variance. Recurrence relation for probabilities and moments of Binomial and Poisson distributions.

14 Hours.

Unit: 4. Standard Continuous distribution:

Uniform, Gamma, Cauchy, Exponential, Beta distribution of I and II Kind: Definition, mean, variance, MGF. Normal distribution: Definition and properties: mean, median, mode and variance, odd ordered and even ordered moments. Transformation of Bivariate variables.

14 Hours.

Unit: 5. Index number:

Meaning and applications, Price and Quantity relatives, Construction of Index numbers and their computation, interpretations, Simple aggregate and Weighted average methods. Laspeyre's, Paasche's, Marshall-Edgeworth's, Drobisch-Bowley's and Fisher's index number. Time reversal and Factor reversal Tests. Consumer's price index number and its construction.

08 Hours.

SECOND SEMESTER:

STPR-2: PRACTICAL PAPER.

1. Bi-variate distributions-Computation of marginal and conditional distributions.
2. Correlation: Computation of Karl Pearson's correlation coefficient, Rank correlation coefficient and interpretations.
3. Regression: Regression equations.
4. Fitting of Binomial distribution.
5. Fitting of Poisson distribution.
6. Fitting of Normal distribution.
7. Index numbers: Construction of Laspeyre's ,Paasche's, Marshall-Edgeworth's 'Drobisch-Bowley's and Fisher's index numbers.
8. Tests of consistency: Time-reversal and Factor-reversal tests.
9. Construction of Cost of living index numbers: Aggregate Expenditure and Family Budget methods.

Books for study:

1. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons publications.
2. Hogg .R.V.and Craig.A.T(1978):Introduction to Mathematical Statistics.-4/e Macmillan
3. Mukhopadhyay.P.(1996) .Mathematical Statistics.-Kolkotta Publishing House.
4. Mood.A.M.,Graybill.F A. and Boes D.C.(1974): Introduction to the Theory of Statistics.

McGrawHill.

5. Goon AM, Gupta M.K., Das Gupta.B.(1991): Fundamentals of Statistics vol-I World Press Kolkatta.
6. Gupta S.C and Kapoor V.K.: Fundamentals of Applied Statistics- Sultan Chand & Sons publications.

Books for Reference:

1. Rohatgi.V.K.(1984):An introduction to probability theory and Mathematical statistics.
2. Murry R.Speigel (1982): Theory & Problems of Statistics,Schaum's Publishing Series.
3. P.G.Hoel (1971): Introduction to Mathematical statistics,asia publishing house.
4. Cooke, Cramer and Clake: Basic Statistical Computing, Chapman and Hall.
5. Walpole R.E and Myers S.L.(1988):Probability and Statistics for Engineers and Scientists, 6th Edition, Prentice Hall, New Jersey.

12. ZOOLOGY (Optional)

BSc II Semester Scheme (CBSC - Pattern)
Zoology (Optional) Syllabus(Revised)
2017 -18 Onwards

Semesters	Syllabus	Total Hours	Theory & Practical/ Week
II	BIOLOGY OF CHORDATES	50hrs.	4 hrs.
	PRACTICAL	12	4 hrs.

NOTE:

THEORY MARKS			PRACTICAL MARKS		
Internal	Annual	Total Marks	Internal	Annual	Total Marks
20	80	100 marks	10	40	50 marks

Question paper pattern for THEORY examination

Que.No.	Marks	Solve	Total Marks
I	02	10	20
II	04	05	20
III	10	04	40
TOTAL --- 80 MARKS			

PRACTICAL pattern for examination

Que.No.	Solve	Total Marks
I	Dissection (Explain any one system)	08
II	Mounting	04
III	Comparative Anatomy	06
IV	Identification / Spotting (Six)	12
V	Project Report	05
VI	Journal	05
TOTAL --- 40 MARKS		

B.Sc II Semester Syllabus

ZOOLOGY (Optional) 2017-18 Onwards

Total Marks-80

Total Teaching-50hrs.

Biology of Chordates UNIT-I

Chordates: General characters and classification. **8 hrs**

1. Sub-phylum:Hemicordata-External Characters & Digestive system of *Balanoglossus*.
2. Sub-phylum:Urochordata- External Characters & Retrogressive metamorphosis in *Herdmania*.
3. Subphylum:Cephalochordata-External Characters & feeding mechanism in *Branchiostoma*.
4. Cyclostomata: External Characters &general organisation of *Petromyzon* & *Myxine*(Hagfish/Slime).

UNIT-II

Pisces: General characters & Classification of Pisces up to orders **5hrs** with examples. General characters of Chondrichthyes and Osteichthyes.Type study **Scoliodon**-Externals Characters, Digestive system, Reproductive system and Fish migration.

Amphibia: General characters & classification up to orders with **5hrs** Examples. Type study **Frog**- Externals characters, Digestive system, Circulatory & Reproductive system. Axolotl larva & its significance.

UNIT-III

Reptilia: General characters & classification up to orders with **5hrs** Examples. Type study **Calotes**-Externals characters, Digestive system, Circulatory & Reproductive system. Indian poisonous & non-poisonous snakes.

Aves - General characters & Classification up to orders with. **10hrs** Examples Type study **Pigeon**-Externals characters, Digestive System, Respiratory & Reproductive system. Bird migration, Flight adaptations, Flightless birds, Beak & Feet modification.

UNIT-IV

Mammalia: General characters & classification up to orders with **5hrs**

Examples Type study **Rat**-Externals characters, Digestive System. Circulatory, Nervous, Excretory& Reproductive Systems.

Comparative Anatomy:

Origin, development & structure of Heart, Brain **12 hrs**
and integument in Fishes, Amphibians, Reptiles,Aves
and Mammals.

PRACTICALS

Total Practicals -12

1. Classification of Urochordata,Cephalochordata,Cyclostomes **01**
Examples: Balanoglossus, Herdmania, Branchiostoma.
Peteromyzon.
2. Classification of **Fishes** - **01**
Examples: Scoliodon, Pristis, Sphyrna, Catla catla,
Labeo rohita, Hippocampus, Eel, Exocoetus
& Synaptura.
3. Classification of **Amphibia** - **01**
Examples: Frog, Toad, Ichthyophis, Ambystoma, Axolotl
Larva & Rhacophorous.
4. Classification of **Reptilia**- **01**
Examples: Calotes, Hemidactylus, Chaemaleon, Mabuya
Draco, Naja naja, Python, Viper, Turtle and
Crocodile.
5. Classification of **Aves** - **01**
Examples: Psittacula, Owl, Woodpecker, Pigeon and
Passer domesticus.
6. Classification of **Mammalia** - **01**
Examples: Sorex, Bat, Loris, Pangolin, Hystrix, Herpetes
& Funambulus.
7. **Study of Comparative Anatomy:**
Heart and Brain in Fishes, Amphibians, Reptiles, **02**
Aves and Mammals
8. Explanation & Demonstration in Bony fish/Shark. **04**
 - a). External characters
 - b). Digestive system
 - c). Reproductive system
 - d). Mounting of Brain

NOTE:

1. With the help of Charts/Models/Diagrams/Printouts & Xerox Sheets are used in practical's demonstration.
 2. As per UGC guidelines **Only one** species to be demonstrated by Faculty & students should not do any dissection.
 3. Students are supposed to draw neat labelled diagrams & write The explanation in their journal.
 4. In practical examination question no I & II are put Charts/ Models/ Diagrams/ Printouts & Xerox Sheets of the system- Students has to identify& write the explanation in their Examination paper.
 5. Compulsory Study Tour/ Field visit to study Animal diversity. (Submission of project report carries- 5 marks).
-

REFERENCE BOOKS

1. Modern Text Book of Zoology Vertebrate-R.L.Kotpal.
2. Chordata – Dhami & Dhami.
3. Vertebrate- Majapuria.
4. Functional Organization of Vertebrate-- H Nigam & R.Sobti- Shoban Lal Nagin Chand & Co.
5. A manual of Zoology Vertebrates- M.Ekambarnath Ayyar & Swaminathan Ayyar S. Vishwanath Publisher.
6. The Vertebrates Pisces to Mammalia, Hyman L.H. McGraw Hill Co
7. The Vertebrates – Hyman et al.
8. Text Book of Zoology – Parker T.J. & Haswell W.A. Macmillan Co. London.
9. Biology of Chordates by Dr Harish .C. Nigam.Vishal Publication Lucknow.

GROUP - III

**DRAFTED SYLLABUS FOR All UG Courses
II SEMESTER**

ENVIRONMENTAL STUDIES AND HUMAN RIGHTS (Compulsory Paper)

Teaching hours: 4 hours per week

Section A: ENVIRONMENTAL STUDIES

UNIT-1: NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope, Importance and Awareness
Basics of our solar system
Earth is called blue planet
Public awareness using an environmental calendar of activities

UNIT-2: NATURAL RESOURCES

Meaning
Types of natural resources
Protection
Conservation methods

UNIT-3: ECOSYSTEM

Introduction
Types and components of ecosystem
Structure and function of following ecosystem
a. Forest ecosystem
b. Grassland ecosystem
c. Desert ecosystem
d. Aquatic ecosystem

UNIT-4: BIODIVERSITY AND ITS CONSERVATION

Definition
Levels of biodiversity
Biodiversity at global and national level
Western Ghats as biodiversity hotspot of biodiversity
Threats of biodiversity
Red data book.

UNIT-5: ENVIRONMENTAL ISSUES

Air pollution and its control
Water pollution and its control
Noise pollution and its control
Thermal pollution and its control
Green house effect and global warming
Ozone depletion in the stratosphere
Acid rain, Nuclear winter.
Rules to regulate environmental pollution.

UNIT-6 : ENVIRONMENTAL PROTECTION ACT

Power of central government to take measure to protect and improve environment- 1986 act
Wildlife protection act – 1972
Forest conservation act- 1980
Authorities who sanction grants for conservation of environment

UNIT-7: HUMAN POPULATION AND THE ENVIRONMENT

Population explosion, family welfare programme
Environment and human health.
Value education- HIV/AIDS
Women and child welfare

FIELD WORK

Visit to nearby industrial area to check the impact on environment.

Section B: Human Rights

(Compulsory Paper) for BA II sem and B.Sc II sem. Courses (Total Marks= 40)

Chapter -I	Concept and Development of Human Rights	07 Hours
a)	Meaning Scope and Development of Human Rights	
b)	United Nations and Human Rights – OHCHR (Office of the United Nations High Commissioner for Human Rights)	
c)	Universal Declaration of Human Rights. UDHR 1948, International Covenant on Civil and Political rights. ICCPR 1996 and International Covenant on Economic social and Cultural Rights. (ICESCR) 1966	
Chapter -II	Human Rights in India	07 Hours
a)	Protection of Human Rights Act, 1993	
b)	Third Generation Human Rights (Group Rights) and Fourth Generation Human Rights. (Right to Development and Environmental Rights.)	
c)	Judicial Activism and Human Rights.	
d)	Convention on the Elimination of All forms of Discrimination against Women.	
e)	Convention on the Rights of the Child	
Chapter -III	Enforcement of Human Rights	06 Hours
a)	National Human Rights Commission, State Human Rights Commission powers and functions.	
b)	Media and NGO's	
c)	Human Rights Education, Terrorism and Violation of Human Rights.	
d)	States Role in Preservation and Protection of Human Rights.	

REFERENCES:

1. K.P. Saksena "Human Rights" 1996 New Delhi.
2. Dr. S. Mangalmurthy a "Human Rights " Chetan Book House Mysore2004.
3. Krishnamurthy S. "Human Rights and Police Administration" B. R. Publishing Corporation, Bangalore.
4. B.P. Singh "Human Rights in India" Deep & Deep Publication New Delhi.
5. D.D. Basu, "Human Rights in Constitutional Law" prentice hall.
6. S.O. Agarwal, "Human Rights" Central law Agency, Allahabad.
7. V.A. Anand "Human Rights" Allahabad Law Agency, Faridabad.
8. Dr. M. Jayakar Bhandari, Vasantkumar, Raghava Naik "Environmental Studies and Human Rights"
9. Gokulesh Sharma, Human Rights.
10. Arjun Dev, "Human Rights" Publication 1996
11. Human Rights- A Source Book

Note: The Final Examination is on Multiple Choice Base



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.Sc**

VI Semester

w.e.f.

Academic Year 2016-17 and onwards

1. PHYSICS

B. Sc. VI Semester

PHYSICS (OPTIONAL)

Paper I

Physics 6.1: Solid state physics, Nuclear Physics, Energy Sources, Digital Electronics and Special materials (Total Hours: 50)

UNIT I

SOLID STATE PHYSICS

Crystal structure : Lattice, Lattice translational vectors, Basis of crystal structure, Types of unit cells, Coordination numbers, Bravais lattices, Seven crystal system, Miller Indices, Expression for inter planner spacing, Crystal structure of NaCl and KCl.

Crystal diffraction : X-Ray diffraction. Bragg's law, Bragg's X-ray spectrometer-powder crystal method.

Specific heats of solids: Classical theory, Einstein's and Debye's theory of specific heats. (10 Hrs.)

UNIT II

Free electron Theory: Classical free electron model, expression for electrical and thermal conductivity, Weidman-Franz law, Failure of classical free electron theory.

Semiconductors: Expression for electrical conductivity in case of intrinsic semiconductors, experimental determination of energy gap, Hall Effect, expression for Hall coefficient and applications.

Super Conductivity: Introduction, Occurrence of super conductivity, and destruction of super conductivity by magnetic field, Meissner effect, Isotope effect and applications.

Problems

(9 + 1 =10 Hrs.)

UNIT III

NUCLEAR PHYSICS

Alpha –rays: Theory of a decay, Range, Ionization, specific ionization and Geiger-Nuttal relation.

Beta – decay: Continuous beta spectrum, and Neutrino Hypothesis.

Nuclear Models: Liquid drop model- Explanation of semi empirical mass formula, Explanation of nuclear fission on the basis of liquid drop model, Shell model (qualitative) and Magic numbers.

Nuclear Instruments: GM counter, Scintillation counter, Linear accelerator and Cyclotron.

Problems

(12 + 1 = 13 Hrs.)

UNIT IV

ENERGY SOURCES

Introduction, Convention and nonconventional energy sources, Advantages of Solar energy, Solar radiation at Earth's surface, Solar radiation geometry- altitude angle, Zenith angle, solar azimuthal angle, surface azimuthal angle Solar radiation measurement, Angstrom compensation Pyrhilometer, and Pyronometer.

(10 Hrs.)

UNIT V

DIGITAL ELECTRONICS

Number System-Decimal, Binary, Hexadecimal and their inter conversion Boolean algebra, Truth tables, De Morgan's theorems. Designing of logic gates using NAND and NOR Gates.

SPECIAL MATERIALS

Introduction, Classification of liquid crystals, Display system, Introduction to conducting polymers and applications .

Problems

(6 + 1= 07 Hrs.)

Physics Lab 6.2: Lab VII

List of experiments

1. Thermistor Energy gap
2. Analysis of X-ray diffraction spectra
3. Hall Effect
4. Attenuation of B-ray using G.M. counter.
5. G.M.Tube (Dead time) / Inverse square law
6. Thevenin's & Norton's theorem using Whetstone's Network
7. Study of DTL gates
8. Use of IC 7400 Basics gates.
9. De.Morgan Theorems.
10. Solar Cell characteristics a) Open Circuit voltage b) short Circuit Current.

Note:

1. Experiments are of our hours duration
2. Minimum of eight experiments to be performed.

Books for Reference:

1. Solid state physics: C Kittel
2. Solid State Physics: A J Dekkar
3. Solid state physics: Kumar & Gupta
4. Solid state Physics: Sexena Gupta Sexena
5. Nuclear Physics: I Kaplan
6. Modern Physics: Murugeshan
7. Modern Physics: J.B.Rajam
8. Energy Sources: G.D.Rai
9. Digital Electronics: Malvino & Leach
10. Digital Electronics: B.L.Threja
11. Computer graphics: Baker & Harn
12. Integrated Circuits: Botkar

**B. Sc. VI Semester
PHYSICS (OPTIONAL)**

Paper II

Physics 6.3: INTEGRAL TRANSFORMS ,OPTOELECTRONICS, COMMUNICATION, PROGRAMMING and INTEGRATED ELECTRONICS(Total Hours: 50)

UNIT -I

INTEGRAL TRANSFORMS

Fourier transform: Definition, Fourier integral, inverse transform, Fourier transform of derivatives, convolution (Mathematical Statement only), Parseval's theorem (Statement only) , Applications.

Laplace transform: Definition, transform of elementary functions , inverse transforms, transform of derivations, differentiation and integration of transforms, solutions of differential equations. Difference between Laplace and Fourier transform

Problems

(8+2=10 Hrs.)

**UNIT – II
OPTOELECTRONICS**

Introduction, Light Emitting Diodes, Photo Diodes, Laser Diodes (Pin, Avalanche diodes), Opto-coupler.

Optical fiber: Introduction, Types of Optical fibers (Single mode, Multi mode), Grading, Numerical aperture (derivation), Coherent bundle, Transmission loss, Attenuation and Distortion, Fiber Optical communication system (Block diagram with each block explanation).

Problems

(8+2=10 Hrs.)

**UNIT – III
COMMUNICATION**

Classification of radio waves, Types of waves, propagation of radio waves through ionosphere (Qualitative), Critical frequency, Critical angle, Virtual height, Secant law.

Modulation and Demodulation: Need for Modulation, Types of modulation, AM modulation, Block diagram of AM Transmitter, Significance of modulation factor, Frequency spectrum of AM and FM., Comparison of FM with AM.
Demodulation: Necessity, AM detection, Square law detector, Block diagram of Super heterodyne receiver.

Problem

(8+2=10 Hrs.)

UNIT – IV COMPUTER PROGRAMMING

Computer programming Preliminaries, Algorithms, flowcharts and their symbols, simple flow chart examples.

Study of C-language:

Basic structure of C-Programming , tokens, keywords and identifiers , constants, variables, data types, , decision control statement ,operators and expressions , loop control statements ,decision making IF-ELSE statement for looping, case control statements.

Problems

(7+ 3 =10 Hrs.)

UNIT V ELECTRONICS

Non – Sinusoidal Oscillators – Multivibrators – types of multivibrators, Uses of multivibrators. Explanation of astable, monostable and bistable multivibrators

Integrated Circuits – Timer IC – 555 & 7400 – block diagram and explanation of pin configuration. Uses of timer IC in different cases. Generation of rectangular and square wave using time IC.

Op-Amp – Op-Amp symbol and polarity convention. Ideal op – Amp, Op-Amp as a inverter and non inverter, virtual ground and summing point. Op-Amp applications as phase shift and Wien bridge oscillator

Problems

(8+2 = 10hrs)

PHYSICS 6.4: LAB – VIII

List of Experiments

1. Astable multivibrator using IC – 555 timer (determination of frequency and duty cycle)
2. Phase-shift oscillator using Op-Amp (IC-741) (determination of frequency and phase shift)
3. Wien bridge oscillator using Op-Amp (IC-741) (determination of frequency)
4. Optical fiber – Bending loss and splice loss estimation
5. Study of voltage doubler and tripler using CRO (representation of waveforms)
6. Design, develop and execute a program in C to find and output all the roots of given quadratic equation, for non-zero coefficients.
7. Design, develop and execute a program in C to reverse a given four digit integer number and check whether it is a palindrome or not. Output the given number with suitable message.
8. I-V Characteristics of a thermistor at different temperatures
9. Applications of IC – 7400 (Any three Boolean expressions)
10. Study of divergence of laser beam

Note:

1. Experiments are of Four hours duration
2. Minimum of eight experiments to be performed.

REFERENCE BOOKS:

1. Physics – By Tipler, 5 Edn. W.H. Freeman & Co.
2. Electronic Devices – By David Bell.
3. Optoelectronics – By Ajay Ghatak.
4. Fiber optic communication – By D.C. Agarwal.
5. Fiber optical communication – By Keiser.
6. Introduction to Optical Electronics – By J.Wilson & Hawkes PHI.
7. Electronics Communicatin Systems – By Kennedy & Davis.
8. Upper Atmosphere – By Kennedy.
9. Basic Electronics – By B.L.Threja.
10. Principles of Electronics – By V.K.Mehta.
11. Computational Physics – By V.K.Mittal , R.C Verma & S.C.Gupta, Ane Publication.
12. Programming in ANSI-C (2nd Edition) : E Balagurusamy, Tata McGraw-HillPub. Company New Delhi(1992).
13. Schaum,s Outline Series : Programming with C (2nd Edition): B.S. Gottfried , Tata Mc Graw – Hill Pub Company, New Delhi(1998).
14. The ‘C’ Programming Language (2nd Edition) : Brain W Kernoghan and Dennis M. Righie Prentice- Hall of India Pvt. Ltd. New Delhi(1998).

2. GEOLOGY

B.Sc (GEOLOGY OPTIONAL) SEMESTER VI

Code: 14BSCGEOLT61

(Paper I: HYDROGEOLOGY & GEOPHYSICS)

Max. Marks: 80

Total teaching hours: 50 (4 hrs/week)

UNIT	TOPIC	Hrs
I	HYDROGEOLOGY: Definition. Hydrological Cycle- Evaporation, transpiration, evapotranspiration, precipitation, sublimation, infiltration, runoff, groundwater flow.	10
II	Hydrological properties of water bearing materials: Specific yield, specific retention, porosity, permeability, types of openings in rocks. Subsurface distribution of water: Zone of aeration, zone of saturation, groundwater table, perched water table.	10
III	Aquifers: Definition, classification-Confined and unconfined aquifers, aquiclude, aquifuge, aquitard and Darcy's Law. Seepage: Definition, factors controlling seepage, influent and effluent seepage.	10
	Springs: Definition, classification- gravity and non gravity; types of springs- bedding plane, contact, thermal and artesian.	
IV	Wells and types of wells- dug well and bore well. Rainwater harvesting; and Groundwater recharge structures	10
V	GEOPHYSICS: Earth's magnetic and gravitational fields. General principles and applications of - Magnetic methods, gravity method, electrical methods (direct current resistivity methods), vertical electrical soundings; and Seismic method.	10

B.Sc (GEOLOGY OPTIONAL) SEMESTER VI

Code: 14BSCGEOLP61

(PAPER I: HYDROGEOLOGY & GEOPHYSICS)

Max. Marks: 40

Time: 4 hrs/week

Total 50 hrs

- i. Water chemistry problems: Based on given data calculate-Na/RSC/SAR and draw Pie/Bar/Stiff diagrams and comment on the suitability of the water.
- ii. Basin Analysis, morphometric analysis using Drainage patterns.
- iii. Resistivity Meter (Only for demonstration). Vertical electrical soundings, Plotting of the given resistivity data and interpretation.
- iv. Interpretation of subsurface features from the given Seismic profiles.
- v. Preparation and interpretation of water table maps from the given data.

TEXT BOOKS

1. Groundwater - By Todd D. K., John Wiley and Sons.
2. Groundwater - By K. V. Karanth,
3. Groundwater and Tubewells - By S.P. Garg, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Hydrogeology - By Stanley N. Davis, Roger J. M. De Wiest, John Wiley and Sons.
5. Ground water McGraw Hill. New York. Tolman., G.F. 1937
6. Ground water Hydrology. John Wiley & Sons. Todd, D.K. 1959
7. Ground water, Wiley Eastern. Ragunath, H.M. 1983
8. Ground water Resources evaluation, McGraw Hill. Walton, W.C. 1970.
9. Ground water Assessment Development & management Tata McGraw Hill. Karanath, K.R. 1987.
10. Exploration Geophysics- Gadallah MAMDOUH R., Fisher, Ray
11. Modern Geophysics In Engineering Geology- D. M. McCann, M. Eddleston, P. J. Fenning and G. M. Reeves

B.Sc (GEOLOGY OPTIONAL) SEMESTER VI**14BSCGEOLT62**

(Paper II: REMOTE SENSING & ENGINEERING GEOLOGY)

Max. Marks: 80**Total teaching hours: 50 (4 hrs/week)**

UNIT	TOPIC	Hrs
I	REMOTE SENSING Introduction. Fundamentals of Remote Sensing. Electromagnetic spectrum- Visible & Infrared spectrum Brief history and types of Indian Remote Sensing Satellites. Applications of aerial photographs/satellite imageries in Geoscience & Geomorphological studies.	10
II	Passive and active sensors; Image Resolution- spatial, spectral, radiometric and temporal. Types of Images: Panchromatic image, True Color & False color composite. Thematic images General principles and uses of pocket and mirror stereoscopes.	10
III	Parts of aerial photograph: Fiducial Marks Types of aerial photograph- vertical, inclined/oblique photographs Elements of photo/image interpretation: Photo elements- color, tone, texture, pattern, shape, size, shadow and associated features.	10
IV	Elements of photo/image interpretation: Geotechnical elements- landforms, vegetations, drainage patterns and density, erosional pattern and land use. GPS- General principles and uses.	10
V	ENGINEERING GEOLOGY Engineering properties of rocks: crushing strength, porosity, density, abrasive resistance. Geological investigation for construction of dams, tunnels with remedial measures. Building materials - sand, building and dimension stones, aggregates, lime and cement, clays and clay products.	10

PRACTICALS

Code: 14BSCGEOLP62

Paper II- REMOTE SENSING & ENGINEERING GEOLOGY PROBLEMS

Max. Marks: 40

Time: 4 hrs/week

Total 50 hrs

- A. **REMOTE SENSING:** (Draw neat sketches wherever necessary)
 - i. Depth perception exercises.
 - ii. Interpretation of Aerial photos and satellite images using stereoscopes (tracing and description of a minimum of 5 aerial photos and 5 satellite images).
- B. **ENGINEERING GEOLOGY PROBLEMS** (a minimum of 5 problems in each set)
 - i. Solving of dip and strike problems
 - ii. Solving of Borehole problems.
 - iii. Identification of dam/tunnel sites using the given geological maps.

TEXT BOOKS

1. An introduction to mining- Methun. Thamus, P.J. 1979
2. Mining Geology, New York- Mc Kinstry, H.E 1960
3. Mining Geology- Forrester
4. Courses in Mining Geology – Oxford &IBH, New Delhi. Arogyaswamy, R.N.P.
5. Engineering Geology- Parbin Singh
6. Engineering Geology- F.C.Bell
7. Principles of Engineering Geology - Bangar
8. Aerial Photographic interpretation and applications- D.R.Leudar
9. Manual of photogrammetry - M.Thomson,Ed
10. Manual of Remote Sensing - R.G.Reeves, Ed
11. Remote Sensing in Geology- P.S.Siegel & A.R.Gillespie
12. Text book of Remote Sensing and Geographical information systems - M.Anji Reddy
13. Photogeology and Regional Mapping - By J. A. E. Allum, Pergamon Press.
14. Principles and Applications of Photogeology - By S. N. Pandey.
15. Photogeology - By Victor C. Miller, Mc Graw Hill Book Co.Inc.
16. Remote Sensing- Principles and Interpretation - By F. F. Sabins,
17. Remote sensing and image interpretation. John Wiley & Sons -T.M and R.W. Kiefer.
18. Photogeology. McGraw-Hill Publishers, New York -Miller, V.C
19. Photogeology and regional mapping- Oxford- Allum, J.A.E (1978).
20. Handbook of aerial photography and interpretation- Rampal, K.K (1999).
21. Remote sensing and its application. Universities Press Ltd., Hyderabad-Narayan, L.R.A (1999).

3. CHEMISTRY (OPTIONAL)

SIXTH SEMESTER B.Sc. COURSE

**Chemistry
Paper-I
Code : 14BSCCHET61
Teaching Hours : 50 Hours**

Inorganic Chemistry:

UNIT-I

Coordination compounds -II **09 hours**
Crystal field theory(CFT) with reference to octahedral, distorted octahedral(Jahn-Teller distortion), tetrahedral and square planar complexes, calculation of crystal field stabilization energy, factors affecting $10Dq$, consequences of crystal field splitting on ionic radii of M^{+2} ions, enthalpy of hydration of M^{+2} ions, explanation of colour and magnetic properties of magnetic complexes, limitations of crystal field theory, calculation of magnetic moment using Gouy's method,

UNIT-II

Metal-ligand Equilibria: **05 hours**
Stability constant, stepwise and overall formation constants, trends in step wise constants, factors affecting the stability of the metal complexes with reference to the nature of metal ion and ligand.
Chelates - definition, characteristics, factors influencing the stability of metal chelates and importance of chelates.

UNIT-III

Organometallic Chemistry **03 hours**
Introduction, classification of organotransition metal complexes, 18 electron rule with respect to $[Fe(CO)_5]$, $[Ni(CO)_5]$, $[Mn(CO)_5]^+$, ferrocene, structure and bonding in metal olefins (Zeise's Salt).

Organic Chemistry:

UNIT-I

Carbohydrates **05 hours**
Haworth and conformational formulae of glucose and fructose, mutarotation and its mechanism, osazone formation, Killani's synthesis, Ruff's degradation, epimers and epimerisation with respect to monosaccharides, interconversions of glucose and fructose.

UNIT-II**Vitamins and Hormones****03 hours**

Vitamins: Classification and importance of vitamin-A, B₆, B₁₂, C, D and E.

Synthesis of Vitamin-C from D(+)-glucose, synthesis of vitamin-A by Vandrop et al.

UNIT-III**Amino acids, Peptides and Proteins****06 hours**

Classification, structure and stereochemistry(D and L) of amino acids, acid-base behaviour, iso-electric point and electrophoresis, peptides-nomenclature and structure of peptides, synthesis of a dipeptide(Bergmann synthesis), Classification of proteins, levels of protein structure(primary, secondary and tertiary structure), protein denaturation and renaturation.

UNIT-IV**Terpenoids****03 hours**

Introduction, classification of terpenes, Ingold's isoprene rule, constitution of citral with synthesis, synthesis of α and β ionones, synthesis of α -terpeniol.

Physical Chemistry:**UNIT-I****Electronic Spectrum****05 hours**

Concept potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules, energy levels and respective transitions, Frank-Condon principle.

UNIT-II**Physical properties and molecular structure****04 hours**

Introduction-dipole moment, induced dipole moment, measurement of dipole moment by temperature variation method and its applications.

UNIT-III**Polymers****03 hours**

Introduction, classification, determination of molar masses of macromolecules by viscometry and Donnan membrane equilibrium.

UNIT-IV**Quantum Chemistry****04 Hours**

Photoelectric effect - Einstein's photoelectric equation, wave particle duality, de-Broglie hypothesis, de-Broglie equation(derivation), experimental verification-Davisson-Germer experiment.

Reference books for inorganic chemistry

- | | |
|--|--------------------|
| 01. Advance Inorganic Chemistry Vol-I and II | Gurudeep Raj |
| 02. Advance Inorganic Chemistry | Satya Prakash |
| 03. Modern Inorganic Chemistry | R.D. Madan |
| 04. Inorganic Chemistry | James Huheey |
| 05. Concise Inorganic Chemistry | J.D. Lee |
| 06. Inorganic Chemistry | Shriver and Atkins |

Books recommended for organic chemistry:

- | | |
|-----------------------|-------------------|
| 01. Organic Chemistry | P.L. Soni |
| 02. Organic Chemistry | I.L. Finar Vol-II |
| 03. Biochemistry | Voet and Voet |

Books recommended for physical chemistry:

- | | |
|----------------------------|------------------------------|
| 01. Molecular Spectroscopy | C.N. Banwell |
| 02. Physical Chemistry | Atkins |
| 03. Physical Chemistry | Puri and Sharma, New edition |

SIXTH SEMESTER B.Sc. COURSE

**Chemistry
Paper-II
Code : 14BSCCHET62
Teaching Hours : 50 Hours**

Inorganic Chemistry:

UNIT-I

Chromatography **07 hours**
Principle, types, stationary and mobile phases, physical factors of separation, brief account of paper chromatography, calculation of Rf value, brief account of column chromatography and its applications.

Flame photometry: Principle, Limitations, Instrumentation, Flame photometric determination of Na and K.

Thermogravimetry: Principle and applications of thermogravimetric methods (TG and DTA).

Electrogravimetry: Principle, Instrumentation, Electrogravimetric determination of Copper.

UNIT-II

Soil Analysis **03 hours**
Macro nutrients, trace metals and organic matter in soil. Determination of pH, Determination of nitrogen by alkaline permanganate method and phosphorus by Bray's and Olsen's method present in the soil.

UNIT-III

Electronic spectra of transition metal complexes **07 hours**
Russel-Sandar's coupling in defining ground states of spectrochemical series, derivation of spectroscopic ground terms(d1 to d10 without J values), types of electronic transitions(d-d transitions, charge transfer transitions-MLCT and LMCT), selection rule for d-d transitions, Orgel- energy level diagram-d1 and d2 states, discussion of the electronic spectrum of [Ti(H₂O)₆]³⁺ complex ion.

Organic Chemistry:

UNIT-I

Chemotherapy

05 hours

Introduction, requirement of an ideal synthetic drug, classification, synthesis and uses of the following-

Antipyretics-antipyrine, paracetamol

Anaesthetics-novacaine(local) and pentothal sodium(general)

Antihistamines-chlorpheniramine maleate(CPM)

Antimalarials-paludrine, chloroquine

Antibiotics-chloromycetin, penicillin, tetracyclin

Para pharmaceutical reagents-Benedict's reagent, sodium citrate, Barfoed reagent

UNIT-II

Soaps and Detergents

03 hours

Soaps - Introduction, manufacture by modern process, cleaning action of soap.

Detergents - anionic, cationic, nonionic, with suitable examples, distinction between soaps and detergents, emulsifiers, stabilisers and builders.

UNIT-III

Reaction Mechanism

04 hours

a) Beckmann rearrangement

b) Favorskii rearrangement

c) Benzidine rearrangement

d) Benzillic acid rearrangement

UNIT-IV

NMR Spectroscopy

05 hours

Principle of Proton Magnetic Resonance(^1H NMR) spectroscopy, nmr spectrum, chemical shift, nuclear shielding and deshielding, spin-spin coupling($n+1$) rule, intensity(height) of the signal, TMS as internal standard-advantages, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, n-propyl bromide, iso propyl bromide, ethanol, acetaldehyde and benzene.

Physical Chemistry:

UNIT-I

Electro motive force

11 hours

Reversible and irreversible cells, EMF of a chemical cell and its measurement by potentiometer, standard cell (Weston standard cell).

Types of electrodes - Reference electrode, calomel electrode, derivation of Nernst equation for emf of a cell, concentration cells- with and without transference, liquid junction potential and its derivation, salt bridge.

Applications of emf measurements-

1) Determination of pH: Using hydrogen electrode, quinhydrone electrode and glass electrode.

2) Potentiometric titrations: Acid-base and redox titration.

UNIT-II**Photochemistry****05 Hours**

Photochemical reactions, laws of photochemistry – Beer's law, Lambert's Law, Beer-Lambert's Law, Grothus-Draper Law and Einstein's Law of photochemical equivalence, quantum efficiency or yield, reasons for high and low quantum efficiencies with examples, fluorescence, phosphorescence, photosensitization and chemiluminescence.

Reference books for inorganic chemistry

- | | |
|---|------------------------|
| 01. Instrumental methods of chemical analysis | Wilard martin and Dean |
| 02. Instrumental methods of chemical analysis | H. Kour. |
| 03. Quantitative Inorganic analysis | A.I. Vogel |

Books recommended for organic chemistry:

- | | |
|---------------------------------|-----------------|
| 01. Organic Spectroscopy | Y. R. Sharma |
| 02. Organic Spectroscopy | P.S. Kalsi |
| 03. Synthetic Organic Chemistry | Gurdeep Chatwal |

Books recommended for physical chemistry:

- | | |
|------------------------|-----------------|
| 01. Quantum Chemistry | Lewin |
| 02. Physical Chemistry | Atkins |
| 03. Physical Chemistry | Puri and Sharma |

CHEMISTRY PRACTICALS

**SIXTH SEMESTER B.Sc. COURSE
Chemistry Practical
Paper-I
Code : 14BSCCHEP61**

Total number of hours per week: 04

Internal Assessment=10 Marks

Total No. of hours per Semester: 52

Practicals: 40 Marks

A. Organic estimation

01. Estimation of phenol.
02. Estimation of aniline.
03. Estimation of acetamide.

04. Determination and saponification value of groundnut/coconut oil.
05. Determination of Iodine value of groundnut/coconut oil.
06. Estimation of glucose by Benedict's reagent.

B. Physical Chemistry Experiments

01. Determination of concentration of given acids mixture ($\text{HCl}+\text{CH}_3\text{COOH}$) conductometrically using standard NaOH.
02. Verification of Beer-Lambert's Law by colorimetric method and calculation of molar extension coefficient of FeCl_3 .
03. Verification of Beer-Lamberts Law by colorimetric method and calculation of molar extension coefficient of copper sulphate.
04. Determination of concentration of strong acid HCl by potentiometric titration against strong solution of NaOH.
05. Potentiometric titration of FeSO_4 against $\text{K}_2\text{Cr}_2\text{O}_7$.
06. Determination of the solubility and solubility product of sparingly soluble salts (Silver halides) by potentiometrically.
07. Determination of heat of neutralization of strong acid by strong base by water equivalent calorimetric method.
08. Determination of dissociation constant of weak acid (acetic acid) Potentiometrically.

Note: For examination:

50% students will perform organic estimation and 50% students will perform Physical.

CHEMISTRY PRACTICALS

SIXTH SEMESTER B.Sc. COURSE

Chemistry Practical

Paper-II

Code : 14BSCCHEP62

Total number of hours per week: 04

Internal Assessment=10 Marks

Total No. of hours per Semester: 52

Practicals: 40 Marks

A. Gravimetric experiments: Internal assessment-10 Marks and Experiment-30 Marks

01. Estimation of barium as Barium sulphate.
02. Estimation of aluminium as aluminium oxide.
03. Estimation of Iron as ferric oxide.
04. Estimation of lead as lead sulphate.

B. Dissertation/Tour report: 10 marks

The Dissertation/Tour report should be submitted at the time of **Chemistry Practical-VIb**.

Student shall be assigned either dissertation or Tour report. The topics for dissertation shall be selected either from the V and VI semester theory syllabi or general topics related to chemistry. For Tour report, student shall visit an Industry or Academic/Research institutions like BARC, IISc etc.

Note: For examination:

Gravimetric experiments and Dissertation/Tour report are Compulsory.

4. ELECTRONICS (OPTIONAL)

B. Sc. SEMESTER – VI

Electronics (Optional) PAPER – I

Total Teaching hours: 50, Teaching hours per week: 4 hours

ELE- 6.1: DIGITAL COMMUNICATION, SATELLITE COMMUNICATION & TELEVISION

UNIT - I : PULSE AND DIGITAL COMMUNICATION:

Introduction – sampling theorem, types- PAM, PWM, PPM, PCM – quantization. Digital communication systems – introduction, Digital modulations (FSK, PSK, and ASK). Advantage and disadvantages of digital transmission, Applications. Characteristics of data transmission circuits – Shannon limit for information capacity, Bandwidth requirements, Data transmission speed, Noise, Cross talk, Echo Suppressors, Distortion and Equalizer.

8Hrs.+2Hrs.Problems =10hrs

UNIT II : SATELLITE COMMUNICATION

Introduction, satellite orbits, Satellite system -Block diagram of satellite sub systems, up link, down link, cross link, C-band transponders, Space segment, ground station (simplified Block diagram of earth station). Multiple access methods -TDMA, FDMA, CDMA, GPS-service's like SPS & PPS.

8Hrs.+2Hrs.Problems =10hrs

UNIT III : TELEVISION

Television receiver circuit: Monochrome TV Block diagram Each block explanation. Gross structure, Image continuity, Horizontal and vertical scanning, Number of scanning lines, Flicker, Interlaced scanning, Fine structure, Composite video signal(Detail study), Blanking pulses, Horizontal and vertical synchronization, Equalizing pulses, Channel bandwidth, vestigial side band transmission. T.V. Signal standards.

8Hrs.+2Hrs.Problems =10hrs

UNIT - IV : COLOUR TELEVISION

Essentials of colour T.V. (compatibility, natural light, three colour theory-grassman law), Luminance, Hue and Saturation, Chromaticity diagram, Luminance signal(Y), Production of colour difference voltage, Delta gun colour picture tube, Detail description of each block of colour television.

8Hrs.+2Hrs.Problems =10hrs

UNIT - V : POWER ELECTRONICS

SCR , DIAC and TRIAC (construction , working and their characteristics).

Applications : SCR as a half wave rectifier and power control device DIAC as a lamp dimmer and TRIAC as an electronic switch.

UJT (construction , working and characteristics) UJT as a relaxation oscillator (expression for frequency of oscillation).

8Hrs.+2Hrs.Problems =10hrs

REFERENCE BOOKS:-

1. Electronic Communication, George Kennedy, 3rd edition, TMH.
2. Electronic Communication, Roddy and Coolen, 4th edition, PHI.
3. Electronic Communications Systems, Wayne Thomasi, 5th edition.
4. Digital Communication System : Ronald J Tocci.
5. Monochrome and Colour television, R.R.Gulati, New Age International.
6. Colour TV Principle & Practice, R.R.Gulati, New Age international.
7. Basic Television Principle & Servicing, Bernard Grob, McGraw Hill.
8. Television and Video Engg., A.M.Dhake, Tata McGraw Hill Publishing
9. Principles of Electronics By V K Mehta
10. Communication By Gupta and Kumar.

LIST OF EXPERIMENTS

Lab.-6.1:

Each experiment is of four hours duration. Minimum EIGHT experiments are to be performed.

1. ASK modulation and demodulator
2. FSK modulation
3. PWM and PPM
4. PAM modulator and demodulator
5. Three way Audio cross over network.
6. PLL using IC565
7. Frequency mixer

8. Time Division Multiplexing and de multiplexing
9. Frequency Multiplier
10. SCR characteristics .
11. SCR as a half wave rectifier
12. UJT Characteristics
13. UJT as a relaxation oscillator

**Electronics (Optional)
Paper – II**

Total Teaching hours: 50. Teaching hours per week: 4 hours

**ELE- 6.2: COMPUTER CONCEPTS AND C-PROGRAMMING:
UNIT - I: COMPUTER CONCEPTS**

Introduction to computer, block diagram of Computer system, central processing unit (CPU) , ALU ,CU , main memory , Secondary memory, brief introduction of history of computer generations.

Hardware: Input devices (Key board , mouse and scanner).
Output devices (various types of printers).Secondary storage devices (CD-ROM, optical disk).

Software : System software , operating system & application software.
Machine Language,Assembly Language &High Level Language. Assembler, compiler and editor. Algorithm, Characteristics of an algorithm and flow charts.

8Hrs.+2Hrs.Problems =10hrs

UNIT - II: INTRODUCTION TO C-PROGRAMMING:

Characteristics of C language, Applications of C. Basic Structure of C program, Execution of C. C tokens, key words, identifiers, Constants, Variables and data types. Declaration of variables, assigning values to variables, defining symbolic constants. Operators and expressions (All type), conditional operator.

8Hrs.+2Hrs.Problems =10hrs

UNIT -III : DECISION MAKING & BRANCHING

Conditional & control statements: if statement, if-else statement, Nested if statement, Switch statement and goto- statement. Loop control structures: while,

do-while and for statements. Break and continue statements.

8Hrs. +2Hrs.Problems =10hrs

UNIT -IV : ARRAY AND STRING HANDLING PROGRAMS:

One and two dimensional arrays, Declaration and initialization of arrays, multidimensional arrays.

Strings, Declaring and initializing of string variables, reading and writing of strings, String handling functions.

8Hrs.+2Hrs.Problems =10hrs

UNIT -V: FUNCTIONS AND POINTERS

Modularization & advantages, Function definition, arguments and parameters, local and global variable, function declaration. Parameter passing mechanism: Call by value & call by reference.

Pointers:Definition,advantages,pointer declaration,operations on pointers,pointer initialization.

8Hrs. +2Hrs.Problems =10hrs

REFERENCE BOOKS:-

1. Theory and Problems of programming with C - Schaum's series -Byron S.Gottfried, McGraw Hill International Book Co.,
2. Programming in ANSI C - E.Balagurusamy, Tata McGraw Hill
3. Programming with C - K.R.Venugopal and R.P. Sudep, Tata McGraw Hill
4. The C Programming Language - Kernighan and Ritchie
5. Mastering Turbo C - Stan Kelley, Bootle, BPB Publications
6. Let us C - Yashwant Kanetkar
7. Computer fundamentals– Rajaraman
8. Numerical Algorithms - Krishnamurthy and Sen
9. Computer concept and C programming By P B Kotur

LIST OF EXPERIMENTS

Lab.-6.2:

Each experiment is of four hours duration. Minimum EIGHT experiments are to be performed in the semester course

1. Write a C program To Find the Roots of quadratic equation
2. Write a C program To Find the Factorial of the given number.
3. Write a C program To Find the largest of three numbers.
4. Write a C program To find the leap year.
5. Write a C program to generate first N Fibonacci numbers and print the result.
6. Write a C program to find the sum of the first N natural numbers and print the result.

7. Write a C program to read two matrices and perform addition and subtraction.
8. Write a C program to perform multiplication of two matrices.
9. Write a C program to find whether the given number is prime number or not.
10. Write a C program to find the area of a triangle.
11. Write a C program to find to compute the sum of even numbers and odd numbers using function.

5. GEOGRAPHY (OPTIONAL)

COURSE STRUCTURE (SCHEME) UNDER CBSE SYSTEM

Theory and Practical Paper- VI SEMESTER

VI	Theory Paper - VII-Compulsory						
	Human Geography	05	80	20	100	3 hours	
	Practical Paper - VII						
	<i>Map Projections</i>	04	40	10*	50	4 hours	
	Theory Paper – VIII-Optional (select any one)						
	VIII- A. Environmental Geography VIII- B. Regional Planning	05	80	20	100	3 hours	
	Practical Paper – VIII	04	40	10*	50	4 hours	
	<i>Field Work and Dissertation</i>						

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – VI

THEORY PAPER-VII (Compulsory)

HUMAN GEOGRAPHY

Objectives: To understand the nature of man- environment relationship and human capability to adopt and modify the environment under its varied conditions from primitive life style to the modern living; to identify and understand environment and population in terms of their quality and spatial distribution pattern and to comprehend the contemporary issues facing the global community.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week

Practical : 04 hours per week.

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10 IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units No.	Topic	Teaching Hours
I	Nature, Scope and Significance of Human Geography, Relationship between Man and Environment. Recent Trends and Different approaches in Human Geography,	12
II	Broad Racial groups of the world, classification of races, main characteristics and distribution pattern of major races of world.	10
III	Impact of environment on the mode of life on Primitive population groups of the World, Pygmies, Bushman, Sakais, Semongs, Eskimos and Kirghies.	16
IV	Indian tribal groups: Mode of life of Todas, Gonds, Santals, Bhills and Nagas.	10
V	Population: Growth and Distributional pattern of Density, Factors influencing the distribution of population, Components of fertility, Mortality and Mobility. Migration: meaning and types of migration.	12
	Total	60 hours

Reference:

1. Alexander - Economic Geography
2. Majid Hussain- Human Geography
3. Peter Haggett- Locational Analysis in Human Geography
4. Davis K. - Man & Earth
5. Ranganth and P. Mallappa- Human Geography (Kannada)
6. P.Mallappa.- Human Geography (Kannada)
7. M.B.Goudar.- Human Geography(Kannada)
8. S.S.Nanjanvar - Human Geography (Kannada)

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY**SEMESTER – VI****PRACTICAL PAPER - VI****MAP PROJECTIONS**

Units No.	Topic	Teaching Hours
I	Map Projection : Introduction , meaning, classification and importance	08
II	Zenithal Projections : Graphical construction, properties of Following projections a. Polar Zenithal Gnomonic projection b. Polar Zenithal Stereographic projection c. Polar Zenithal Orthographic project	10
III	Conical Projections: Graphical construction, properties of following projections a. Conical projection with one standard parallel b. Conical projection with two standard parallel c. Bonne's projection	10
IV	Cylindrical Projections: Graphical construction, properties of following projections	12

	a. Simple cylindrical projection b. Cylindrical Equal area projections and c. Mercator's projection	
V	Viva	
	Total	40 hours

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganat: Practical Geography (Kannada Version)
4. Singh and Kanoj: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karennavar & S. S. Nanjannavar: Practical Geography.
7. M .F. Karennavar & S. S. Nanjannavar: Practical Geography (Kannada Version)
9. Pijushkanti Saha & Partha Basu: Advanced Practical Geography

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – VI

THEORY PAPER-VIII

(OPTIONAL)

PAPER VIII – A : ENVIRONMENTAL GEOGRAPHY

Objectives: The basic objective of this course is to apprise the students with the interrelationship between Man and his environment within which he lives and his linkages with other organisms. The course further aims to give broad perspective ideas of environment, ecology and ecosystem. The information and their interaction between living organisms with physical and cultural environment. The importance of conserving biodiversity to maintain ecological balance has also been emphasized in this course.

Sl No	Unit	Topic to be Covered	No of Hours
1	1	Definition, Scope and Content of Environmental Geography. The Components of Environment. Ecosystem: Structure, Functions and	10

		Energy flow in the Ecosystem.	
2	2	Biodiversity: Types of Biodiversity, Uses of Biodiversity, Biodiversity at the local, regional and global level. Conservation: Levels of Destruction of Biodiversity,	14
3	3	Causes of Threats to biodiversity. Endangered and Endemic species of India. Environmental Pollution: Types of Pollution, Causes and Efforts of Pollution. Global Warming, Depletion of Ozone Layer.	16
4	4	Controlling Measures of Different Types of Pollution. Controlling Urban and Industrial Wastes, Management of Disaster Control. Man and Environment:	10
5	5	Interdependence between Man and Environment. Mans influence on Vegetation, Biotic Life, Climate, Soil and Water. Population and Environment; Population Explosion and Environment, Quality Environment and Human Health.	10

REFERENCE:

1. R.B. Singh(1990) Environmental Geography, Heritage Publishers New Delhi
2. Strahler. A.N. The Earth Sciences, Haper International Education. New york.
3. Strahler A.N.& Strahler.A.H, Geography of man's Environment, John wiley & sons
4. Savinder Singh, Environmental Geography, Prayag Pustak Bhawan,1997
5. Kates,BI &White.GF, The Environment as Hazards, Oxford, New York
6. R.B.Singh(Ed) Disaster Management, Rawat Publication, New Delhi,
7. Saxena.H.M (2000) Environmental Geography, Rawat publication, New Delhi
8. H.K.Gupta(Ed) Disaster Management, University Press, India, 2003
9. Gold Smith Edward The Earth Report- The essential Guide to Global Issues, Price stern solan Inc californa.USA (et.al)

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – VI

THEORY PAPER-VIII

(OPTIONAL)

PAPER VIII – B : REGIONAL PLANNING

Objectives: To understand and evaluate the concept of region in geography and its role and relevance in regional planning, to identify the issues relating to the development of the region through the process of spatial organization of various attributes and their interrelationships. The course also aims to identify the causes of regional disparities and to suggest the measures for the development of the region.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week

Practical : 04 hours per week.

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10 IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units	Topic	Teaching Hours
I	Concept of Region- types and hierarchy of regions - concept of planning- types of planning - approaches to Regional planning. Indicators of development.	10
II	Basic issues in Regional planning-Gross root level and systems of regional planning, Regional interactions and socio-economic and technological development.	12
III	Development strategy of planning: Need of planning for natural, social and economically background regions. Tribal area development planning.	10
IV	Regional Planning Processes – sectoral, temporal, spatial and multi level planning. Centralized and Decentralized planning; Block and District level planning and Integrated Area Development Planning (IADP).	12
V	Role of urban centers in regional development. City regions and their problems. Regional Disparities. Planning Regions in Karnataka; Policies and Programmes for backward area development.	16
	Total	60 hours

REFERENCES:

1. Ashish Sarakar(2011) : Regional planning in India.
2. Bhat L. S. : Aspects of Regional Planning in India
3. Chandana. R. C. (2003) : Regional Planning A Comprehensive Text
4. Chaudhuri. J. R.(2009) : An Introduction to Development and Regional Planning with special reference to India.
5. Dickinson R.E.(1964) : City and Region ; A Geographical Interpretation. Routledge and Keagan Paul.
6. Galasson John (1974) : An Introduction to Regional Planning Hutchinson. Educational London
7. Misra R.P.Sundaram k.v.
&V.L.S.Prakasa Rao(1974) : Regional Development Planning In India.

8. Misra R.P. (1992) : Regional planning,Concept Publishing company. New Delhi.
9. M. Chand & V. Puri(1983) : Regional Planning in India, Allied publishers Ltd., New Delhi.
10. Sundaram, K. V. (1985) : Geography and Planning", Concept Publishing Company, New Delhi

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – VI

PRACTICAL PAPER - VIII

FIELD WORK AND DISSERTATION

Units No.	Topic	Teaching Hours
I	Preliminary Discussion and selection of the topic. Preparation of Questionnaire.	08
II	Data collection, Tabulation, and Methodology.	20
III	Final report writing.	12
IV	Viva-Voce	
V		
	Total	40 hours

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganat: Practical Geography (Kannada Version)
4. Singh and Kanoj: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karennavar & S. S. Nanjannavar: Practical Geography.
7. M .F. Karennavar & S. S. Nanjannavar: Practical Geography (Kannada Version)
9. Pijushkanti Saha & Partha Basu: Advanced Practical Geography

6. BIOTECHNOLOGY (Optional)

SEMESTER-VI

PAPER 6.1: INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY

Total hour allotted – 60 Hrs.

PART A: INDUSTRIAL BIOTECHNOLOGY

- 1. Introduction to industrial biotechnology, Basic principle of fermentation technology.**
- 2. Design of fermentor and types:** Introduction, aseptic operation of fermenter, control and measurement Equipment & fermentor, pH, impeller, sparger, batch, aeration, Agitation, temperature control & foam control, types of fermentors – typical, airlift, Bubble up fementor.
- 3. Screening & isolation of industrially important microorganisms**
- 4. Downstream process:** Introduction, removal of microbial & other solid matter, Foam separation, filtration, centrifugation and application
- 5. Fermentation media:**
Natural and synthetic media, Sterilization techniques- Heat, Radiation, and filtration methods.
- 6. Production of microbial products:**
Lactic acid, Alcohol, penicillin & amylase.
- 7. Fermented foods:**
Fermented foods-Yoghurt, Buttermilk, Dosa, cheese, Tempeh
Microbial foods-Single cell protein (SCP) and single cell oils (SCO).
- 8. Plant cell suspension culture for the production of food additives:**
Saffron and capsaicin and shikonin.
- 9. Technique of mass culture of algae:** *Spirulina*.
- 10. Microbial polysaccharides and polyesters; production of xanthan gum and Polyhydroxy alkanoids (PHA).**

PART B: ENVIRONMENTAL BIOTECHNOLOGY

- 1.** Renewable and non-renewable resources of energy.
- 2.** Impact of conventional and non conventional fuels on environment.
- 3.** Biodegradation (xenobiotic compounds –simple, aromatic and petroleum products) and bioremediation.
- 4. Solid waste management:** Biogas production and its advantage.
- 5. Microbial ore leaching and recovery:** Biomining.
- 6.** Treatment of municipal waste and industrial effluents.
- 7.** Study of Vermicomposting.
- 8.** Study of Air, water and Soil pollution.
- 9.** Environmental protection Act and related issues.
- 10.** Concept of global warming, ozone depletion (green house effect, acid rain & Ecofarming)

PRACTICAL 6.2 INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY

- 1.** Identification of industrially important microorganisms; *E.coli, Saccharomyces Cereviseae, Spirulina*.
- 2.** Algal and Fungal culture – *Spirulina, Agaricus, Yeast and Aspergillus*.
- 3.** Study of sugar fermentation by microorganisms by acid and gas production.
- 4.** Preparation of wine from Grape, Banana / sweet potato.
- 5.** Study of Bio gas plant.
- 6.** Production of Biofertilizers, Vermi composting.
- 7.** Estimation of Lactic acid.
- 8.** Estimation of Lactose.
- 9.** Bacteriological examination of water by MPN method.

10. Analysis of water samples for BOD, O₂, toxic chemicals and microbial flora.

11. Determination of quality of water by MPN test.

12. Estimation of solids in sewage.

13. Visit to research centers / institutions / Industries.

NOTE: A report on the visit should be written and submitted along with Practical record.

References:

Industrial microbiology:

1. Caside, LE 1968: Industrial microbiology, Wiley Eastern Ltd., New Delhi
2. Dubey, A.R.C.1995: A text book of Biotechnology.
3. Glazer A.N and Nikaido H-1995: Microbiology Biotechnology W.H.Freeman ans co.
4. Harrison, Maureen.A, Ral, Ian F 1997: General Techniques of cell culture, Cambridge University Press.
5. Jay James M – 1996: Modern food microbiology CBS Publishers, New Delhi
6. Mallik. V.S and Sridhar P 1992 : Industrial microbiology
7. Patel A H. 1984: Industrial Biotechnology
8. Prakash M and Arora C.K.1998: Cell and Tissue Culture, New Delhi.
9. Prescot S.C and Dunn C 1984: Industrial microbiology, McGraw Hill, New York
10. Purohit S.S., Mathur .S.K.1996 : Biotechnology-fundamentals and applications. Agrobotanical Publishers, New Delhi
11. Singh B D.2000: Biotechnology, kalyani publishers, Ludhiana.
12. Spier, R.E.and Griffith J.B.1987: Modern approaches to animal cell technology, Somerset, Butterworth and company ltd.
13. Stanbury P.F., Whitaker H . 1997: Principle of fermentation technology, Adity book limited.
14. Sullia S.B and Shantaram S. 1998: General Microbiology, Oxford and IBM publishing Co. Pvt

15. Singh B D.2006: Biotechnology, kalyani publishers, Ludhiana.
16. wulfer Cruger and Annelier: Biotechnology. A text book of Industrial Microbiology.
Cruger- Panima Publishing corporation, New Delhi

Environmental Biotechnology:

1. A.K.D.E.: Environmental Chemistry, Wiley Eastern Ltd., New Delhi.
2. Agarwal K.C.1996: Biodiversity. Agro-botanical publishers, New Delhi.
3. Alexander N.Glazer, Hiroshi Nikaida, 1995 Microbial biotechnology, Freeman and co.
4. Allosopp D and Seal K.J.: introduction to biodeteriation, EL 85/Edward Arnold
Baker. K.H. and Herson D.S.1994: Bioremediation McGraw Hill Inc., New York
5. Chatterji A.K 2002, introduction to environmental biotechnology, Prentice Hall of India, New Delhi
6. Christon J, Harst 1997, Manual of Environmental Microbiology, ASM Press,
Washington DC
7. D.P.Singh and S.K.Dwivedi, Environmental Microbiology and Biotechnology, New age International Publishers
8. Dicastri F and Younes T, 1996, Biodiversity Science and development CAB International, Walfinhfords UK
9. Foster C.F. John WAe D.A Environmental Biotechnology, Ellis Horword Limited.
10. Grabiell Baston 1994: Waste Water Microbiology, willey-Liss inc., New York.
11. Lehinger T et.al Microbiology Degradation of Xenobiotics and Recalcitrant compounds, Academic Press, New York.
12. Metcalt and Eddy Inc., Waste Water Engineering- Treatment disposal and Reuse, Tata McGraw Hill, Delhi.
13. Mitchell R.Water Pollution Microbiology Vol I and II , Wiley inter science, New York.
14. Sinha R.K. 1997: Global Biodiversity, INA, Shree Publishers, Jaipur.

PAPER 6.3 AGRICULTURAL AND MEDICAL BIOTECHNOLOGY

Total hours allotted: 60

PART A - AGRICULTURAL BIOTECHNOLOGY

1. Introduction to agricultural biotechnology.
2. Crop improvement, hybridization and plant breeding techniques
3. Plant tissue culture application in agriculture, horticulture and cryopreservation
4. Study of biopesticides used in agriculture (Neem as example), Integrated Pest Management
5. Mechanism of biological nitrogen fixation process, study of nif, nod and hup genes in Biological nitrogen fixation
6. **Biofertilizers:** Mechanism of growth promotion by microbial inoculants- *Rhizobium, Bradyrhizobium, Azospirillum, Azatobacter and Mycorrhizae*.
7. Use of plant growth regulators in Agriculture and Horticulture.
8. **Transgenic plants:** Techniques and application (Bt. Cotton and Golden Rice)
9. Application of biotechnology in Apiculture and Sericulture

PART B- MEDICAL BIOTECHNOLOGY

1. Introduction and scope of medical biotechnology.
2. **Vaccines:**
Production of Bacterial and Viral vaccines, recombinant vaccines and its Production (FMDV) and gene vaccines.
3. **Enzymes used in Diagnosis:** Immobilized enzymes.
4. **Enzymes in Therapy:**
Important enzymes and their therapeutic applications.
5. Insulin production by recombinant DNA technology.
6. **Therapeutic proteins:**
Important proteins and their therapeutic applications- Somatotropin, Cytokines, Interleukin, Interferon, Human Factor-VIII and IX.

7. Hybridoma Technology:

Production of monoclonal antibodies and their applications.

8. Human Gene Therapy:

Somatic and Germline therapy. In vivo and in vitro gene therapy with an example each, scope of Human Gene Therapy.

9. Antisense Technology: Principles and applications.

10. Bioforming: Production of biopharmaceuticals in plants and animal tissues.

PRACTICAL 6.4 AGRICULTURAL AND MEDICAL BIOTECHNOLOGY

1. Isolation of soil microorganisms – *rhizobium, azotobacter and mycorrhiza*
2. Estimation of Soil alkalinity
3. Estimation of soil organic matter
4. Effect of bio-pesticides on the growth of microorganisms.
5. Isolation of rhizobium from root nodules.
6. Study of R:S ratio (Rhizosphere : Non rhizosphere samples)
7. Culturing microorganisms from vermi compost.
8. Seed inoculation with rhizobium culture and observation for root nodulation.
9. Photographic demonstration of transgenic crop plants / animals and agricultural biotechnology innovations.
10. Preparation of biocontrol formulation.
11. Biofertilizer Formulations
12. Culturing of antibiotic resistant strains of bacteria and verification of resistance.
13. Demonstration of PCR for diagnosis of a disease.
14. Study of life cycle of Honeybee and Silkworm.

Reference:

Agricultural Biotechnology:

Chatwal G.R.1995: Text Book of Biotechnology, Anmol Pub. Pvt.Ltd.

Chrispeel M.J. and Sdava D.E.1994, Plant Genes and Agriculture, Jones and Barlett Publishers, Boston.

Cruger W and Cruger A.: Biotechnology- A texr book of Industrial Microbiology, 2nd edn.

Gamborg and Phillips 1996: Plant Cell, tissue and organ culture: Fundamental methods, Narosa Pub.

Gupta .P.K.1996: Elements of Biotechnology, Rasotagi and company.

Ignacimuthu S. 1996: Applied Plant Biotechnology.

Natesh S, Chopra. V.L and Ramachandra S. 1994: Biotechnology in Agriculture, Oxford and IBM Publ Co. Pvt. Ltd., New Delhi.

Prakash M and Arora C.K.1998: Cell and Tissue Culture, New Delhi

Razdan M.K.1993: An introduction to Plant Biotechnology.

Singh B D.2006: Biotechnology, kalyani publishers, Ludhiana.

Plant Biotechnology & Molecular Markers (2004) Shrivastava *et al*
Agricultural Biotechnology (1998) Altman, A.

Plant Biotechnology: The Genetic Manipulation of Plant (2004) Adrianstater *et* Legal Aspect of Gene Technology (2004) Brian, C.

The GMO Hand Book: Genetically Modified Animals, Microbes & Plant (2004) Sarad, R.P.

7. MATHEMATICS (OPTIONAL)

SYLLABUS FOR B.SC MATHEMATICS (OPTIONAL) SIXTH SEMESTER (2016-17 onwards) PAPER I DIFFERENTIAL EQUATIONS

TEACHING HOURS: 50 HRS

TEACHING: 5 HRS PER WEEK

Unit I.

Differential Equations : Simultaneous differential equations with two and three variables, Total differential equation, Condition of Integrability and its solutions.

(10 hrs)

Unit II.

Series Solutions of Ordinary Differential Equations: Basic definitions, Power series, ordinary and singular points, Power series solutions of ODEs. Frobenius method.

(10hrs)

Unit III.

Legendre equation and functions: Solutions of Legendre's equations in series, Legendre's functions- first and second kind, Rodrigue's formula, Orthogonal properties. Legendre's polynomial, recurrence formulae

(10hrs)

Unit IV.

Partial differential equations of 1st order: formation of partial differential equation by eliminating arbitrary constants and functions. Lagrange's linear partial differential equation $Pp+Qq = R$ and its solution. Non-linear differential equations of standard forms I,II,III and IV

(10 hrs)

Unit V.

- a) **Non-linear partial differential equations:** Charpit's method.
- b) **Linear partial differential equations with constant coefficients** **(10 hrs)**

REFERENCES:

- 1) Differential equations – D.A.Murray
- 2) Differential equations – Bhudev Sharma
- 3) Differential equations – J.N.Sharma and R.K.Gupta (Krishna Prakashan Mandir Meerut)
- 4) Text book of Mathematics – G.K.Ranganath
- 5) Higher Engineering Mathematics by B. S.Grewal

PAPER II

COMPLEX ANALYSIS AND RING THEORY

TEACHING HOURS: 50 HRS

(TEACHING: 5 HRS PER WEEK)

Unit I.

Complex Analysis : Analytic function. Cauchy-Riemann equations, Harmonic function, Harmonic conjugate. Construction of analytic function using Milne-Thomson's method. (10 hrs)

Unit II.

Complex Integration : Cauchy's Theorem , Morera's Theorem , Cauchy's Integral formula, Cauchy's Integral formula for derivatives, Cauchy's inequality , Liouville's Theorem . (10 hrs)

Unit III.

Taylor's and Laurent's series, zeros and singularities of analytic functions. Calculus of Residues (10 hrs)

Unit IV.

Residue Theorem, Jordan's lemma and Contour Integration. (10 hrs)

Unit V.

Rings and Integral domains: Rings, Properties of rings, sub rings, ideals, principle and maximal ideals in a commutative ring, quotient rings, homomorphism and isomorphism, and integral domains (10 hrs)

REFERENCES :

- 1) Theory of functions of a Complex variables- Shanti Narayan and Mittal.
- 2) Complex Variables – B.S Tyagi
- 3) Complex Variables – J.N Sharma
- 4) Modern Algebra by A.R.Vasistha
- 5) Rings and Modules by C.S.Musli
- 6) A Text book of B.Sc. Mathematics by Dr. S.S. Bhusanoormath and others

PAPER III

TOPOLOGY AND LAPLACE TRANSFORMS

TEACHING HOURS: 50 HRS

TEACHING: 5 HRS PER WEEK

Unit I.

Topology-: Open set, closed set, closure of a set, neighborhood, limit points and derived sets, interior, exterior and boundary points of a set. **(10hrs)**

Unit II.

Topology-(contd...): Base & sub-base, subspace, separation axioms. T_1 & T_2 spaces (properties and examples). **(10hrs)**

Unit III.

Laplace transforms-: Definition, basic properties. Laplace transforms of some common functions. First shifting theorem, change of scale property. **(10 hrs)**

Unit IV.

Laplace transforms--(contd..): Laplace transforms of periodic functions, Laplace transforms of derivatives and integrals, inverse Laplace transforms **(10 hrs)**

Unit V.

Laplace transforms--(contd...) Heaviside function, Dirac-delta function, unit step function, convolution theorem and Laplace transforms method of solving differential equation of first and second order with constant coefficients **(10 hrs)**

REFERENCES:

- 1) Modern algebra and Topology- E.Sampathkumar and K.S.Amur
- 2) Topology – J.N.Sharma (Krishna Prakashan Meerut)
- 3) Topology by R.S.Agrawal
- 4) Laplace Transform Theory – M.G.Smith
- 5) A Text Book Of Mathematics– G.K.Ranganath

Pattern of question paper for B.Sc. V & VI Semesters

effective from 2016-17

PART A:

Q 1 with **TWELVE** sub Questions numbered as **a,b,c,d,e,f,g,h,i,j,k,l** each of **TWO** marks should be set. Student has to answer any **TEN** questions.

Note:

1. At least **TWO** questions should be set on each unit.
2. Total Marks: $2 \times 10 = 20$ marks

PART B:

SIX Questions numbered as **2, 3, 4, 5, 6, 7** each of **FIVE** marks should be set. Student has to answer any **FOUR** questions.

Note:

1. Total marks: $5 \times 4 = 20$ marks
2. At least **ONE** question should set on each unit.

PART C:

FIVE Questions numbered as **8, 9, 10, 11, 12**, each of **TEN** marks should be set. Student has to answer any **FOUR** questions.

Note:

1. **ONE** question should set on each unit.
2. Total marks: $10 \times 4 = 40$ marks

8. BOTANY (OPTIONAL)

B.Sc. VI Semester

(w.e.f 2016-17)

Botany paper- I

50 Hrs

Objectives: This paper has topics on Cell Biology, Genetics and Evolution to study the fundamental units of heredity and variations.

The cell: General organization of prokaryotic and Eukaryotic cells. Ultra-structure & functions of Nucleus, Plastids, Mitochondria, Golgi complex, Endoplasmic reticulum, Lysosomes, Peroxisomes & Vacuoles. Ultra structure & functions of Plasma membrane & Cell wall.

Unit 2: Morphology of Chromosomes: Number, size, shape, types, centromere, SAT-chromosomes, Ultra structure of giant Chromosomes, Ploidy and chromosomal aberrations. **06 Hrs.**

Unit 3:Cell division: Mitosis and Meiosis. Cell cycle: regulation of cell cycle. 06 Hrs.

Unit 4: Genetics: 22 Hrs.

Mendelism (Laws of inheritance, Monohybrid, Dihybrid Experiments). Gene interaction (Allelic – incomplete dominance, co-dominance Non – allelic – Complementary, Supplementary, Epistasis) Linkage & crossing over , Alleles, Multiple alleles, Sex determination, Sex linked inheritance, Mutations, Problems related to the above topics.

Unit 5:Evolution : **06 Hrs**

Origin of life, Lamarckism, Darwinism, Mutational and Modern concepts of evolution.

Practicals:

1. Study of Microscopes – Light microscope, phase contrast microscope & electron microscope.
2. Cytological techniques (Pre-treatment, fixation, preservation, cytological stains, squash preparation, smear preparation, mounting media and permanent slides preparation).
3. Mitosis preparation (Squash)-onion root tips.
4. Meiosis preparation (Smear)-. Onion/Rheo Flower buds.
5. Micrometry.
6. Karyotype & Idiogram – Allium cepa.
7. Polytene chromosomes – Drosophila/ Chironomas
8. Heterozygotic translocation in Rheo-discolor
9. Genetic problems.
10. Genetic problems.

Suggested Reading:

1. Gupta P.K.- A Text Book of Cell and Molecular Biology- Rastogi Publication Meerut
2. Strick Burger M. – Genetics - Mc Millan Publishing Co.
3. Sinnott Dunn & Dobzhansky – Principles of Genetics-Tata Macgrow Hill
4. Tamarin – Principles of Genetics -
5. Sharma A.K. and Sharma A: - Plant Chromosomes Analysis Manipulation and Engineering – Harvard Academic Publishers, Australia.

6. L.R. Patki, B.L.Bhalachandra & I.H.Jeevaji- Genetics- S. Chand Publications.

7. P.S. Verma & Agarwal - Cell Biology & Genetics -

I. Benjamin Lewin - Gene VI & VII - New York Oxford University Press, USA.

Semester-VI

Botany Practical-I

(Cell Biology and Genetics)

Time: 4 Hours

Max Marks: 40

- | | | |
|------|--|-----------|
| Q.1 | Make a temporary micro preparation of the squash/smear of the specimen A . Draw labelled diagrams of any two stages of cell division seen in your preparation and show to the examiner. | 08 |
| Q.2. | Determine the length and breadth of the given material B , by micrometric method. | 06 |
| Q.3. | Solve the genetic problems C & D . | 08 |
| Q.4. | Identify and describe the cytological features with diagrams in slides E, F, G and H . | 08 |
| | Submission of 3 mitosis and 2 meiosis slides. | 05 |
| | Journal | 05 |

B.Sc VI Semester Practical Examination

Subject: Botany Paper- I

Instructions to Examiners.

Time: 4 Hours

Max Marks: 40

- | | |
|---|----------------|
| Q.1. Squash/Smear preparation of the specimen - A | 8 marks |
| (Preparation-4 marks, diagrams-2 marks, oral-2 marks). | |
| Q.2. Specimen - B (onion peeling cells or any permanent slide of algal specimen. Calibration-3 marks, diagram-1 mark, measurement of length and breadth -2 marks) | 6 marks |

Q.3. Genetic problems – C and D	8 marks
Q.4. Cytological Slides - D, E, F and G	8 marks.
(one slide from mitosis, two slides from meiosis and one specimen/slide from polytene chromosomes/heterozygotic translocation/karyotype and idiogram. Identification-1/2 mark, diagram-1/2 mark,description -2 mark).	
Submission of permanent slides of 3 mitosis and 2 meiosis.	5 marks

Journal **5 marks.**

B.Sc. VI Semester Theory Examination

Sub: BOTANY Paper - I

Pattern of Question Paper

Time: 03 hours

Max. Marks: 80

All questions are compulsory

Q. I Answer any ten out of twelve (01 to 12 sub questions) 10 X 2 = 20

From Unit 1: Cell Biology: 02 sub questions.

From Unit 2: Morphology of Chromosomes: 02 sub questions.

From Unit 3: Cell division: 02 sub questions.

From Unit 4: Genetics: 05 sub questions.

From Unit 5: Evolution: 01 sub question.

Q. II Answer any six out of eight (13 to 20 sub questions) 6X 5 = 30

From Unit 1: Cell Biology: 02 sub questions.

From Unit 2: Morphology of Chromosomes: 01 sub question.

From Unit 3: Cell division: 01 sub question.

From Unit 4: Genetics: 03 sub questions.

From Unit 5: Evolution: 01 sub question.

Q. III Descriptive Answers

21. From Unit 1: Cell Biology: 01 sub question. **1 X 10 = 10**

OR

From Unit 2: Morphology of Chromosomes-01 sub question.

22. From Unit 3: Cell division: 01 sub question. **1 X 10 = 10**

OR

From Unit 4: Genetics: 01 sub question.

23. From Unit 4: Genetics: 01 sub questions. **1 X 10 = 10**

OR

From Unit 5: Evolution: 01 sub question.

B.Sc VI semester

(w.e.f 2016 -17)

Botany paper -II

(Molecular Biology, Biotechnology & Immunology)

50 hrs

Objectives: - Molecular Biology, Biotechnology and Immunology has some recent trends in the concern fields. This will help students to pursue research in concerned fields.

Unit 1: Nucleic Acids: DNA & RNA, occurrence, types and chemical compositions,

Experimental evidences for DNA as genetic material. Structure of DNA, Replication, semiconservative method, RNA and types, post transcription changes.

10 Hrs.

Unit 2: Gene Expression: Gene concept, Genetic code & protein synthesis. Regulation of gene expression in prokaryotes & eukaryotes.

08Hrs.

Unit 3: Recombinant DNA technology and Bioinformatics:

Enzyme, vector (plasmid PBR 322), marker gene, Steps of cloning technique, PCR and its application, Genomic DNA and cDNA library. Brief concept on Genomics and proteomics.

08 Hrs.

Unit 4: Biotechnology and Genetic engineering of plants:

Basic concepts, principles and scope. Aims, strategies for development of transgenic plants (with suitable example). Agrobacterium-The natural genetic engineer. T-DNA and transposon mediated Gene tagging, intellectual Property rights, possible ecological risks and ethical concerns.

12Hrs.

Unit 5: Microbial genetic manipulation and Immunology:

Microbial genetic manipulation: Bacterial transformation, selection of recombinant and transformants, genetic improvement of industrial microbes, nitrogen fixers & fermentation technology.

Immunology: Immuno-systems, Immunotechniques in Agriculture, ELISA method to detect Plant diseases & Monoclonal antibodies.

12 Hrs.

Practicals:

1. DNA estimation by DPA diphenyl amine method.
2. RNA estimation by orcinol method.
3. Extraction and estimation of protein from plant source.
 1) Salt precipitation method 2) solvent method
4. Culturing of Rhizobium-YEMA media.
5. Culturing of Azotobacteria-ASHBY'S media.
6. Demonstration of Electrophoresis technique
7. Agarose gel electrophoresis.
8. Demonstration and comparison of GM Plants with Non GM Plants (BT- Cotton, BT-Brinjal, BT Tomato).
9. Visit to Biotechnology Research Laboratory.

Suggested Reading:

1. Cell & Molecular Biology -- By E.D.F. De Robertis -- ISE Publication
2. Basic Biotechnology -- Colin Rateledge & Bjorn Kristiansen -- Cambridge Uni. Press.
3. A Text Book of Biotechnology - R.C. Dubey - S. Chand Publication
4. Cell Biology, Genetics Molecular Biology, Evolution & Ecology -- P.S. Verma & V. K. Agarwal
5. Casida L.E. (1984)- Industrial Microbiology, Wiley Easterns, New Delhi.
6. Roitt- Immunology
7. Kubay - Immunology.
8. Fatima - Immunology

B.Sc. VI Semester

Practical Paper-II

(Molecular Biology, Biotechnology & Immunology)

Time: 4 Hours

Max Marks: 40

- | | |
|---|-----------|
| Q.1. Estimation of DNA/RNA from the given sample A . | 10 Marks |
| Q.2. Estimation of Protein from the unknown sample B . | 10 Marks |
| Q.3. Identify and comment C and D . | 5 Marks |
| Project report submission and Viva voce. | 10 Marks. |

Journal.

05 Marks

B.Sc VI Semester Practical Examination

Subject: Botany Paper- I

Instructions to Examiners.

Time: 4 Hours

Max Marks: 40

Q.1. Sample A- Plant resource (Procedure- 05 marks, Preparation- 03 marks, Tabulation- 02 marks) 10 marks

Q.2. Unknown Sample B- (Procedure- 05 marks, Observation and results- 05 marks) 10 marks

**Q.3. Specimen C-GM/Non GM plant Material may be given
Specimen D- Any biotech instrument/ any bacterial culture may be given 05 marks**

Project report submission and Viva voce. 10 Marks

Journal 05 marks.

B.Sc. VI Semester Theory Examination

Sub: BOTANY Paper - II

Pattern of Question Paper

Time: 03 hours

Max. Marks: 80

All questions are compulsory

Q. I Answer any ten out of twelve (01 to 12 sub questions) 10 X 2 = 20

From Unit 1: Nucleic Acids: 02 sub questions.

From Unit 2: Gene Expression: 02 sub questions.

From Unit 3: Recombinant DNA technology and Bioinformatics: 02 sub questions.

From Unit 4: Biotechnology and Genetic engineering of plants: 03 sub questions.

From Unit 5: Microbial genetic manipulation and Immunology: 03 sub questions.

Q. II Answer any six out of eight (13 to 20 sub questions)

6X 5 = 30

From Unit 1: Nucleic Acids: 02 sub questions.

From Unit 2: Gene Expression: 01 sub question.

From Unit 3: Recombinant DNA technology and Bioinformatics: 02 sub questions.

From Unit 4: Biotechnology and Genetic engineering of plants: 02 sub questions.

From Unit 5: Microbial genetic manipulation and Immunology: 01 sub question.

Q. III Descriptive Answers.

21. From Unit 1: Nucleic Acids: 01 sub question.

1 X 10 = 10

OR

From Unit 1: Nucleic Acids: 01 sub question.

22. From Unit 2: Gene Expression: 01 sub question.

1 X 10 = 10

OR

From Unit 3: Recombinant DNA technology and Bioinformatics: 01 sub question.

23. From Unit 4: Biotechnology and Genetic engineering of plants: 01 sub question.

1 X 10 = 10

OR

From Unit 5: Microbial genetic manipulation and Immunology: 01 sub question.

9. COMPUTER SCIENCE (OPTIONAL)

B.Sc. Semester – VI

COMPUTER SCIENCE (Optional) (w. e. f 2014-15 onwards)

14BSCCSCT61 : Computer Networks (Paper – I) Total : 50 Hrs

Unit 1:

Introduction: Computer Networks and its applications, Network structure, network architecture, Topologies, LAN, WAN, MAN, The OSI reference model, The TCP/IP reference model, services - SMDS, Frame relay, network standards, example networks, **The Physical Layer:** Transmission Media – Twisted pair, coaxial cable, optical fiber, radio transmission, microwaves and infrared transmission, Switching – message switching Circuit switching, packet switching **10 Hrs**

Unit 2:

The Data Link Layer: Data Link Layer design issues, Error detection – Single parity checking, polynomial codes – CRC, Error correction- Hamming code, Elementary data link protocols, sliding window protocols, Example data link protocols. **10 Hrs**

Unit 3:

The Medium Access Control: The channel allocation problem, multiple access protocols – ALOHA, Slotted ALOHA, CSMA protocols, Collision free protocols, Ethernet, Wireless LAN, Bluetooth. **10 Hrs**

Unit 4:

The network Layer: Network layer design issues, Routing algorithms – Flooding, Distance vector routing , Hierarchical routing, Link state routing, Congestion control algorithms – Leaky bucket, token bucket algorithm, admission control, hop by hop choke packets , Quality of Service. **10 Hrs**

Unit 5:

The Transport Layer and Application Layer: Transport service, Elements of Transport protocols, Internet transport protocols (TCP & UDP), DNS, Electronic Mailing, and World Wide Web. **10 Hrs**

TEXT BOOKS:

1. Andrew S. Tanenbaum, David J. Wetherall, Computer Networks, Fifth Edition, Pearson Pub. 2012.

References:

1. Ulyses Black, Computer Networks: Protocols, standard and interfaces, PHI.
2. James Martin, Local Area Networks: Architecture and implementation, PHI.
3. Behrouz Foruzan, Data Communication and Networking. TMH.
4. W. Stallings, Data and Computer Communications, Pearson Education.
5. Prakash Gupta, Data Communications, PHI.
6. James F. Kurose & Keith W. Ross, Computer Networking A TOP DOWN Approach Featuring the Internet, 2nd Edition, Pearson Education.

14BSCCSCP62 : Computer Networks Lab – B.Sc. Semester - VI

- 1) Programs using TCP Sockets (like date and time server & client, echo server & Client, etc...)
- 2) Programs using UDP Sockets (like simple DNS)
- 3) Programs using raw sockets (like packet capturing and filtering)
- 4) Programs using RPC
- 5) Simulation of sliding window protocols
- 6) Experiments using simulators (like OPNET)
- 7) Performance comparison of MAC protocols
- 8) Performance comparison of Routing protocols
- 9) Study of TCP/UDP performance

**Syllabus for B.Sc. Semester – VI
COMPUTER SCIENCE (Optional)**

14BSCCSCT63 : Core Java (Paper – II)

Total : 50 Hrs

Unit 1:

Introduction: Internet origin and development – internet architecture frame work world wide web. **Introduction to JAVA:** JAVA Evolution, Java History, Java features, How java differs from C and C++, Java and Internet, Java and World Wide Web. Web Browsers, Hardware and Software requirements, Java support system, Java Environment. Overview of JAVA Language: Introduction, Simple Java Program, More of Java, An Application with Two Classes Java Program structure, Java Tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command Line Arguments, Programming Style. Constants, Variables and Data Types: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Values to Variables, Scope of variables, Symbolic Constants, Type Casting, Getting Values of Variables, Standard Default Values, Operators and Expressions; Introduction, Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators, Type conversion and Associativity, Mathematical Functions. Decision Making and Branching: Introduction, Decision making with if Statement, Simple if Statement, The if..... else Statement, Nesting of if..... else Statement, The else if Ladder, The Switch Statement, The ?: Operator. Decision Making and Looping: Introduction. The while Statement, The do Statement, The for Statement, Jumps in Loops Labeled Loops.

12 Hrs

Unit 2:

Classes, Arrays, Strings and Vectors: Classes, Objects and Methods: Introduction, Defining a Class, Adding Variables, Adding methods, Creating Objects, Accessing Class members, Constructors, Methods Overloading, Static members, nesting of Methods, Inheritance: Extending a Class Overriding Methods, Final Variables and methods, Finalizer methods, Abstract methods and Classes, Visibility Control. Arrays, Strings and Vectors: Arrays, One – Dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors, Wrapper Classes.

10 Hrs

Unit 3:

Interfaces, Packages and Multithreaded Programming: **Interfaces:** Multiple Inheritance: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variable. **Packages:** Putting Classes together: Introduction, Java API Package, Using System Packages, Naming Conventions, Creating Packages, Accessing a Packages, Using a Packages, Adding a Class to a Package, Hiding Classes.

Multithreaded Programming: Introduction, Creating Threads, Extending the Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the ‘Runnable’ Interface.

10 Hrs

Unit 4:

Managing Exceptions, Applet Programming: Managing Errors and Exception: Introduction, Types of Errors, Exceptions, Syntax of Exception handling Code, Multiple Catch Statements, Using Finally Statement, Throwing Our Own Exceptions, Using Exceptions for Debugging. Applet Programming: Introduction, how Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle, Creating an Executable applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, running the Applet, More about Applet Tag, Passing Parameters to Applets, Aligning the Display, More About HTML Tags, Displaying Numerical Values, Getting Input from the User.

12 Hrs

Unit 5:

Graphics Programming, Input / Output: Graphics Programming: Introduction, The Graphics Class, Lines and rectangles, circles and Ellipses, Drawing Arcs, Drawing Polygons, Line Graphs, Using Control Loops in Applets, Drawing Bar Charts. **Managing Input / Output in JAVA:** Introduction, Concept of Streams, Stream Classes, Byte Stream Classes, Character Stream Classes, Using Streams. Other Useful I/O Classes, Using the File Class, Input / Output Exceptions, Creation of Files, Reading/Writing Characters, Reading/Writing Bytes, handling Primitive Data Types, Concatenating and Buffering Files, Interactive Input and Output, Other Stream Classes.

8 Hrs

TEXT BOOKS:

1. E. Balaguruswamy, Programming with JAVA,A Primer, 4th Edition., TMH (1999), (Chapter 2 – 16)
2. Shishir Gundavaram, CGI Programming on the “World Wide Web, O'Reilly and Associates, (1996). (Chapter 1)

References:

1. Thomas Boutel, CGI programming in C and Perl, Addison – Wesley(1996).
2. Jefry Dwight et al, Using CGI,(second Edition), Prentice Hall, India, (1997).
3. Darrel Ince and Adam Freeman, Programming the Internet with Java, Addison Wesley, (1997).
4. Ken Arnold and James Gosling, the Java Programming Language, Addison – Wesley (1998).
5. Patrick Naughton and Herbert Schildt, JAVA 2: The Complete Reference, 3rd Edition,
TMH,(1999).

14BSCCSCP64 : Core Java Lab – B.Sc. Semester - VI

Java Programming LAB

Sample programs

1. Program to calculate the distance travelled by light in 100 years
2. Program to demonstrate dynamic initialization
3. Program to find prime series up to n by accepting the limit from user from command line arguments.
4. Program to demonstrate the use of all iterative and jump statements.
5. Program to implement thread, applet and graphics by implementing animation of ball moving.

Journal programs

1. Program to demonstrate typecasting and type promotions in java.
2. Program to implement all bitwise operations by reading the input by user and display input and output errors.
3. Program to demonstrate method overloading.
4. Program to implement at least 10 string operations on Strings.
5. Program to demonstrate multilevel inheritance. Show the usage of super () .
6. Program to demonstrate method overriding and dynamic method dispatch.
7. Program to demonstrate constructor overloading by passing different number of parameters of different types.
8. Program to demonstrate a) Packages b) Interfaces.
9. Program to illustrate the usage of try, catch, throws and finally to show exception handling in java.
10. Program to show thread synchronization by creating threads using runnable interface.
11. Program to demonstrate thread priorities. Create the thread by extending thread class.
12. Program to create student report using applet, read the input using text boxes and generate the grades.
13. Program to demonstrate a) Abstract class b) Inner class
14. Program to demonstrate drawing bar chart in applets using graphics programming.
15. Program to copy bytes from one file to another.
16. Program to implement mouse events.

Practical Examination

Evaluation criteria for practical examinations shall be as follows:

1. Writing of Programs -15 Marks

- a. One program from the journal list – 08 Marks
- b. Another program given by examiner based on the concepts studied -07Marks

2. Execution of programs – 15 Marks

- a. Journal Program - 08 Marks
- b. Program of Examiner's Choice -07 Marks

2. Viva-Voce -05 Marks

4. Journal / Laboratory Report – 5 Marks

Total Marks -40 Marks

COMPUTER SCIENCE (Optional)

QUESTION PAPER PATTERN FOR ALL SEMESTER

THEORY PAPERS :

Question paper has to be set for total marks of 80.

Section–A: Ten questions to be answered out of twelve each carry 2 marks

$$2 \times 10 = 20$$

Note: Two questions to be set from each unit, and last two questions from any unit.

Section–B: Five questions to be answered out of seven each carry 4 marks $4 \times 5 = 20$

Section–C: Four questions to be answered out of six each carry 10 marks

$$10 \times 4 = 40$$

Total Marks = 80

Practical Examination

Evaluation criteria for practical examinations shall be as follows:

1. Writing of Programs -15 Marks

- a. One program from the journal list – 08 Marks
- b. Another program given by examiner based on the concepts studied -07Marks

2. Execution of programs – 15 Marks

- a. Journal Program - 08 Marks
- b. Program of Examiner's Choice -07 Marks

3. Viva-Voce -05 Marks

4. Journal / Laboratory Report – 5 Marks

Total Marks -40 Marks

COMPUTER SCIENCE (Optional)
QUESTION PAPER PATTERN FOR ALL SEMESTER
(w. e. f 2014-15 onwards)

Time : 3 Hours]

[Max. Marks: 80

Section A

Answer any ten questions, each carries two marks. $2 \times 10 = 20$

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)
- 10)
- 11)
- 12)

Section B

Answer any five questions, each carries 4 marks. $4 \times 5 = 20$

- 13)
- 14)
- 15)
- 16)
- 17)
- 18)
- 19)

Section C

Answer any four questions, each carries 10 marks. $10 \times 4 = 40$

- 20)
- 21)
- 22)
- 23)
- 24)
- 25)

10. STATISTICS (OPTIONAL)

B.A/ B.Sc. COURSE IN STATISTICS (OPTIONAL) SIXTH SEMESTER THEORY PAPER-I With effect from 2016-17

Total: 50 Hours.

STTH-6.1: STATISTICAL QUALITY MANAGEMENT AND ECONOMETRICS

Unit: 1.Introduction:

Quality assurance and management, Quality pioneers, Quality costs. Aims &objectives of statistical process control. Chance & assignable causes of variation. Statistical Quality Control, importance of Statistical Quality Control in industry.

10

Hours

Unit: 2.Control charts for variables:

Theoretical basis and practical background of control charts for variables. 3 -sigma limits, Warning limits & probability limits. Criteria for detecting lack of control. Derivation of limits and construction of a Mean (\bar{x}) and R-charts and interpretation. Rational subgroups. Group control charts & Sloping control charts. Natural limits &specification limits .Process capability studies.

10 Hours

Unit: 3. Control charts for attributes:

.np-chart, p-chart c-chart and u-chart. Basis, construction and interpretation. OC and ARL for variables and attribute charts.

10

Hours

Unit: 4.Time Series Analysis:

Components of time series. Additive and Multiplicative models .Measurement of trend by moving averages and by least squares. Construction of seasonal indices by simple averages and ratio to moving averages. & link relative method.

10 Hours

Unit: 5.Econometrics:

Definition and scope of econometrics. Relationship between variables, the simple linear regression model, the ordinary least squares method (OLS), Statistical assumptions, properties of least squares estimators.

10

Hours

SIXTH SEMESTER: PRACTICAL PAPER-I

STPR-6.1: PRACTICAL

1. Control charts - I
2. Control charts - II
3. Control charts - III
4. Econometrics - I
5. Econometrics -II
6. Time series- I
7. Time series- II
8. Time series- III

Books for study:

1. Grant,E.L.and Leavenworth,R.S(1988):Statistical Quality Control,6th edition,McGrawHill
2. Gupta R.C.: Statistical Quality Control, - Khanna Pub.Co.
3. Montgomery, C.D. (1999): Introduction to Statistical Quality Control, Wiley Int.Edn.
4. Gupta S.C and Kapoor V.K.: Fundamentals of Applied Statistics- Sultan Chand & Sons publications.
5. Basic Econometrics-Damodar Gujarati.
6. S.Shyamala,Navadeep Kaur,T.Arul Pragasam:A text book on Econometrics;Theory and Applications-Vishal Publ .Co.,Julhandhar
7. Srivatsava.O.S(1983):A Text book of Demography,Vikas Publishing.

Books for Reference:

1. Cowden, D.G. (1960): Statistical Methods in Quality Control, Asia Publ. House.
2. Mahajan,M (2001): Statistical Quality Control-Dhanpat Rai & Co.(P) Ltd.
3. Medhi, J.(2001)Stochastic Processes,New Age Pub.
4. Paul A Mayer:Introduction to probability Theory and its applications-Prentice Hall.
5. Cox,P.R.(1970):Demography, Cambridge Uni.Press

B.A/ B.Sc.COURSE IN STATISTICS (OPTIONAL)
SIXTH SEMESTER THEORY PAPER-II

Total: **50**

Hours.

STTH-6.2: OPERATIONS RESEARCH

Unit: 1. Linear Programming Problem (LPP):

Definition and Scope of Operations Research (OR). Definition, Basic Concepts and Formulation of an LPP. Mathematical form of general LPP, Standard LPP, Slack, Surplus and artificial variables, Feasible solution, Basic feasible solution, Optimum solution. Graphical solution. Simplex algorithm-Big-M Method and Examples.

15

Hours

Unit:2. Transportation problem:

Definition and mathematical form of TP, Feasible solution, Basic feasible solution, Optimum solution. Methods of finding BFS: Northwest corner rule, Unit penalty method (vogel's approximation method) and matrix minima method, Method of finding optimum solution to a TP, Unbalanced TP. Simple problems.

10 Hours

Unit: 3. Assignment problem:

Definition and mathematical form of assignment problem, procedure of solving assignment problem. Simple problems

05 Hours

Unit: 4.Statistical Decision Theory:

Statistical Decision problem, Maximin, Maximax, Minmaxi Laplace and expected payoff criteria. Regret function, Expected value of perfect information. Decision tree analysis.

10 Hours

Unit: 5. Inventory theory:

Description of Inventory system. Inventory costs. Demand lead time. EOQ model with and without shortages. EOQ model with finite replenishment. Probabilistic demand. News paper boy problem.

10

Hours

SIXTH SEMESTER: PRACTICAL PAPER-II

STPR-6.2: PRACTICAL

1. Linear Programming Problem-I: Formulation of LPP.
2. Linear Programming Problem –II: Graphical method for solving LPP
3. Linear Programming Problem-III: Simplex and Big-M methods to solve LPP.
4. Transportation problem
5. Assignment problem
6. Decision theory- I.
7. Decision theory –II
8. Inventory theory- I
9. Inventory theory –II

Books for Study:

1. Kantiswaroop, Man Mohan and P.K Gupta (2003): Operations Research-Sultan Chand & Co.
2. Churchman C.W, Ackoff R.L and Arnoff E.L (1957): Introduction to Operations Research-John Wiley.
3. Shenoy,G.V.,Srivatsava,U.K and Sharma,S.C.: Operations Research for Management,New Age International.
4. Barlow R.E & Proschan-Statistical theory of Reliability & Life testing-Holt Rinhart&Winston.Inc.,Newyark

Books for Reference:

1. Mustafi C.K: Operations Research Methods and Practice- New age Publication
2. Mittal K.V: Optimization Method- New age Publication
3. Kapoor V.K: Operations Research- Sultan Chand & Co.
4. Narag,A.S..Linear Programming and Decision making. - Sultan Chand & Co.

11. ZOOLOGY (OPTIONAL)**BSc – Zoology (Optional) Sixth Semester****Paper 6.1 and 6.2 Outline****STRUCTURE**

Semester	Syllabus	Hour's
Paper I	APPLIED ZOOLOGY, Sericulture Apiculture, Insect pest management. Vermiculture, Aquaculture, Poultry breeds, Animal Husbandry and Lac culture	50
VI Paper-II	Microbiology, Nanotechnology, Bioinformatics and Methods in Biology	50

Rani Channamma University, Belagavi

B.Sc VI Semester _ 6.1

Paper I

Total hours – 50
Marks _ 80
Theory 4 hrs/week

APPLIED ZOOLOGY (optional)

Sericulture : Mulberry Silkworm and Life History of *Bombyx mori* 07 hrs

Rearing of Silkworm: Grainage management, Emergence of moth and fertilization, egg laying, hatching and moulting of-silkworm, spinning of cocoons, Cocoon processing, stiffling and spinning silk. Filature. Non mulberry silkwarm, types. in brief & Silkworm diseases- Muscardine, Grasserie, Flacherie & Pebrine.

Apiculture: Species of Honey Bees, their Social organization, Life History 05 hrs

Methods of Bee Keeping, products of Bees, & their Economic importance

Insect Pest Management : Natural control and Applied control of pests 05 hrs

Applied Control __ Mechanical, Physical, Cultural, Legal, Chemical control

Vermiculture: Earthworm species used in vermiculture, vermiculture technique, and Importance of vermiculture.

04 hrs

Aquaculture :

10 hrs

Prawn Fisheries, Species of Prawns, Culture of freshwater and marine Prawns, Preservation and processing of Prawns.

Pearl Culture : Pearl producing molluscs, Pearl formation, Pearl producing

Sites in India. Quality and composition of Pearl.

Pearl Industry:Artificial Insertion of nucleus

Brief technique of Fish culture, Preservation of fishes and their Byproducts

Poultry : Breeds of fowl, Diseases of poultry, Poultry maintenance and By-products, and Composition and Nutritive value of Egg.

06 hrs

Animal Husbandry: Maintenance, Breeds Diseases, Products and By Products of the following

10 hrs

Sheep and Goats, Cow and Buffalos, Composition and Nutritive value of Milk

Lac culture: Classification of Lac insect (*Techardia lacca*, Life history of Lac

Insect. Host plants, Cultivation of Lac. Compostion and properties & Economic importance

3 hrs.

Practicals – 6.1

Total -11

Practicals

1. Project on any of the applied branch studied in theory	1
2. Study of mulberry silkworm and Life cycle	1
3. Types of non mulberry silkworms in brief and Silkworm diseases (Pebrine, Muscardine and Grasserie & Flaturie)	1
4. Species and castes of honeybees	1
5. Agricultural pests and domestic pests (total 8 varieties)	1
6. Study of fisheries __ Molluscs (three), Crustaceans (three) And Pisces (six)	1
7. Study of Varieties of sheep and goat (from chart/photographs)	1
8. Study of varieties of Cow & Buffalos(from chart/photographs)	1
9. Vermiculture__ Study of types of Earthworm species	1
10 Study of poultry breeds	1
11 Study of Lac insect (Life cycle)	1

Scheme for practicals 6.1 APPLIED ZOOLOGY

Q No. I	Sericulture	03 marks
Q No. II	Apiculture	03 marks
Q No. III	Pest management	03 marks
Q No. IV	Pisciculture	03 marks
Q No. V	Vermiculture	03 marks
Q No. VI	Animal Husbandry	06 marks
Q No. VII	Prawn & Pearl culture	04 marks
Q No. VIII	Project report & Viva	10 marks
Q No. IX	Journal	05 marks

Total 40 marks

Note 1 :Examiners can alter the Scheme of marks for practical in consultation With the staff of the host college.

Note 2 : Theory	Internal Final	20 marks 80 marks
Practical	Internal Final	10 marks 40 marks

Note 3 : Question paper pattern for THEORY examination

Q No. I marks	02 marks	10* 02	= 20
Q No. II marks	05 marks	06* 05	= 30
Q No. III marks	10 marks	01* 10	= 10
Q No. IV marks	10 marks	01* 10	= 10
Q No. V marks	10 marks	01* 10	= 10

Note 4 : Q Nos IIIrd IV & V each should have one internal option

B.Sc VI Semester _ 6.2

Paper II

(Microbiology, Nanotechnology, Bioinformatics and Methods in Biology)

Total hours – 50
Marks _ 80
Theory 4 hrs/week

Microbiology

- | | | |
|----|---|-----------------|
| 1. | Microscopy : Compound Microscope and its functions
Dark field microscope. Fluorescent Microscope
Phase Contrast Microscope and Electron Microscope and their uses | 03 hrs |
| 2. | Sterilization and other Techniques _ Physical and Chemical methods
Bacteria:Classification based on shapes, structure (anatomy)
Bacterial reproduction and growth. | 01 hr
02 hrs |
| 3. | Virus _Morphology, chemical properties, classification and nomenclature
DNA and RNA viruses. | 02 hrs |
| 4. | Fungi: Structure, classification and reproduction, Yeasts | 02hrs |
| 5. | Fermentation: Types of Fermentor and basic functions
Methods of preservations and criteria for the selection of microorganisms | 03hrs |
| 6. | Production of antibodies Penicillin, Streptomycin, Enzyme protease, Riboflavin. | 02hr |
| 7. | Ormal microbial flora of the human body | 01hr |
| 8. | Role of microbes in environment | 01hr |

Nanotechnology

4hrs

Introduction : History, Name, Tools and Techniques in Nanotechnology.

Nanobiology; application of Nano in biology- Nano drug Administration Diagnostic & Therapeutic applications. Lotus effect, Gold & Silver Nanotechnology. Curcumin phytochemicals, Cinnamon in green nano technology.

Bioinformatics

1. Introduction' : Definition, Goal of Bioinformatics, Sequencing- Sequences analysis and Structure analysis 02hrs
Applications of Bioinformatics.

2. Classification of Biological Data Bases. Characteristics of FASTA (FastAlignment) BLAST (Basic Local Alignment Search Tool). 02hrs

3. Aims and goals of Human Genome Project: Main findings of huma genome Project., Prediction and tools for gene prediction. Comparative genomics. 02hrs

4. Proteomics: Two dimensional Gel Electrophoresis Mass spectrometry, SDS __ PAGE Structure of protein __ Primary, Secondary, Tertiary and Quarternary. 02hrs

Protein structure prediction 01hr

Application of Proteome analysis

The future of Proteomics 01hr

Methods in Biology

Techniques of Cell fraction and Centrifugation.

Homogenization and cell tissue disruption

Centrifugation, Ultra centrifugation. 02hrs

DNA Sequencing, _ In situ Hybridization, DNA microchips 02hrs

Genetic Engineering in animals- Transgenic Mouse, Transgenic sheep, Genetically Altered Fish.Mosquito and Drosophila. 02hrs

Gene therapy in Humans 02hr

Histochemical and Immunization Techniques _ ELISA, RIA, Flow Cytometry 02hrs

Nucleic Acid Blotting and their applications _ Southern Blotting, Northern Blotting, Western Blotting 02hrs

Biophysical Methods _ Brief note of NMR, ESR, Spectroscope and their uses 02hrs

Radioisotopes Techniques in Biochemistry - Types of radioactive decay- Alpha, Beta emission & Gamma rays 01 hr

Geigar-Mullar counter, Liquid Scintillator 01hr

Biological applications of Radioisotopes 01hr

A brief note on the use of **ECG, PET, MRI, CAT**. Single Neuron recorder in Electro Physiological methods 02hrs

B.Sc VI SEMESTER 6.2

PRACTICAL DETAILS

ZOOLOGY Pract-II

TOTAL 11 PRACTICALS

Measurement of micro organisms (Micrometry)

Preparation of liquid medium (Broth)

Preparation of solid media (PDA medium and PDA plates)

Preparation of agar slants.

Bacterial cell counting using haemocytometer.

Simple and Grams's staining differentiation of bacteria.

Isolation, Identification and enumeration of Bacteria/Protozoa from moist soil or sewage water

Practical application of Bioinformatics: Tool BLAST And FASTA to find out sequence of nucleotides in Desired gene/Amino acid in desired protein

Study of Microbiological Lab Equipments—
Microscope, Centrifuge, Autoclave, Pressure cooker, Laminar air flow, Streak Plate, Inoculation needle etc.

Visit to Diagnostic center to study practical application of ECG, PET, MRI, CAT

Suggestions for Practical Examination

Microbiology, Nanotechnology, Bioinformatics & Methods in Biology

SEM – VI 6.2 ZOOLOGY (OPTIONAL)

Q No. I	Microbiology Spotting (05*2)	10 marks
Q No. II	Bioinformatics	07 marks
Q No. III	Methods in Biology	07 marks
Q No. IV	Viva	05 marks
Q No. V	Visit to diagnostic center – A Report	06 marks
Q No. VI	Journal	05 marks

Note 1 : Examiners can alter the Scheme of marks for practical in consultation with the staff of the host college.

Note 2 :	Internal Final	20 marks 80 marks
Practical	Internal Final	10 marks 40 marks

Note 3 : Question paper pattern for THEORY examination

Q No. I	02 marks	10* 02	= 20 marks
Q No. II	05 marks	06* 05	=30 marks
Q No. III	10 marks	01* 10	=10 marks
Q No. IV	10 marks	01* 10	=10 marks
Q No. V	10 marks	01* 10	=10 marks

Note 4 : Q Nos III, IV & V each should have one internal option.;

. Note : TWO INTERNAL THEORY TESTS SHOULD BE CONDUCTED FOR EVERY SEMESTER

First Internal Theory TEST should be set for maximum of 20 marks for duration of

one hour & Second Internal Theory TEST should be set for maximum of 80 marks

Duration of THREE HOURS.

Note 3 : Question paper pattern for Theory examination

02 marks	10x2	=20
05 marks	6x5	=30
10 marks	3x10	=30

Note 4 : Q Nos . III, IV & V--- SHOULD have ONE internal option
OF 10 MARKS

Note : Paper setters should give due weightage to the TOPICS of the SYLLABUS

Note 5: Staff meet should be conducted to discuss the syllabus % before every semester.

All the staff members should attend the meeting compulsorily.



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.Sc**

IV Semester

w.e.f.

Academic Year 2015-16 and onwards

Syllabi for Faculty of Science and Technology under
B.Sc
IV – Semester
Group – I

1. Basic – English:

RANI CHANNAMMA UNIVERSITY, BELAGAVI
GROUP -1 (LANGUAGES)
Detailed Syllabus for B. Sc. / B.Sc. Comp-Sc / BCA / B. Sc. in CCJ
(With effect from 2017-18 onwards)
Semester IV: Basic English
Teaching Hours: 5 Hours per Week

Text: Eco English: Learning English through Environmental Issues an Integrated, Interactive Anthology

Bloomsbury Publication

Edited By N. Krishnaswamy, Lalitha Krishnaswamy, Dr. B.S. Valke
(Units – 17, 18, 19, 20, 21, 22, 23, 24)

Grammar and Composition

- A) Correction of Sentences (focus on the use of articles, prepositions, numbers, subject verb agreement, question tags, Pronouns, adjectives, adverbs, homophones, homonyms)
- B) Speeches (Direct and Indirect)
- C) Voice (Active and Passive)
- D) Application Letters for Jobs without CV
- E) Paragraph Writing (my family, kinds of books, the green house effect, Importance of sports, euthanasia, solar energy, a decision that changed my life, advantages of vegetarianism, cherishing old people, human values are timeless etc)

Pattern of Question Paper

(80 Marks paper of three hours and 20 Marks for I.A)

1) Objective type questions	10X1=10
2) Comprehension Questions (Answer in a sentence or Two)	5X2=10
3) Essay type question (one out of two)	1X10 =10
4) Essay type question (one out of two)	1X10=10
5) Short Notes (two out of four)	2X5=10
6) Correction of errors	10X1=10

7) A) Direct and Indirect Speech	5X1=05
B) Active Voice and Passive Voice	5X1=05
8) A) Application Letters for Jobs without CV	1X5=05
B) Paragraph Writing (about 150 words)	1X5=05

80

Additional English

RANI CHANNAMMA UNIVERSITY, BELAGAVI MODERN INDIAN LANGUAGES (MIL) Detailed Syllabus for B. Sc. / B.Sc. Comp-Sc / BCA / B. Sc. in CCJ
(With effect from 2017-18 onwards)
Semester IV: Additional English
Teaching Hours: 5 per Week

Text Book: *Invisible Man* by H.G. Wells (Roopa Publications, New Delhi)
Grammar and Composition

- 1) Misspell words (Pair of words)
- 2) Organizing a written composition
- 3) Expansion of outlines into a story
- 4) A) Letters to News paper editors
 B) Letters of complaint to the concerned authorities

Pattern of Question Paper

(80 Marks per paper of three hours and 20 Marks for I.A)

1) Objective type questions on the novel	10X1= 10
2) Comprehension Questions on the novel (Answer in a sentence or Two)	5X2=10
3) Essay type question on the novel (one out of two)	1X10 =10
4) Essay type question on the novel (one out of two)	1X10=10
5) Short Notes on the novel (two out of four)	2X5=10
6) A) Misspell words (Choosing a Correct Spelt word) B) Organising a written composition	5X1= 05
7) Expansion of outlines into a story	10
8) A) Letters to News paper editors B) Letters of complaint to the concerned authorities	1X5= 05
	1X5=05

80

2. Basic –Kannada

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3. Basic – Marathi

B.Sc

Semester IV

Basic Marathi

Course: Literary Form: Lalit Gadya

Text: Suvarna Garud : Maruti Chittampali

Sanskriti Prakashan, Pune

4. Basic – Arabic

SYLLABUS OF ARABIC SUBJECT

BSc. Fourth Semester

Arabic Basic

Paper : Prose, Poetry and History of Arabic

Literature **Scheme of teaching :** 5 hours per week

Prescribed Text Books

1. Al Qiraatur Raashida part II (Prose)

By: Abul Hasan Ali Nadvi

Pub.By: Nadwatul Ulama Lucknow (u.p)

Following Lessons)

(1) Al Khaleefatu umar bin Abdul Azeez (i) (2) Al Khaleefah umar bin

Abdul Azeez (ii) (3) Fi baiti Abi Ayyub al Ansari. (4) Al Imam Malik bin Anasin. (5) Al Qatiratu (i) (6) Al Qatiratu (ii) (7) Jismun Nabati(i) (8) Jismun Nabati (ii)

2. **Qaseeda-e-Burdah (Poetry)**

By: Imam Boosari. Pub.By: Azeem Book Depo Deoband (u.p)

Chapter No.6.

3. **Mukhtasar Tareekh-e- Adabiyat-e-**

Arabi By: Dr.syed Abul Fazl

Pub.By:Deccan Traders Book Seller

& Publisher 23-2-378, Moghalpura, Hyderabad.

Chapter No.III 3rd & 4th period (daur)

4 **The Holy Quraan.** Pub.By:Taj Company Mumbai

Suratuz Zilzal

The question paper should be broadly based on the following pattern.

1) Multiple choice from first and second text	10x1	= 10
2) Summary from text with choice	2x7½	= 15
3) R.C. from first text with choice	3x5	= 15
4) Appreciation of verses from second text 2 out of 3	2x7½	= 15
5) Question from third text with choice	2x7½	= 15
6) Question on Sura	1x10	= 10

5. URDU BASIC (MIL)

B. Sc IV SEMESTER

URDU BASIC (MIL)

Paper III: Prose, Poetry & Science Essays

Scheme of Teaching: Duration 16 weeks, 5 hours/week

Prescribed Text books

1. ***KARWAN-E-ADAB***

(Detailed Text book)

Ed by: Dr. Sayed Sanaulla

Published by: Nasheeman Publishers

Near Ikhlas English School

2nd Stage RML Nagar

Shimoga.

PROSE: (Last 5 lessons only)

POEMS:

- 1. Tazheek-e-rozgar-
- 2. Khak-e-Hind-
- 3. Talim-e-Niswan-
- 4. Bol ari-o-dharti bol-

- Mirza Souda
- Chakbast
- Akbar Ilahbadi
- Majaz

GAZALS:

- 1. Nagah chaman mein- Mashafi
- 2. Ye na thi hamari- Ghalib
- 3. Lagta nahin hai- Zafar
- 4. Hamne sun eke aap- Mh. Hussain Azaad
- 5. Hum hain Mata-e-kucha- Majrooh

II. JADEED-ILM-E-SCIENCE

By: Wazarat Hussain Pub
By: Educational Book
House, Aligarh 202002

(Following lessons only)

Lesson no. 10, 11, 12 & 13

(Page No- 198 –256)

SCHEME OF EXAMINATION (III & IV SEMESTER)

Total Marks – 100 marks (Theory- 80 + Internal Assessment- 20)

- a) Each paper of 100 marks shall carry 20 marks Internal Assessment, 4+10 shall for I.A Test and remaining 3+3 shall be for home assignment and attendance respectively
- b) In each paper 2 tests shall be conducted for the award of I.A marks. First test of one hour duration for maximum 20 marks reduced to 4 marks shall be conducted in 8th week. Second test in 12th week of respective semester of 80 marks and of 3 hours duration then reduced to ten marks.

The question paper shall be broadly based on the following pattern (III & IV semester)

Q. No. 1: Multiple choice questions from both the texts (10 out of 10)

$10 \times 1 = 10$

Q. No. 2: (Detailed Text)

Essay type question, Summary/Critical

Appreciation of a story

(1 out of 3)

$1 \times 15 = 15$

Q. No. 3: Reference to Context

(4 out of 6)

$4 \times 2.5 = 10$

Q. No. 5: Appreciation of verses (Gazals)

(4 out of 6)

$4 \times 2.5 = 10$

Non-Detailed Text

Q. No. 6: Essay type questions

(1 out of 2)

$1 \times 15 = 15$

Q. No.7: Short notes

(2 out of 4)

$2 \times 5 = 10$

6. Sanskrit (Basic)

Bsc Part -II Basic - Samskrit		
Fourth Semester		
Teaching Hours _____	:	5 Hours per week _____
Exam Marks _____	:	80+20=100 of 3 hours Duration
Text : xuÉmlÉuÉxÉuÉS'ÉqÉç K. U. Dharwad	Publication	Pavate Nagar Dharwad - 3
1. urÉÉMüUhÉqÉç (xEuÉiÉqÉvÉoSEÈ)	:	70 Marks
2.	:	10 Marks
3. Internal Assessment	:	20 Marks
1. Internal Test – 14		
2. Assignment, Class Records Skill –		
Development – 06	Total	100 Marks

Bsc Part -II

Basic – Samskrit

Question Paper Pattern

Fourth Semester

1.	New type questions / select the correct answer (any ten out of twelve)	10 Marks
2.	Translate & explain (any three out of five)	18 Marks
3.	Explain with reference to context (any four out of six)	16 Marks
4.	Critical notes (any two out of four)	14 Marks
5.	Answer the following questions (with internal choice)	12 Marks
6.	Grammar (Recognize the pronouns forms)	10 Marks
	Total	80 Marks

7. Basic - Persian

B.Sc. 4th Semester

Basic Persian

Teaching Hours : 5 Hourse per Week

Modern Prose

1. Prescribed text book

Following portion only

Maruf-E-Iran

Textbook

Shukhan-E-Naw(Part-II) by Manzoor Ahmed Khan

Pub:-Educational book house Aligarh.

2. Prescribed textbook

Following portion only

Manzumate-Aqlaque

Textbook

Shukhan-E-Naw(Part-I) by Dr.Gulam Sarwar Muslim University.

Pub:-Educational book house Aligarh.

Scheme of Examination

1. Total marks-100 Theory -80 marks Internal test Assessment 17 and attendance 3 marks=20.
2. In each paper two tests shall be conducted for the award of Internal Assessment marks, and each of one hour duration for a maximum of 20 marks reduced to 17 later. First test shall be conducted in 8th week and 2nd test in 12th week of respective semester. The Average marks obtained in the two tests for 17 marks shall be taken as final Internal Assessment Marks test component.

Scheme of Examination

Q1.Multiple choice questions	1*10=10
Q2.Essay type questions from the text	3*05=15
Q3.Questions on R.C from the text	3*05=15
Q4.Translation & Explanation from the text	3*05=15
Q5.Summary of the Passage/Poem from the text with choice	1*15=15
Q6.Short notes with choice (On the history of Persian Literature)	2*05=10

8. Basic – Hindi

B.Sc. IVth Semester

Basic Hindi

1) Examination : a) One Paper carrying 80 Marks and 3 hours of Duration.

b) Internal Assessment Marks 20

2) Teaching : 5 hours per week

3) Course :1) Collection of Prose

2) General Essay

4) Distribution of Marks

I	Objective type of Questions 10/14	10 Marks
II	Annotations from Prose 2/4	10 Marks
III	General Question based on Prose 2/4	30 Marks
IV	Short Notes on Prose 3/5	15 Marks
V	General Essay with Options 1/3	15 Marks
	Total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Text Books- Prose

- 1) ग यअमृत पठन के लए (संपूणपु तक) Marks 65
संपा क
जोग संहबसेन,डॉ. यंकटपाट ल
वाणी काशन६४६१५, २१-ए, द रयागंज, नयी द -ल११०००२
- 2) **General Essay (नबंधरचना)** Marks 15

Reference Books

1. सा हि यक नबंधः गणप तचंगु त
2. च तनक नः महादेवीवमा
3. नबंधका खजाना : आरती जि नहो ओ
4. ह दका ग यसा ह :य रामचं तवार
5. सा ह सुमनयः बालकृ णभ
मम हो
6. आधु नक ह दसा ह य व वधआयाम : रि ा
7. भारतीय नार : जि मताक पहचान : उमा शु ला
8. ठेल लत नबंधः कृ ण बहार म
9. ह दग यलेखनम यं औरय वचारः सुरेशका त

Group – II

OPTIONAL / COMPULSORY SUBJECT FOR THE DEGREE IN SCIENCE SUBJECTS

Science Subjects: (any three subject of equal importance to be chosen as per the grouping given by Rani Channamma University, Belagavi)

DETAILED SYLLABUS OF FOLLOWING PAPERS WITH PRACTICALS

1. BOTANY (optional)

SEMESTER-IV

I	DIVERSITY OF ANGIOSPERMS AND THEIR SYSTEMATICS	60 hrs
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Section - I

Morphology and Taxonomy

Unit 1: Angiosperms: origin and evolution.	2 hrs.
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Unit 2: Morphology of Angiosperms – Study of roots, stems, leaves and their modifications.	
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Study of Inflorescence, flower and fruits

10 hrs.

Unit 3: Angiosperm taxonomy: Brief history, botanical nomenclature, principles and

rules, taxonomic ranks, type concept and principle of priority.

4 hrs.

Unit 4: Classification of Angiosperms : systems proposed by Bentham and Hooker and Engler prantl. Their salient features, merits and demerits. Major contributions of cytology (cytotaxonomy), phytochemistry (chemotaxonomy) and taximetrics (numerical taxonomy) to taxonomy.
--

6 hrs.

Unit 5: Diversity of flowering plants as illustrated by members of the following families: Magnoliaceae ,Annonaceae, Brassicaceae, Malvaceae, Rutaceae, Rhamnaceae, Anacardiaceae, Fabaceae Myrtaceae, Combretaceae, Cucurbitaceae, Apiceae, Rubiaceae, Asteraceae, Sapotaceae, Apocynaceae, Asclepiadaceae, Convolvulaceae, Solanaceae, Acanthaceae, Verbenaceae, Lamiaceae,
--

Amaranthaceae, Euphorbiaceae, Urticaceae, Orchidaceae, Amaryllidaceae, Liliaceae, Arecaceae and Poaceae.

24 hrs

Section - II

Economic Botany and Medicinal botany

Economic Botany:

Food plants: Rice, Wheat, Maize, Pulses, Potato and Sugarcane

Fibres: Cotton, Jute, Agave and Deccan hemp

Vegetable oils: Ground nut, Sunflower, Coconut, Palm oil and Castor

General account and sources of Timber: Teak and Sissoo

Paper & pulp: Bamboo & Eucalyptus

Spices: Ginger, Cinnamon and Cardamom

Beverages: Tea & Coffee

Rubber: Hevea sp.

10 hrs.

Medicinal botany:

Plants in primary health care: common medicinal plants- Tippateega (*Tinospora cordifolia*), Tulsi (*Oscimum sanctum*) Kalabanda (*Aloe-vera*) Turmeric (*Curcuma longa*) Ashwagandha (*Withania somnifera*) and Sarpagandha (*Rauwolfia serpentina*)

4 hrs

Practicals:-

1. Morphology of Root , Stem and their modifications.
2. Morphology of Leaf and its modifications.
- 3 .Study of Inflorescence and its types.
4. Study of Flower- Descriptive terms, Thalamus, Calyx, Corolla and Aestivation.
5. Study of Flower -Androecium and Gynoecium.
6. Study of Fruit types.
7. Study of any 20 families representing from polypetalae, gamopetalae, apatalae and monocots available in the locality.
8. Economic botany
9. Study of Medicinal Plants available in the locality.
10. Study Tour for minimum Two days to study the Flora (Taxonomy).

Suggested readings:

1. Davis, P.H.and Heywood,V.H.1963.principles of angiosperm taxonomy. Oliver and boyd,London.
2. Heywood,V.H. and moore,D.M.(EDS)1984. current concepts in plant taxonomy academic press,London
3. Jeffery,C.1982. An introduction to plant taxonomy. Cambridge university press, cambrigde , London.
4. Jones,S.B.Jr and luchsinger,A.E. 1986. plant systematics(2nd edition). McGraw Hill book co,newyork.
5. Radford, A.E.1986. fundamentals of plant systematics. Harper and Row, newyork.
6. Singh,G.1999.plant systematics; theory and practice. Oxford and IBH, newdelhi.
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17. Systematic botany by R.N Sutaria.
18. Taxonomy of Angiosperms by B.P.Pandey.
- 19 . Kocchar, S.L. 1998. Economic Botany in Tropics. 2nd edition, Macmillian

Ltd,New Delhi .

20. Sambamurthy, A.V.S.S and Subramanyam, N.S. 1989. A Text Book of Economic Botany, Wiley Eastern Ltd, New Delhi.
21. Sharma, D.P. 1996. Hill's Economic Botany, Tata McGraw Hill Co., Ltd., New Delhi.
22. Simpson, B.B. and Conner-Ogorzaly, M. 1986. Economic Botany-plants in our world. McGraw Hill, New York.
23. Hill, A.F. 1989. Economic Botany, Tata McGraw-Hill, New York.
24. Herbs Cultivation and Medicinal Uses- H. Panda – NIIR Publication, New Delhi.
25. Chopra R.N., Basu R.L. & Ghosh G. (1965)- Poisons Plant of India.
26. Jain S.K. - Medicinal Plant.

B.SC. IV SEMESTER
PRACTICAL EXAMINATION

Time : 4 Hours

Max Marks: 40 Marks

Q1. Assign the specimens A,B,C&D to the respective families giving

diagnostic features and their classifications.

10 Marks

Q2. Draw the floral diagram and write the floral formula of specimen "E"

03 Marks

Q3. Explain the morphological peculiarities observed in the specimens F, G, H & I

10 Marks

Q4. Identify giving botanical name and family of specimens J , K , L & M.

Mention the parts used & their uses.

08 Marks

Journal

05 Marks.

Study tour report

04 Marks

B.Sc IV Semester Practical Examination

Subject: Botany

Instructions to Examiners.

Time: 4Hours

Max Marks: 40

Q.1. Specimens A, B, C and D **10 marks.**

One from apetalae or monocots

One or two from polypetalae

One or two from gamopetalae

(Classification-1mark, features- 1.5 marks)

Q.2. Specimens E- A twig with floral buds. **3marks.**

(Floral formula-1mark, floral diagram-2marks).

Q.3. Specimens F, G, H and I **10 marks.**

(One specimen each from Root/Stem, Leaf, Inflorescence/Flower and Fruits).

Q.4. Specimens- J, K, L and M **8 marks.**

(J and K specimens from Economic Botany, L and M specimens from Medicinal Botany

Journal **5 marks.**

Study tour report **4marks**

B.Sc.IV Semester Theory Examination

Sub: BOTANY

Pattern of Question Paper

Time:03 hours

Max. Marks:80

All questions are compulsory

Q. I Answer any ten out of twelve (01 to 12 sub questions) $10 \times 2 = 20$

From Section I Morphology and Taxonomy: 10 sub questions

From Section II Economic Botany and Medicinal botany: 02 sub questions

Q. II Answer any six out of eight (13 to 20 sub questions) $6 \times 5 = 30$

From Section I Morphology and Taxonomy: 07 sub questions

From Section II Economic Botany and Medicinal botany: 01 sub question

Q. III Descriptive Answers.

21. From Section I Morphology and Taxonomy $1 \times 10 = 10$

OR

From Section I Morphology and Taxonomy

22. From Section I Morphology and Taxonomy $1 \times 10 = 10$

OR

From Section I Morphology and Taxonomy

23. From Section II Economic Botany and Medicinal botany $1 \times 10 = 10$

OR

From Section II Economic Botany and Medicinal botany

* * * * *

2. BIOTECHNOLOGY (Optional)

RANI CHENNAMMA UNIVERSITY, BELGAVI
COURSE STRUCTURE AND SCHEME OF EXAMINATION FOR BIOTECHNOLOGY (Optional)
(WITH EFFECT FROM 2018-19)

semester	Paper Title	Instruction Hrs per week		Examination Marks		Internal Assessment Marks		Duration of Examination Hrs		Total Marks
		Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical	
IV	Paper 4.1 Molecular Biology	4		80		20		3		150
	Practical 4.2 Molecular Biology		4		40		10		4	

Syllabus

SEMESTER – IV

PAPER 4.1 – MOLECULAR BIOLOGY AND BIOINFORMATICS

Total hours allotted: 50 hrs

Part: A Molecular biology

1. Molecular basis of life:

An introduction, nucleic acids: Structure and types of DNA and RNA and their

Functions **(04 Hrs)**

2. DNA replication: **(03Hrs)**

Prokaryotic and Eukaryotic – enzymes and proteins involved in replication

3. DNA damage and repair: **(03Hrs)**

Causes and mechanism- Photo reactivation, Mismatch Repair

4. Recombination in Prokaryotes: **(04Hrs)**

Transformation, Conjugation and Transduction

5. Structure of gene: Prokaryotic and Eukaryotic gene **(03Hrs)**

6. Genetic code: properties and deciphering **(02hrs)**

7. Transcription: **(06Hrs)**

Process of transcription, Transcription factors

8. Translation: **(06Hrs)**

Initiation, elongation and termination of protein synthesis, translation

Factors.

9. Regulation of gene expression: **(06Hrs)**

Regulation of gene expression in Prokaryotes – Operon concept

Regulation of gene expression in Eukaryotes – Galactose metabolism in yeast.

10. Insertional elements and transposons: **(03Hrs)**

Transposable elements in Maize and Drosophila

PART: B Bioinformatics **(10 Hrs)**

Introduction to bioinformatics, Concept and structure of databases, Introduction to the human genome project and components of the genome. Introduction to the gateway sites (NCBI, EMBL and DDBJ) Types of nucleic acid sequences–Genebank: Protein Data Bank (PDB) –in the context of protein structural biology, Introduction to sequence analysis, significance, motif analysis and phylogenetic comparisons Concept and methods of sequence comparisons in general: FASTA, BLAST 9 and CLUSTALW, pairwise sequence comparison, Global Alignment, Local Alignment

PRACTICALS 4.2 MOLECULAR BIOLOGY

1. Preparation of DNA model.
2. Estimation of RNA by Orcinol method.
3. Estimation of DNA by DPA method and determination of Tm value and purity of DNA.
4. Detergent lysis of RBC
5. Osmotic lysis of RBC
6. Extraction of protein from Animal (goat) liver / muscle source by salt precipitation and Organic solvent method and estimation of protein by Lowry's method.
7. Extraction of protein from plant source (Green gram / Pea) by salt precipitation and organic solvent method and estimation of protein by Lowry's method.
8. Protein separation by polyacrylamide gel electrophoresis.
9. Demonstration of Conjugation, transformation and transduction by charts.
10. Sequence alignment (FASTA, BLAST)
11. ROS MOL

References:

MOLECULAR BIOLOGY AND BIOINFORMATICS

1. Darnell J., Lodish H., and Baltimore D.1990: molecular cell biology, Scientific American books inc.,New York.
2. De Roberties, E.P.D. and De Roberties, E.M.S. 1988: cell and molecular biology. Lea and Jeliger.Philadelphians K.M.Varghese company.
3. Freifelder D and Malacinski G.M 1993, Essentials of molecular biology, Jones and Barklett PublishersInc.
4. Geroge M.Malacinski 1998: Essentials of molecular biology, Jones and Barklett Publishers Inc.Glick B.R. and Pasternak, J.J.1994: Molecular biotechnology , principles and applications of recombinant DNA, American Society for microbiology, Washington DC
5. Griffith A.J.F, Miller, J.H.Suzuki, 2000: An introduction to genetic analysis, 7th Ed. W.H.Freeman, NewYork
6. Howe C 1995,: Gene cloning and manipulation, Cambridge university press, USA
7. Karp G 1996: Cell and Molecular biology concept and experiment, John Wiley ans sons Inc. New York 22
8. Roger L.P.Adams, John T and David P.Leader Biochemistry of Nucleic acid, Chapman and Holl publications
9. Sandhya Mitra 1988: Elements of Molecular Biology, MacMilan Publications.
10. Smith, Molecular Biology, Faber and Faber publications.
11. Walker J.M anf Gingold E.B.1983 Molecular Biology and Biotechnology, Indian edition Royal society of chemistry UK
12. Watson J.D., Hopkins, N.H.Robert and Weiner A.M.1987, Molecular Biology of Gene 4th Ed.,Benjamin Publ Co. New York.
13. Biotechnology & Genomics : P.K.Gupta
14. Molecular biology: Avinash & Kakoli Upadhyay
15. Cell & Molecular biology: S.C.Rastogi
16. Molecular Biology-Turner et. al.
17. Molecular Biotechnology, Glick & Pasternak.

18. Molecular Biology of Cells, (2002), 4th Edition; Albert's *et al.*
19. Molecular Cell Biology (2004), Lodish *et al.*
20. Cell and Molecular Biology; Concepts & Experiments (2004). Karp, G.
21. The Cell: A molecular Approach (2004), Cooper, G.M
22. Cell & Molecular biology, de Robertis & DeRobertis.
23. Gene VIII (2005) - Benjamin Lewin
24. Molecular Biology- Turner *et al*
25. The Biochemistry of Nucleic Acid 11th Ed. (1992) – Adams *et al*
26. Molecular Biology of Gene (2004) – Watson *et al.*
27. Microbial Genetics – Friedflelder
28. Molecular Cell Biology 5th Ed. (2004) – Lodish *et al.*
29. Human Molecular biology (2004) – Stefan, S.
30. Biochemistry & Molecular Biology of Plants (2000) – Buchanan *et al*
31. Plant Biochemistry & Molecular Biology – Lea & Leegood.
32. Cell & Molecular Biology- Karp G.
33. Glick, B.T and Pastermak J.J (1998) Moleclar biotechnology, Principles and application of Recombinant DNA, Washington D.C. ASM press.
34. Howe.C. (1995) Gene Cloning and manioulation, Cambridge University Press, USA
35. . Lewin, B., Gene VI New York, Oxford University Press.
36. Rigby, P.W.J. (1987) Genetic Engineering Academic Press Inc. Florida, USA.
37. Sambrook et al (2000) Molecular cloning Volumes I,II, & III Cold spring Harbor Laboratory Press, New York, USA
38. Walker J.M. and Gingold, E.B. (1983) Molecular Biology & Biotechnogy (Indian Edition) Royal Society of Cemistry U.K
39. Karp.G (2002) Cell & Molecular Biology, 3rd Edition, John Wiley & Sons; INC

B.Sc Degree Examinations

Biotechnology

B.Sc. Biotechnology Theory Question Paper Pattern

Time: 3 Hrs

Max. Marks: 80

Q.No.I. Answer any **TEN** of the following $2 \times 10 = 20$

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)
- 10)
- 11)
- 12)

Q.NO.II Answer any **FOUR** of the following $4 \times 5 = 20$

- 13)
- 14)
- 15)
- 16)
- 17)
- 18)

Q.No.III. Answer any FOUR of the following	4X10= 40
19)	
20)	
21)	
22)	
23)	

RANI CHANNAMA UNIVERSITY, BELAGAVI.
B.Sc Biotechnology Practical Examination
IV Semester— MOLECULAR BIOLOGY AND BIOINFORMATICS

Time:4hrs Max. Marks – 40

Q.1. Estimate the amount ofin the given sample DNA by DPA method/ RNA by orcinol method	15mark
Q.2. Estimate the amount ofin the given sample Protein from animal source/ plant source	10mark
Q.3. Write the principle /Application of..... Conjugation/ transformation/ transduction	5marks
Q.4.Journal	5marks
Q.5.Viva-voce	5marks

3. CHEMISTRY (Optional)

B.Sc. IV SEMESTER W.E.F. 2018-19

CHEMISTRY

TEACHING HOURS : 50 HOURS

INORGANIC CHEMISTRY

Chemistry of d and f block elements

06 hours

General characteristics of d block elements- Electronic configuration, oxidation states, metallic property, colour, reactivity, reducing property, magnetic, catalytic and complex formation properties.

General characteristics of f block elements - Electronic configuration, cause and consequences of lanthanide contraction.

General features of actinides- electronic configuration, oxidation state, extraction of uranium from pitchblende.

Bioinorganic Chemistry

04 hours

Essential and trace elements in biological process, metalloporphyrins with respect to haemoglobin and chlorophyll(structure and function), biological role of Na, K, Fe and Zn.

Environmental Chemistry

07 hours

Air pollution: Types of pollutants, sources and control measures- CO, CO₂, SO_x, NO_x, H₂S, hydrocarbons, CFC's and particulates, pesticides, and their adverse effects.

Water pollution: Types of pollutants, sources and adverse effects (sewage, infectious agents, organic chemicals and inorganic mineral, oils and sediments)

Parameters of water pollution - Dissolved oxygen(DO), biological oxygen demand(BOD) and chemical oxygen demand(COD), definitions and their determinations. Treatment of sewage and industrial effluents - Preliminary, primary and secondary treatment(Aerated lagoons, trickling filters and activated sludge)

ORGANIC CHEMISTRY

Aldehydes and Ketones

05 hours

Nomenclature, structure and Bonding, mechanism of nucleophilic addition reactions-Hydrogen cyanide, hydroxyl amine, acetal formation-with ethanol and ethylene glycol.

Mechanism of the following reactions

- a) Aldol condensation
- b) Cannizzarro's reaction
- c) Claisen-Schmidt reaction

- d) Perkin's reaction
- e) Benzoin condensation
- f) Baeyer-Villiger oxidation of ketones
- g) Mannich reaction, Synthesis of Coumarin and Vanillin.

Carboxylic Acids **05 hours**

Nomenclature, structure and bonding, acid strengths of mono, di and tri-chloroacetic acids and nitro, chloro and hydroxy substituted benzoic acids, mechanism of esterification and hydrolysis of ester (Aac₂ and Bac₂).

Reactions of carboxylic acids - i) Conversion into acid derivatives(acid chlorides, amides, esters and anhydrides), ii) Curtius rearrangement, iii) Reaction with organometallic compounds and iv) Hell-Volhard-Zelinsky reaction.

Aromatic Amines **04 hours**

Classification, distinction between primary, secondary and tertiary amines by nitrous acid test, comparison of basic character of methyl amine, aniline and cyclohexylamine, amine salts as phase transfer catalysts, mechanism of Hoffmann rearrangement, Grabiell phthalimide reaction, diazotisation, synthetic applications of diazonium salts-reduction, Sandmeyer's reaction, coupling reactions.

Ethers and Epoxides **03 hours**

Ethers: Nomenclature of ethers and their methods of preparation, chemical reactions - Reaction with HI, hot and cold taking symmetric and unsymmetrical ethers.

Crown ethers: Definition, examples, use of crown ethers as phase transfer catalysts.

Epoxides: Synthesis of 1,2-epoxy ethane and 1,2-epoxycyclopentane, acid catalysed ring opening of 1,2-epoxycyclopentane in aqueous solution.

PHYSICAL CHEMISTRY

Electrochemistry **08 hours**

Debye-Hückel's theory, Debye-Hückel equation for strong electrolytes(no derivation).

Applications of conductance measurements-

- a) Determination of solubility product of sparingly soluble salts
- b) Conductometric titrations - types of acid -base titrations and precipitation titrations
- c) Determination of degree of dissociation of weak electrolytes

Ionic mobility, transport number and its determination by Hittorff's method

Chemical Kinetics **08 hours**

Second order reaction with examples, derivation of rate constant equation of second order reaction when concentration of the reactions are equal(a=b), half life period, determination of order of reaction by

- a) Differential equation method
- b) Half life method

Simple collision theory of reaction rates: Derivation of rate constants of unimolecular(Lindemann hypothesis) and bimolecular reaction rates, limitations of collision theory.

Transition state theory: Theory

Comparison of transition state theory and collision theory, steric factor.

Chemical kinetics of complex reactions-first order reaction, opposing, consecutive and parallel reactions.

REFERENCE BOOKS

Inorganic chemistry

- | | |
|---------------------------------|----------------------------|
| 1. Advanced Inorganic Chemistry | Gurdeep Raj |
| 2. Basic Inorganic Chemistry | Alber Cotton and Wilkinson |
| 3. Inorganic Chemistry | James Huheey |
| 4. Modern Inorganic Chemistry | R.D. Madan |
| 5. Inorganic Chemistry | J.D. Lee |
| 6. Environmental Chemistry | A.K. Dey |
| 7. Environmental Chemistry | H. Kour |

Organic chemistry:

- | | |
|----------------------|--------------------|
| 1. Organic Chemistry | Wade |
| 2. Organic Chemistry | I.L. Finar Vol-I |
| 3. Organic Chemistry | Morrison and Boyd |
| 4. Organic Chemistry | Bahl and Tuli |
| 5. Organic Chemistry | Bahl and Arun Bahl |

Physical chemistry

- | | |
|--------------------------|-----------|
| 1. Electrochemistry | Glasstone |
| 2. Physical Chemistry | Atkins |
| 3. Engineering Chemistry | Jain |

B.Sc. IV SEMESTER CHEMISTRY PRACTICALS

Total number of hours per week: 04

Internal Assessment=10 Marks

Total No. of hours per Semester: 52

Practicals: 40 Marks

1. Semi-micro Qualitative analysis of two simple inorganic Salts
 ANIONS : CO_3^{2-} , S^{2-} , Cl^- , Br^- , I^- , NO_3^- , SO_4^{2-} ,
 CATIONS : Pb^{+2} , Cu^{+2} , Al^{+3} , Fe^{+2} , Fe^{+3} , Mn^{+2} , Co^{+2} , Ni^{+2} , Zn^{+2} , Ca^{+2} , Ba^{+2} ,
 Mg^{+2} , Na^+ , K^+ and NH_4^+ .
2. Determination of dissolved oxygen present in water by Winkler's method.
3. Determination of C.O.D in polluted water.

4 . COMPUTER SCIENCE (Optional)

Syllabus for B.Sc. Semester – IV W.E.F 2018-19

17BScCST41: Operating System Principles

Teaching Hours: 4 Hrs/week Marks: Main Exam: 80

IA: 20

Objective: To introduce the basic concepts and functions of Operating System.

Expected Learning Outcomes:

- ³⁵/₁₇ Understand the structure and functions of operating system
- ³⁵/₁₇ Understand the various Operating system management strategies
- ³⁵/₁₇ Understand the basics of Linux operating system

UNIT I 10Hrs Introduction: Basics of Operating Systems: Definition, types of Operating Systems, OS Service, System Calls, OS structure: Layered, Monolithic, Microkernel Operating Systems – Concept of Virtual Machine.

UNIT II 10Hrs Process Management Process Definition , Process Relationship , Process states , Process State transitions , Process Control Block , Context switching , Threads, Concept of multithreads , Benefits of threads, Types of threads.

Process Scheduling: Definition, Scheduling objectives, Types of Schedulers, CPU scheduling algorithms, performance evaluation of the scheduling.

UNIT III 10Hrs

Inter-process Communication Race Conditions, Critical Section, Mutual Exclusion, Hardware Solution, Strict Alternation, Peterson's Solution, The Producer Consumer Problem, Semaphores, Event Counters, Monitors, Message Passing, and Classical IPC Problems.

Deadlocks: Definition, Deadlock characteristics, Deadlock Prevention, Deadlock Avoidance (concepts only).

UNIT IV 10Hrs Memory Management: Logical and Physical address map, Memory allocation, Internal and External fragmentation and Compaction, Paging. Virtual Memory: Demand paging, Page Replacement policies.

UNIT V 10Hrs I/O Management Principles of I/O Hardware: Disk structure, Disk scheduling algorithm

File Management: Access methods, File types, File operation, Directory structure, File System structure, Allocation methods, Free-space management, and directory implementation.

Structure of Linux Operating System, Exploring the Directory Structure, Naming Files and Directories, Concept of shell, Types of shell, Editors for shell programming (e.g. vi), basics of Shell programming.

References:

1. Silberschatz, Peter B. Galvin and Greg Gagne, Operating System Concepts, 9th Edition, Wiley Indian Edition .
2. Andrew S Tanenbaum, Modern Operating Systems, Third Edition, Prentice Hall India.
3. Sumitabha Das, UNIX Concepts and Applications, 4th Edition, Tata McGraw Hill.

Additional Reading:

4. Milankovic, Operating Systems, Tata McGraw Hill.
5. Naresh Chauhan, Principles of Operating Systems, Oxford Press.
6. D.M. Dhamdhere, Operating Systems: A concept based approach, 2nd edition, Tata McGraw Hill.

17BScCST42: Programming Lab- Linux Lab.

Practical Hours: 4 Hrs/week

Marks: Main exam: 40

IA: 10

Revisit: Understands shell concept in UNIX/Linux environment and study of Basic commands of Linux/UNIX.

Study of Advance commands and filters of Linux/UNIX.

Study of UNIX Shell and Environment Variables.

Using vi editor for writing shell scripts.

1. Write a shell script to generate mark-sheet of a student by reading five subject marks, calculate and display total marks, percentage and Class obtained by the student.
2. Write a shell script which will accept a number b and display first n prime numbers as output.
3. Write a shell script which will generate first n Fibonacci numbers
4. Write a shell script to read n numbers as command arguments and sort them in descending order.
5. Write a shell script to display all executable files, directories and zero sized files from current directory.
6. Write a shell script to check entered string is palindrome or not.
7. Shell programming using filters (including grep, egrep, fgrep)
8. Write an awk program using function, which convert each word in a given text into capital.
9. Write a program for process creation using C (Use of gcc compiler).
10. Write a shell script to determine whether a given file exists or not, file name is supplied as command line argument
11. Write a shell script to search and replace string in a file.
12. Write a shell script that accepts a list of file names as its arguments, counts and reports the occurrence of each word that is present in the first argument file on other argument files.
13. Write an awk script to count the number of lines in a file that do not contain vowels

Following shall be executed in Linux environment using gcc/similar compiler.

14. Write a C program that implements a producer-consumer system with two processes.
15. Write a C program to allow cooperating processes to lock a resource for exclusive use, using Semaphores
16. Write a C program that illustrates two processes communicating using shared memory.
17. Simulate the following CPU scheduling algorithms a.
Round Robin b) SJF c) FCFS d) Priority



RANI CHANNAMMA UNIVERSITY, BELAGAVI

18. Simulate all file allocation strategies
a) Sequential b) Indexed c) Linked
19. Simulate all page replacement algorithms
a) FIFO b) LRU c) LFU
20. Simulate Paging Technique of memory management.

5. ELECTRONICS (Optional)

B.Sc SEMESTER –IV (W.E.F .2018-19)

Total Teaching hours: 50, Teaching hours per week : 4 hours

ELE -4 : DIGITAL ELECTRONICS

UNIT – I : NUMBER SYSTEM

Introduction to binary, decimal , octal and hexadecimal number systems and their interconversion. Binary addition and subtraction, subtraction using 1's and 2' s complements. BCD (8421 code), weighted codes, Gray codes, use of XOR gate for gray to binary conversions and vice versa, Excess-3 codes, ASCII and EBCDIC

8Hrs.+2Hrs.Problems =10hrs

UNIT -II : BOOLEAN ALGEBRA AND LOGIC GATES

Introduction, Basic theorems of Boolean algebra, De Morgan's theorems. Basic logic gates ; AND, OR and NOT, Truth Tables, timing diagram. Study of NAND and NOR gates. Boolean expressions and implementation , NAND and NOR as universal gates, XOR gate. Study of DTL logic family. Realisation of Basic gates using DTL.

Pin configuration of IC 74 XX(7400, 7402, 7404, 7408, 7432, 7476, 7486).

8Hrs.+2Hrs.Problems

=10hrs

UNIT –III: SIMPLIFICATION OF BOOLEAN EXPRESSIONS AND ARITHMETIC LOGIC CIRCUITS.

Simplification of logical expressions using Boolean algebra,SOP & POS methods, standard SOP & POS, Minterm, Maxterm (2,3,4 variables). Karnaugh map (2, 3 and 4 variable map) Pair, quad and octets. Simplification of Boolean function using K-map (Overlapping groups, rolling the map, redundant group and Don't care conditions). Arithmetic logic circuits: Half adder, full adder, half subtractor and full subtractor.

8Hrs.+2Hrs.Problems =10hrs

UNIT –IV : COMBINATIONAL LOGIC CIRCUITS

Comparator, Two bit & four bit comparators, IC-7485, decimal to BCD priority encoder: IC-74147, BCD to decimal, decoder- IC 7445. BCD to 7-segment decoder-IC 7447-logic diagrams of each IC. Multiplexer – 4:1, 8:1 and 16:1 , applications of IC-74150. De-multiplexer -1:4, 1:8 and 1:16. IC-74154 and applications.

8Hrs.+2Hrs.Problems =10hrs

UNIT –V : SEQUENTIAL LOGIC CIRCUITS

Detailed analysis of RS, D, JK, T (Clocked) and Master Slave JK flip-flops, Edge triggered flip-flops , Characteristics truth table and excitation tables.

Counters; Asynchronous and synchronous counters (binary, decade and modulus counters), application of counters.

Shift registers ; Serial-in serial-out shift register (SISO), Serial-in parallel-out shift register (SIPO), Parallel-in parallel-out shift register (PIPO) and Parallel-in serial-out shift register (PISO) and application of shift register.

8Hrs.+2Hrs.Problems =10hrs

Reference Books:

- | | |
|--------------------------------------|----------------------|
| 1. Digital Fundamentals | - Floyd |
| 2. Digital Principles & Applications | - Malvino and Leech |
| 3. Digital logic and computer design | - M. Morris Mano |
| 4. Digital Electronics | -Thomas Bartee |
| 5. Digital Systems | - Tocci |
| 6. Pulse and digital circuits | - Mithal & Vanavasi |
| 7. Modern Digital Electronics | - R.P.Jain |
| 8. Digital Electronics | - R.S. Alurkar |
| 9. Digital computer electronics | - Malvino and Brown. |

LIST OF EXPERIMENTS

Lab – 4:

Each experiment is of four hours duration. Minimum EIGHT experiments are to be performed in the semester course

1. Realization of logic gates using IC-7400 (AND, OR, NOT, XOR, NOR, NAND)
2. Realization of logic gates using DTL.
3. Verification of Boolean Expressions and De Morgan's theorems using NAND gates
4. Half adder and full adder using logic gates.
5. Half subtractor and full subtractor using logic gates.
6. Gray to binary conversion and binary to gray conversion using XOR gates.
7. Multiplexer using logic gates
8. Demultiplexer using logic gates.
9. RS/ JK/ D / T flip-flop using logic gates.
10. Decade counter using JK flip-flop.
11. 4 bit up and down counters
12. Shift Registers using D-flip-Flop (Serial in – Serial out).
13. Shift Registers using D-flip-Flop (Parallel in – Parallel out).

6. Geography (Optional)

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY SEMESTER – IV THEORY PAPER-IV POPULATION GEOGRAPHY

Objectives: The objectives of this course are to understand the spatial and structural dimensions of population and emerging issues. The course is further aimed at familiarizing the students with global and regional level problems and equips them for comprehending the Indian situation.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week

Practical : 04 hours per week.

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10
IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units No.	Topic	Teaching Hours
I	Population Geography: Nature, Scope and Significance of Population Geography, Population Geography as Specialized Branch, Growth, distribution and density of population in India, Factors affecting the distribution of population.	12
II	Composition and Structure of Population: Age structure, Literacy, Sex ratio, Life expectancy, Working population and Occupational structure of population.	08
III	Human resources, optimum, over and under population, Population Pressure- causes and consequences Population Theories : Malthusian and Karl Mark's theory, Demographic Transitions and its stages.	20
IV	Population Change: Meaning and determinants of Fertility, Mortality and their consequences. Migration; definition, types, causes and consequences of	06

	migration	
V	Population policy in India, Population problems and remedial measures.	04
	Total	60 hours

Reference:

- 1 Clarke John: Population Geography
- 2 Threwartha: A Geography of Population World Pattern
- 3 Hussain M: Human Geography
- 4 Chandna: Population Geography
- 5 Siddhu and Sawant: Population Geography
- 6 Garnier B.J: Geography of population
- 7 Ghosh B.N: Fundamentals of population Geography

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B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – IV

PRACTICAL PAPER - IV

CARTOGRAPHIC REPRESENTATION OF GEOGRAPHICAL DATA

Units	Topic	Teaching Hours
I	Relevance of Representation of Population, Statistical & Geographical Data	03
II	Graphical representation of Data: Bar Graphs: Single, Double, Multiple, Compound, Band Graph and their Interpretation. Line Graphs: Single, Double, Multiple Line Graphs, Climograph, Hythergraph, Ergo Graph, Pyramid Graph and their Interpretation.	15
III	Diagrammatic representation of data: Pie Diagram, Block Pile, Sphere Diagram, Wind Rose and their Interpretation	06

IV	Maps: Dot Maps, Choropleth, Isopleth Maps and their Interpretation	06
V	Located Map Diagrams: Pie, Proportional Circles, Spheres & Block Diagrams (Note: By selecting suitable data at talukas in the district/districts in the state has to be represented by selecting these diagrams on the map.)	10
	Viva	
	Total	40 hours

(Note: for each practical exercises the staff in charge has to provide the suitable data, outline maps and graphs to the students in regular practical classes)

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganat: Practical Geography (Kannada Version)
4. Singh and Kanoj: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karennavar & S. S. Nanjannavar: Practical Geography
7. M .F. Karennavar & S. S. Nanjannavar: Practical Geography (Kannada Version)
8. Pijushkanti Saha & Partha Basu: Advanced Practical Geography

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7. GEOLOGY (Optional)

SEMESTER IV

W.E.F 2018-19

PALEONTOLOGY, STRATIGRAPHY & INDIAN STRATIGRAPHY

Max. Marks: 80

Total teaching hours: 50 (4 hrs/week)

UNI T	TOPIC	Hrs
	PALEONTOLOGY	
I	<p>Introduction: Fossil Definition, Mode of fossilisation- mummification, permineralisation, petrifaction, carbonisation, mould and cast, imprints, tracks and trails. Significance of fossil</p> <p>General morphological characters, description, and geological distribution of following phyla in brief:</p> <ul style="list-style-type: none"> i. Phylum Protozoa- Foraminifera. ii. Phylum Cœlenterata- class Anthozoa, typical coral; class Graptolitoidea – Monograptus and Diplograptus. 	10
II	<p>General morphological characters, description, and geological distribution of following phyla in brief:</p> <ul style="list-style-type: none"> iii. Phylum Brachiopoda- Types of hinge line and distinguishing characters. iv. Phylum Echinodermata- Regularia and Irregularia <p>General morphological characters, description, and geological distribution of following phylum in brief:</p> <ul style="list-style-type: none"> v. Phylum Mollusca: class Lamellibranchs; class Gastropoda; class Cephalopoda- Nautiloidea and Ammonoidea- types of suture lines (simple, Goniatic, Ceratic and Ammonitic) vi. Phylum Arthropoda: class Crustacea- Trilobites 	10
	PRINCIPLES OF STRATIGRAPHY	
III	<p>Introduction: Definition, Uniformitarianism, Catastrophism, Order of superposition.</p> <p>Correlation and correlation methods- Petrological and paleontological.</p> <p>Geological Time Scale: Important Geological events (climate, life and mountain building) in brief during- Paleozoic, Mesozoic and Cenozoic era.</p>	10
	INDIAN STRATIGRAPHY	
IV	<p>Brief account of physiographic divisions of India- Peninsular, extra peninsular and indo-Gangetic alluvial plains.</p> <p>Petrology, classification and economic importance of- Archaeans of Karnataka.</p> <p>Cuddappah system of Andhra Pradesh and its equivalents in Karnataka- Kaladgi series</p>	10
V	<p>Petrology, classification and economic importance of- Vindhyan system.</p> <p>Petrology, classification and economic importance of- Gondwana system with flora and fauna</p> <p>Petrology, classification and economic importance of- Deccan traps- Inter trapeans, infra trapeans, bagh and lameta beds.</p> <p>Jurassic of Kutch, Triassic of Kashmir and Cretaceous of Trichinopoly.</p>	10

PRACTICAL
PALEONTOLOGY AND INDIAN STRATIGRAPHY

Max. Marks: 40

Time: 4 hrs/week

Total 50 hrs

A. PALEONTOLOGY

1. Sketch, label and describe with range in time of the following fossils.
 - i) **Phylum Protozoa:** Nummulites, Textularia
 - ii) **Phylum Coelenterata-** Monograptus-Diplograptus; Corals- Calceola, Zaphrentis, Montlivaltia.
 - iii) **Phylum Echinoderma:** Cidaris and Micraster
 - iv) **Phylum Brachiopoda:** Productus, Spirifer, Rhynchonella, Terebratula.
 - v) **Phylum Mollusca:** Class Lamellibranchia- Arca, Pecten, Gryphaea; Class Gastropoda- Natica, Turitella, Turbo, Cypraea, Murex, Conus, Voluta, Fusus, Physa. Class Cephalopoda- Nautilus, Goniatite, Ceratite, Ammonite, Belemnites.
 - vi) **Phylum Arthropoda:** Paradoxides, Calymene, Trinucleus.
 - vii) **Plant Fossils:** General descriptions of plant fossils- Glossopteris, Gangamopteris; Ptyllophyllum, Calamites, Lepidodendron and Sigillaria.

B. INDIAN STRATIGRAPHY

Plotting of following important geological systems/formations in the given map of India:

- i. Physiographic divisions – Peninsula, Extra peninsula, Indo-gangetic alluvial plain.
- ii. Cuddappah
- iii. Deccan Volcanic Province
- iv. Kaladgi
- v. Vindhya
- vi. Gondwana
- vii. Cretaceous of Trichinopoly

TEXT BOOKS

1. Invertebrate paleontology - Henry Woods
2. An introduction to Palaeobotany- Arnold, C.A.,
4. Principles of Paleontology, - Raup, D.M. and Staneley, M.S
5. Invertebrate Fossils - Moore , R.C., Laliker , C.G
6. Geology of India and Burma - Krishnan M.S
7. Geology of India - Wadia D.N
8. Stratigraphy of India- Ravindrakumar K.R.
9. Principles of Stratigraphy - Lemon R.Y
10. A manual of the Geology India and Burma - Pascoe, E.H.
11. General Stratigraphy - J.W. and Barret B.H
12. Historical Geology – Dunbar
13. Geology of India – M Ramakrishnan & R Vaidynadhan,

8. MICROBIOLOGY (Optional)

RANI CHENNAMMA UNIVERSITY, BELGAVI

COURSE STRUCTURE AND SCHEME OF EXAMINATION FOR (SEMESTER) IN MICROBIOLOGY

(WITH EFFECT FROM 2018-19)

semester	Paper Title	Instruction Hrs per week		Examination Marks		Internal Assessment Marks		Duration of Examination Hrs		Total Marks
		Theory	Practical	Theory	Practical	Theory	Practical	Theory	Practical	
IV	Paper 4.1 Molecular Biology and Genetic Engineering	4		80		20		3		150
	Practical 4.2 Molecular Biology and Genetic Engineering		4		40		10		4	

PAPER -4.1 MOLECULAR BIOLOGY AND GENETIC ENGINEERING

Total hours allotted-50

Total hours allotted-25

Part-A MOLECULAR BIOLOGY

- | | |
|---|-----------------|
| 1. Molecular basis of life | 1-Hour |
| 2. An introduction, Experiment proof of DNA and RNA as genetic material. | 2-Hours |
|
 | |
| 3. DNA damage and Repair | |
| Causes of DNA damage,Repair machenisms(Photoreactivation, Excision repair, Mismatch repair & SOS repair) . | 5-Hours |
|
 | |
| 4. Transcription : | |
| Process of transcription, transcription Factor, Post transcriptional modification in prokaryotes and Eukaryotes. | 5-Hours |
|
 | |
| 5. Translation : | |
| Initiation, elongation and termination of protein synthesis, translational factors in prokaryotes and eukaryotes. | 5- Hours |
|
 | |
| 6. Regulation of Gene expression. | |
| Regulation of Gene expression in prokaryotes (operon concept) and eukaryotes (Galactose metabolism in Yeast). | 4- Hours |
|
 | |
| 7. Gene organization and expression in mitochondria and chloroplasts. | |
| | 3- Hours |

Part-B GENETIC ENGINEERING

Total hours allotted-25

- | | |
|---|----------------|
| 1. Introduction and scope of genetic engineering. | 1-Hours |
|
 | |
| 2. Tools of genetic engineering. | |
| a. Modifying enzymes: Restriction enzymes,ligases, Methylases | |
| b. Cloning vehicles: Naturally occurring plasmids,coloning | |

plasmids(PBR322 and PUC18),Viruses as cloning vehicle(DNA,M13),Hybrid vectors(cosmids,YAC)

- c. Cloning hosts: E.coli.

7-Hours

3. Techniques in Genetic enginnering:

- a. In vitro construction of r-DNA molecules: Isolation of DNA from bacteria(gene of interest) and isolation of vector DNA(Bacteria).
- b. Cutting of DNA molecules:Physical methods,enzymatic methods and joining of DNA molecules:Homopolymertails,Linkers,adapters.
- c. Transformation of r-DNA into target host organisms: Calcium chloride mediated gene transfer,Agro bacterium mediated DNA transfer, Electroporation and Micoinjection.
- d. Screening and selection of recombinant host cells: Insertional inactivation,In situ colony / DNA hybridization and immunological techniques.
- e. Gene libraries: Genomic DNA &c-DNA cloning techniques.
- f. DNA finger printing and its applications. **9 Hours**

4. Applications of Genetic Engineering

- a. Medicine-Gene therapy
 - b. Agriculture-Nif gene
- 3 Hours**
- 5. Potential hazards and safe guards of genetic enginnering.
 - 6. Biotechnology programmes and regulations: **2 Hours**

Role of international organizations in Biotechnology,
Governmental regulations of recombinant DNA research for

disposal of Bio-hazardous material, Patenting of Bio-technological processes, products and patent laws.

3 hours

PRACTICAL-4.2 Molecular Biology and Genetic Engineering

1. Preparations of Buffer-Citrate and Phosphate.
2. Preparation of RNA by orcinol method.
3. Extraction and estimation of DNA by Diphenylamine method.
4. Extraction and estimation of protein from animal/ plant source by salt precipitation and organic solvent method.
5. Restriction Digestion of DNA.
6. In vitro DNA ligation.
7. Study of DNA finger printing (chart).
8. Study of gene cloning(chart)
 - a. PBR322
 - b. PUC18 and 19
 - c. SV40
 - d. Bacteriophages
 - e. Selection of recombinants by replica plate Techniques.

REFERENCES:

1. Brown,T.A.1998 “Genetics- A molecular approach” 3rd edn.Stanely Thornes Ltd.U.K.
2. Colwod,D 1999 “Microbial Diversity” Academic Press.
3. Davis R.W.W Botstein,D and Rogth,J.R.(1980):A manual for Genetic Engineering” Coldspring harbor Laboratory. Cold spring Horbor New York.
4. Dr Robertis, EDP and De Robertis E.M.S. 1988 “Cell and Molecular Biology” Lea and leliger philadelphiae K.M.Vakghese

Co.

5. Gerald Karp "Cell Biology" McGraw Hill Book Co. New York.
6. Gillor.B.R.And Pasternak.J.J.1994 "Molecular Biotechnology Principles and Applications of Recombinant DNA American Society for Microbiology, Washington DC.
7. Nichol, D S F 1994 "An introduction to Genetic Engineering" Cambridge University Press.
8. Peters P 1993 "A Guide to Genetic Engineering" Dubuque Iowa WMC Brown.
9. Rigbu P.W.J 1987 "Genetic Engineering- VI Academic Press Inc, Florids,USA.
10. Salle. A.J. "Fundamentals Principles of Bacteriology" Tata McGraw Hill Publishing Company Ltd. New Delhi.
11. Smith "Molecular Biology" Faber and Faber Publications.
12. Stainer, R. Y. Ingraham J.L. "General Microbiology" Prentice Hall of India Pvt.Ltd.,New Delhi.
13. Watson James D "Recombinant DNA" Scientific American Books, New York.

9. MATHEMATICS (Optional) – IV Sem

MATHEMATICS SYLLABUS FOR THE ACADEMIC YEAR 2015-2016 ONWARDS

B.SC IV SEMESTER

PAPER I :VECTOR CALCULUS AND INFINITE SERIES

TOTAL TEACHING HOURS: 50 TEACHING HOURS PER WEEK: 05

UNIT-I

Dot and cross product of vectors, Ordinary derivatives of vectors. Continuity and differentiability of a vector function. Derivatives of sum. Dot product, Cross product and Triple product of vectors. Constant vector functions, Partial

differentiation of vector functions.

10 Hours

UNIT-II

The vector differential operator del. The gradient of a scalar point function, The directional derivative of function. Properties of gradient of vector function. Divergence and Curl of a vector point function. Properties of divergence and curl.

10 Hours

UNIT-III

Infinite series I: Infinite series and examples. Convergent, Divergent and Oscillatory series. Partial sum of series. Series of non-negative terms, Necessary and sufficient condition for convergence, Cauchy's general principle of convergence. Geometric series. The P-series(Harmonic), Comparison tests (different forms). **10 Hours**

UNIT-IV

Infinite series II: D'Alembert's ratio test, Raabe's test, Cauchy's integral test and Root test.

10 Hours

Infinite series III: Absolute convergence and conditional convergence of series. Alternating series, Leibnitz theorem, Uniform convergence.

10

Hours

References:

- (1) Murray R. Spiegel: VECTOR ANALYSIS.
- (2) WalterRudin: Principles of Mathematical analysis.
- (3) N. P. Bali: Real Analysis.
- (4) Shanti Narayana: Mathematical Analysis.
- (5) G. K. Ranganath: Textbook of B.Sc. Mathematics.
- (6) N. Rudraiah and others: College Mathematics.

B.SC IV SEMESTER

PAPER II: GROUP THEORY, FOURIER SERIES AND DIFFERENTIAL EQUATIONS

TOTAL TEACHING HOURS: 50 TEACHING HOURS PER WEEK: 05

UNIT-I

Group Theory III: Normal sub-groups, Quotient groups. Homomorphism and

Isomorphism of groups. Kernel of Homomorphism. Fundamental theorem of Homomorphism. **10 Hours**

UNIT-II

Fourier series: Periodic functions, Fourier series of functions of period 2π and $2l$. Fourier series of odd and even functions, half range sine and cosine series.

10 Hours

UNIT-III

Fourier transforms: Finite sine and Cosine transforms. **10 Hours**

UNIT-IV

Differential Equations III: Linear differential equation of n^{th} order with constant co-efficients. Particular integral when RHS is of the form e^{ax} , $\sin ax$, $\cos ax$, x^n , $e^{ax}v$ and xv

where v is function of x .

10 Hours

UNIT-V

Differential Equations IV: Homogeneous linear differential equation of n^{th} order and Equation reducible to the homogeneous linear form, higher order exact differential equations.

References:

- (1) Herstein I. N: Topics in Algebra.
- (2) N. P. Bali: Differential equations.
- (3) Shanti Narayana: Mathematical Analysis.
- (4) G. K. Ranganath: Textbook of B.Sc. Mathematics.
- (5) N. Rudraiah and others: College Mathematics.

MATHEMATICS SYLLABUS FOR THE ACADEMIC YEAR 2015-2016

ONWARDS Distribution of Marks

Unit	2 Marks	5 Marks	10 Marks	Total
I	3	1	1	21
II	3	1	1	21
III	2	2	1	24
IV	2	2	1	24
V	12 (24 ² Marks)	8 (40 ²)	1	24

10. PHYSICS (Optional)

PHYSICS (Optional)

Physics 4.1: PHYSICAL OPTICS AND ELECTRICITY II. (Total Hours : 50)

17BSCPHYT41

UNIT – I

INTERFERENCE

Interference due to division of wave front: Fresnel's bi-prism- Determination of wavelength of monochromatic light.

Interference due to division of amplitude: Stokes' treatment of reflection and transmission at interface.

Thin Films, Conditions for maxima and minima in case of reflected light (derivation). Multiple reflections. Mention of conditions for maxima and minima in case of transmitted light. Theory of Newton's Rings (derivation).

Michelson's Interferometer: Construction and working ,Formation of circular and straight fringes (qualitative). Determination of wavelength of monochromatic light.

Problems.

(8 + 2 = 10 hours)

UNIT – II

DIFFRACTION

Fresnel's class:

Fresnel's theory of half-period zones considering plane waves. rectilinear propagation of light. Zone plate: Construction, theory, expression for focal length.

Problems.

(3 + 1 = 4 hours

)

Fraunhoffer class:

Comparison of Fresnel and Fraunhoffer class of defractions. Composition of 'n' number of SHMs of same amplitude and period having their phases increasing in arithmetic progression. Diffraction at Single Slit. Plane Transmission grating and its theory, Dispersive power of grating. Resolving power of prism and grating (derivation).

Problems.

(5 + 1 = 6 hours)

UNIT – III

POLARISATION:

Analytical treatment of circularly and elliptically polarized light. Huygens theory of double refraction, Positive and negative crystals. Retardation Plates.

Quarter wave plate, Half wave plate, Production and Analysis of plane, circularly and elliptically polarized light.

Optical activity:

Fresnel's theory of rotatory polarization (qualitative),
Laurent's half shade polarimeter, optical activity, specific rotation.

Problems.

(6 + 1 = 7 hours)

ALTERNATING CURRENT:

Operator 'j'. Argand diagram. LCR series circuit.-Expression for current, impedance and Phase (using 'j' operator method). Condition for resonance frequency, band width, quality factor and their relation (qualitative).

LCR parallel circuit- Expression for admittance and condition for Resonance (using 'j' operator method).

Problems.

(5 + 1 = 6 hours)

UNIT – IV

THERMO-ELECTRICITY:

Seebeck Effect and its explanation. Variation of emf with temperature, Neutral Temperature and Temperature of inversion. Thermo-electric Series. Laws of Thermo-Electric effects. Peltier Effect-explanation. Peltier's Coefficients and thermodynamics of Peltier's Effect. Thomson Effect - explanation. Thomson Coefficient.

Derivation of the relation $\pi = -T \frac{dE}{dT}$ and $\sigma_a - \sigma_b = T \frac{d^2e}{dT^2}$

Thermo-Electric (Tait) diagrams, its applications to determine,

- 1. Total emf,**
- 2. Peltier emf,**
- 3. Thomson emf**
- 4. Neutral temperature and**
- 5. Temperature of inversion.**

Problems.

(8 + 2 = 10 hours)

UNIT – V

ELECTROMAGNETIC THEORY:

Mathematical background: gradient of scalar, divergence and curl of vector and their physical significance. Gauss Law, Stokes' and Green's Theorem (without proof).

Maxwell's equations:

Derivation of Maxwell's equations in differential forms. Mention of integral forms and their physical significance. Derivation of general Plane Wave equations in free space. Transverse nature of radiation. Poynting theorem (derivation).

PHYSICS 4.2 LAB – IV

performed.

17BSCPHYP42

(7 hours)

LIST OF EXPERIMENTS

1. LCR Series Resonance Circuit.
2. LCR Parallel Resonance Circuit.
3. Comparison of Capacity by De Sauty's method.
4. Determination of L and C by equal voltage method.
5. Newton's Rings.
6. Fresnel's Bi-prism – Determination of Wavelength of monochromatic light.
7. Resolving Power of Telescope.
8. Resolving Power of Grating.
9. Resolving Power of Prism.
10. Thermo-Electric power of thermo-couple.
11. Determination of Wavelength of monochromatic light by Single Slit/
a. plane transmission grating
12. Polarimeter.

NOTE:

1. Experiments are of Four hours duration.
2. Minimum of Eight experiments to be

REFERENCE BOOKS:

1. Principles of Optics (I-Edition) – B.K.Mathur (New Gopal Printing Press, 1962).
2. Fundamentals of Optics (V-Edition) – Khanna and Bedi (R.Chand, New Delhi 1971).
3. A text book of Optics (I-Edition) – Brij lal and Subramanyam (S.Chand).
4. Optics (IV-Edition) – Ajoy Ghatak (Tata McGraw Hill, 2006).
5. Fundamentals of Optics (III Edition) – Jenkins White (Tata McGraw Hill,1957).
6. Fundamentals of Optics – Khanna & Gulati.
7. Geometrical Optics (I-Edition) – D.P.Acharya (Oxford & IBH Pub. Co., 1970).
8. Optics and Spectroscopy (VI Edition) – Murugesan, Kiruthiga and ShivaPrasad (S.Chand).
9. Geometrical Optics – A. Verstraetin.
10. Fundamentals of Electricity and Magnetism – Basudev Ghosh (Books & Allied New Central Book Agency, Calcutta, 2009).
11. Electricity and Magnetism – D.N.Vasudev (S.Chand).
12. Electricity and Magnetism – B.S.Agarwal (S.Chand).
13. Electricity and Magnetism – Brij lal and Subramanyam.
14. Electricity and Magnetism and Atomic Physics (Vol-I) – John Yarwood.
15. Electricity and Magnetism – A.N.Matveer (Mir Pub., 1986)
16. Introduction to Electrodynamics – D.J.Griffiths (III Edition), Prentice Hall India.
17. Vector Analysis – Hague.
18. Electricity and Magnetism – D.Chatopadhyay and Rakshit.
19. Electricity and Magnetism with Electronics – K.K.Tewari (S.Chand).
20. Fundamentals of Electricity and Magnetism – D.N.Vasudev.
21. Electricity and Magnetism – Sehgal and Chopra.
22. University Physics (XI Edition) – Yound & Freedom (Pearson Education, 2004).
23. Classical electrodynamics by A. D. Jackson.

11. STATISTICS (optional)

**B.A/ B.Sc. COURSE IN STATISTICS (OPTIONAL)
W.E.F 2018-19
FOURTH SEMESTER: THEORY PAPER**

Total: 50 Hours.

STTH-4: STATISTICAL INFERENCE.

Unit: 1. Point Estimation:

Concept of parameter, estimator, estimate and standard error of an estimator. Consistency - definition and criteria for consistency, Invariance property of consistency, Proof of Sufficient condition for consistency using Chebyshev's inequality. Unbiased ness, Mean squared error as a criterion for comparing estimators. Relative efficiency. Most efficient estimator, Minimum variance unbiased estimator (MVUE). Sufficient statistic. Neyman - Factorization theorem with proof.(discrete case) Measure of information - Fisher information function. Cramer - Rao inequality (without proof) and its applications in the construction of minimum variance unbiased estimators.

10 Hours

Unit: 2. Methods of estimation:

Maximum likelihood and Moment methods. Standard examples. Illustration for non uniqueness of MLE's. Properties of MLE and MME. Examples illustrating properties of MLE.

10 Hours

Unit: 3. Interval Estimation:

Meaning of confidence interval. Confidence coefficient. Confidence intervals for mean, difference between means for large and small samples, Confidence intervals for a proportion and difference between two proportions for large samples.

10 Hours

Unit: 4. Testing of Statistical Hypothesis:

Simple and composite hypotheses, Size and power of a test. Most Powerful (MP) test. Uniformly Most Powerful (UMP) test, Statement and proof of Neyman -Pearson Lemma and its use in the construction of Most Powerful test. Standard examples for computation of size and power of a test. Standard examples on NP Lemma.

10 Hours

Unit: 5. UMP and Likelihood Ratio Tests:

Monotone likelihood ratio (MLR) Property. Uniform most powerful (UMP) test. Statement of the theorem of UMP tests for testing one sided hypothesis for distribution with MLR property. Likelihood ratio test (LRT). Large sample approximations to the distribution of the likelihood ratio statistics (without proof). LRT for single mean for normal case (large and small samples).

10 Hours

FOURTH SEMESTER:

STPR-4: PRACTICAL PAPER.

1. Comparison of Estimators by plotting Mean square error.
2. Estimation of Parameters: Maximum Likelihood Method-I
3. Estimation of Parameters: Maximum Likelihood Method-II
4. Estimation of Parameters: Method of Moments.
5. Evaluation of Type-I & Type-II errors and Power of tests (Based on Bonomial, Poisson, Uniform & Normal Distributions).
6. Construction of M.P-tests and computations of power of tests based on Bonomial, Poisson& Normal Distributions.
7. Construction of M.P-tests and computations of power of tests based on Bonomial, Poisson& Normal Distributions.

Books for study:

1. Hogg .R.V.and Craig.A.T(1978):Introduction to Mathematical Statistics.-4/e Macmillan .
2. Goon AM, Gupta M.K., Das Gupta.B.(1991): Fundamentals of Statistics Vol-I World Press Kolkatta.
3. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons' publications.
4. Mood.A.M.,Graybill.F A. and Boes D.C.(1974): Introduction to the Theory of Statistics. McGrawHill.
5. Mukyopadhyay.P.(1996) .Mathematical Statistics.-Kolkotta Publishing House.

.Books for Reference:

1. Rohatgi.V.K. and A.K.Md.Ehsanes Saleh (2002):An introduction to probability theory and Mathematical Statistics. John Wiley.
2. Murry R.Speigel (1982): Theory & Problems of Statistics, Schaum's publishing Series.
3. P.G.Hoel (1971): Introduction to Mathematical Statistics, Asia publishing house.
4. Dudewicz EJ and Mishra S.N (1980): Modern Mathematical Statistics-John Wiley.
5. Kale B.K(1999):A First Course on Parametric Inference,Narosa.

11.ZOOLOGY (Optional)

**BSc IV Semester Scheme (CBSC - Pattern)
Zoology (Optional) Syllabus(Revised)
2018 -19 Onwards**

Semesters	Syllabus	Total Hours	Theory & Practical/ Week
IV	Cell Biology, Histology & Animal Behaviors	50hrs.	4 hrs.
	PRACTICAL	12	4 hrs.

NOTE:

THEORY MARKS			PRACTICAL MARKS		
Internal	Annual	Total Marks	Internal	Annual	Total Marks
20	80	100 marks	10	40	50 marks

Question paper pattern for THEORY examination

Que.No.	Marks	Solve	Total Marks
I	02	10	20
II	04	05	20
III	10	04	40
TOTAL --- 80 MARKS			

PRACTICAL pattern for examination

Que.No.	Solve	Total Marks
I	Make a temporary preparation of Histology slide.	10
II	Make a temporary squash preparation of Onion root tip/Grasshopper Testis/Onion flower bud	08
III	Identification (6X2)	12
IV	Field study report & viva	05
V	Journal	05
TOTAL --- 40 MARKS		

**B.Sc IV Semester Syllabus Revised (2018-19) Onwards
ZOOLOGY (Optional)**

Total Marks--80

Cell Biology, Histology & Animal Behaviors

Total Teaching--50hrs.

UNIT-I Cell Biology

Cell Biology: Ultra structure of animal cell, Cell theory & cell cycle. 1hr

Ultra Structure & function of cell organelles: Plasma membrane, Endoplasmic reticulum, Ribosome's, Golgi-complex, Lysosomes, Mitochondria and Nucleus. **8hrs**

UNIT-II Cell Biology

Chromosomes: Structure & types of chromosomes. Ultra structure of chromosome. 2hrs

Cell division: Types- mitosis & meiosis. 2hrs

Cellular Aging & Cell Death: Concept of Aging theories, Effect of Aging on Cell organelles. Apoptosis, Necrosis-Definition & significance.

Cancer Biology: Introduction, Characteristics of cancer cells. 3hrs

Carcinogens, cause & prevention.

UNIT-III Histology

Histo chemical Techniques: Cytoplasmic & Nuclear stains.

Preparation of histological slides.

A). Study of histological structure and functions of the following Mammalian organs. **8hrs**

- a). Tongue
 - b). Salivary glands
 - c). Stomach
 - d). Intestine
 - e). Liver
 - f). Kidney

UNIT-IV Histology

B). Study of histological structure and Endocrine functions of the following Mammalian organs 9hrs

- a) Pituitary b) Pancreas c) Adrenal d) Thyroid
e) Parathyroid f) Thymus g) Testes h) Ovary

UNIT-V Ethology (Animal Behaviour)

Ethology: Introduction Definition, Scope of ethology. Brief Contributions of Konrad Lorenz, Niko Tinbergen and Karl Von Frisch. **2hrs**

Types of Animal Behaviour: 7hrs

- 1). **Innate Behaviour:** Taxes, Reflexes, Instincts & Motivation.
 - 2). **Learned Behaviour:** Habituation, Imprinting, Conditioned, Reflexes and Insight learning.
 - 3). **Social behaviour:** Types of animal society & Colony in Honey Bees and Monkey troops.
 - 4). **Territoriality & Courtship Behaviour** in Scorpion, Stickle Back Fish & Peacock.
 - 5). **Study of nesting** behavior and mimicry in animal.
 - 6). **Biological clock**, Circadian rhythm and Chronobiology.

Animal Communication: Chemical, visual and Audio. Function of

Signals odours, sounds and light. Parental care: Concepts, Fishes, Amphibians and Birds.	2hrs 3hrs
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PRACTICALS

		Total Practicals-12 hrs
1)	Study of permanent cytology slides of Mitosis & Meiosis.	2hrs
2)	Study of temporary preparation of Mitotic stages from onion Root tip cells.	2hrs
3)	Study of temporary preparation of Meiotic stages from onion Flower bud/Grass Hooper testis.	2hrs
4)	Preparation and observation of permanent histological slides Stomach, Intestine, Liver, Pancreas, Kidney, Adrenal Thyroid, Testis & Ovary.	4hrs
5)	Study of mimicry in leaf insect, Chameleon, Butterflies, Stick Insect, Ants, Wasps and Spiders.	1hr
6)	Study of Nest and nesting material.	1hr
7)	Internal Practical Test	1hr

NOTE:

1. With the help of Charts/Models/Diagrams/Printouts & Xerox Sheets are used in practical demonstration
2. Compulsory field visit to study Mimicry, Habitats and Community.
3. Submission of field visit report carries 5 marks.

REFERENCE BOOKS

1. Introduction to Histology. Gauba R.K. Tata Mc Graw Hill New Delhi.
2. Cells and Tissues: Introduction to Histology ND Cells :Rogers:A.W. AcademicPress .
3. Basic medical Histology :Biology of cells & tissues & organs Kessel R.G. oupNew York.
4. Text Book of Histology :Bloom and Fawcett.Saunders Publ.Philadelphia.
5. Bailey's Text Book of Histology.Bailee Baltimore,Willims and Wilkins.
6. Text Book of Ecology : Odum.
7. Introduction to animal behavior:Aubrey Manning and Marian.S.DawkinsCambridge Uni Press.
- 8.Essentials of organizational behavior:Stephan Robbins,Prentice Hall of IndiaNew Delhi.
9. Animal Behaviour :McFarland D ELBS with Longman.
10. Ethology " Barnett.
11. An introduction to Behavioural Ecology J.R. Krebs & N.B. Davies Black wellScientific Publ.
12. Text Book of Animal Behaviour: Fatik Baran mandal. PHI Learning Pvt Ltd newDelhi.
13. Animal Behaviour :Reena Mathur,Rastogi and Coimpani.
14. Cell Biology -Chennarayappa – Unniversity Press

15. Cell & Molecular Biology - P. K. Gupta , Rastogi Publishers,
New Delhi
16. Cytology- Verma & Agrawal,S.Chand & Co.Publisher
17. Concepts of Cell Biology- Verma & Agrawal,S.Chand & Co Publisher
18. Cell & Molecular Biology- De Robertes & De Robertes
19. Cytology - C.B.Pawar,Himalaya Publisher House, Bombay.
20. Molecular Cell Biology: Harvey Lodish,David Baltimore et

GROUP- III

Computer Applications

**Revised syllabus of BA/BSW/BSc/ IV Semester Computer Applications
(Compulsory Paper) w.e.f 2017-18 and onwards (Under Group-1'IT (Fourth Semester))**

Computer Applications (Compulsory Paper)

Teaching Hours: 4 Hrs/week

Marks: Main Exam: 80

IA: 20

UNIT I 12Hrs

Introduction: Computer, data processing, characteristic features of computers, computer evolution to present form, computer generation.

Basic computer organization: Basic operations performed by computers, basic organization of computer system, input units and its functions, output units and its functions, storage units and its functions, types of storage.

Number systems: non-positional number system, positional number system, decimal, binary, octal, and hexadecimal number systems. Conversion from decimal to binary and vice-versa for integer numbers only

Computer Codes: Computer data, computer codes: representation of data in binary, commonly used computer codes, collating sequence

UNIT II 08Hrs

Processor and memory: Internal structure of processor, memory structure, types of processors, main memory organization, random access memory, read only memory, cache memory.

Secondary storage: secondary storage devices and their needs, commonly used secondary storage devices, sequential and direct access storage devices, basic principles of commonly used secondary storage devices (magnetic disk, optical disk, flash drives, memory card, disk array).

IO devices: commonly used input output(IO) devices.

UNIT III 10Hrs

Software: Software and its relationship with hardware, types of softwares, relationship among hardware, system software, application software and users of computer systems, steps involved in software development, firmware, middleware.

Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system.

UNIT IV 12Hrs

Overview of Networking: An introduction to computer networking, Network types (LAN, WAN, MAN), Network topologies, Modes of data transmission, Forms of data transmission, Transmission channels (media).

Fundamentals of Electronic Mail: Basic email facts, Email advantages and disadvantages, Email addresses, passwords, and userids, , Mailer features, Email inner workings, Email management, Multipurpose Internet Mail Extensions (MIME).

Browsing and Publishing: Browser Bare Bones, Coast-to-Coast Surfing, Hypertext Markup Language: Introduction, Web Page Installation, Web Page Setup HTML, HTML Formatting and Hyperlink Creation.

UNIT V 08Hrs

The Internet: What is the Internet?, The Internet Defined, Internet History, The Way the Internet Works, Internet Congestion, Internet Culture, Business Culture and the Internet, Collaborative Computing and the Internet.

The World Wide Web: The World Wide Web Defined, Web Browser Details, Web Writing Styles, Web Presentation Outline, Design, and Management, Registering Web Pages, Lynx: Text-Based Web Browser. Searching the World Wide Web: Directories, Search Engines, and Metasearch Engines, Search Fundamentals, Search Strategies.Telnet and FTP: Telnet and Remote Login, File Transfer, Computer Viruses.

References:

1. P. K. Sinha and Priti Sinha, Computer Fundamentals, Sixth Edition, BPB publications.
2. Rajaraman V., Introduction to Information Technology, 2ndEdition,PHI
3. S. K. Basandra, Computers Today ,Galgotia Publications.
4. Xavier, C “Introduction to Computers and Basic Programming” New age International.
5. Rajaraman, V., Adabala, Neeharika, Fundamentals of Computers, PHI
6. Raymond Greenlaw, , Ellen Hepp, Inline/Online: Fundamentals of the Internet and the World Wide Web, 2/e, McGraw Hill Education;
7. Dietil and Dietil, Nieto, Internet and world wide web programming, Pearson Education
8. Sai Satish, Yash Patel, Srinivas Rao, LokeshReddy,Exploring Internet, Jai Sharma, Indian Servers
9. Gill, Nasib Singh: Essentials of Computer and Network Technology, Khanna Books Publishing Co., New Delhi
10. Norton, Peter, Introduction to Computer, McGraw-Hill.

Question Paper Pattern

Max. Marks: 80 Duration - 3 Hours.

Theory question paper pattern:-		Remarks
Question	Marks	
SECTION A Q1. Answer all the questions 10 sub questions (a-j)	$2 \times 10 = 20$	ability to write short answers upto 150 words
SECTION B Q2. through Q6: Answer any four questions	$4 \times 5 = 20$	ability to write answers upto 500 word
SECTION C Q7. through Q11: Answer any four questions	$4 \times 10 = 40$	ability to write descriptive answers

Note: For Section-B, one question from each unit shall be considered. For Section-C, one question from each unit shall be considered.

Note: *Guidelines given by the University from time-to-time shall be followed for IA.*



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.A**

II Semester

w.e.f.

Academic Year 2016-17 and Onwards

BACHELOR OF ARTS (B.A)

GROUP -1 (LANGUAGES)

1. English Basic :

Detailed Syllabus for BA / BSW / BA in CCJ (With effect from 2016-17 onwards)

Semester – II: Basic English Teaching Hours: 5 Hours per week

Prose

1. Spoken English and Broken English – G. B. Shaw
2. Dream Children – Charles Lamb
3. On Sawing Wood – A. G. Gardiner
4. Civilization and Justice – S. Radhakrishnan
5. True Education – Swami Vivekanand

Poetry

1. The World is too much with Us – William Wordsworth
2. Quality of Mercy – William Shakespeare
3. Lochinvar – Walter Scott
4. Mending Wall – Robert Frost
5. Good Bye Party to Miss Pushpa T.S. – Nissim Ezekiel

Grammar and Composition

1. Use of forms BE, DO and HAVE
2. Use of Possessive Adjectives/Pronouns
3. Transformation of sentences: Remove ‘too... to’/use ‘so... that’ (vice versa), Remove ‘if’/use ‘unless’ (vice versa), Remove ‘As soon as’/use ‘No sooner...than’ (vice versa)

Change the assertive sentence into exclamatory without changing the meaning (vice versa)

4. Degrees of Comparison
5. Framing Wh- Questions
6. Comprehension

Pattern of Question Paper

(80 Marks paper of three hours and 20 Marks for I.A)

1) Objective type questions (Five each from Prose & Poetry)	10X1= 10
2) Essay type question on Prose (One out of Two)	10
3) Short Notes (Two out of Four from Prose)	2X5= 10
4) Essay type question on Poetry (One out of Two)	10
5) Short notes (Two out of Four from Poetry)	2X5= 10
6) A) Use of forms of BE, DO and HAVE	5X1= 05
B) Use of Possessive Adjectives/Pronouns	5X1= 05
7) A) Transformation of sentences	5X1= 05
a) Remove ‘too... to’/use ‘so... that’ (vice versa)	

- b) Remove ‘if’/use ‘unless’ (vice versa)
- c) Remove ‘As soon as’/use ‘No sooner...than’ (vice versa)
- d) Change the assertive sentence into exclamatory without changing the meaning (vice versa)
- e) Change the Degree

B) Framing Wh-Questions	5X1= 05
8) Comprehension	10X1=10

MODERN INDIAN LANGUAGES (MIL)/ ADDITIONAL ENGLISH

Detailed Syllabus for BA / BSW / BA in CCJ (With effect from 2016-17 onwards)

**Semester – II: Additional English
Teaching Hours: 5 Hours per week**

Text: *The Canterville Ghost* by Oscar Wilde

Grammar and Composition

- 1) Relative Clauses
- 2) Conditionals and ‘wish’
- 3) Use of words as Two different forms of Speech
- 4) Report Writing (functions, seminars, excursion, tours, accident, earthquake, flood, etc.)

Pattern of Question Paper (80 Marks paper of three hours and 20 Marks for I.A)

1) Objective type questions	10X1= 10
2) Reference to context	2X5 =10
3) Essay type question (One out of two)	10
4) Essay type question (One out of two)	10
5) Short notes (Two out of four)	2X5 = 10
6) A) Relative Clauses	5X1 = 05
B) Conditionals and ‘wish’	5X1 = 05
7) Use of words in a sentence as Two different forms of Speech	5X2 = 10
8) Report writing	10

80

2. Kannada Basic

ಸಾಹಿತ್ಯ ಸಂಗಮ-೨

ಬಿ.ಎ., ಬಿ.ಎಸ್.ಡಬ್ಲ್ಯೂ ಹಾಗೂ ಸಿ.ಸಿ.ಜೆ. (ಬಿ.ಎ.) ಎರಡನೆಯ ಸೆಮಿಸ್ಪರ್ಶ

ಅನುಬಂಧ – ೮

ಪದ್ಯ ಭಾಗ

೧.	ಸೀತಾಪಹರಣಂ	-ನಾಗಚಂದ್ರ
೨.	ವಚನಗಳು	-ಅಕ್ಷಮಹಾದೇವಿ, ಅಮುಗೆ ರಾಯಮೃ
೩.	ಸಾಮವೇದಿಯ ರಗಳೆ	-ಹರಿಹರ
೪.	ಸುಗ್ರಿಹಾದು	-ಕುವೆಂಪು
೫.	ಯಾರು ಕೇಳುತ್ತಾರೆ, ಹೇಳಿರಣ್ಣ	-ಜೆನ್ನುವೀರ ಕಣವಿ
೬.	ಮೂರ್ತಿ	-ವಿ.ಜೆ. ಭಟ್ಟ
೭.	ನಲ್ಲತ್ತೇಳರ ಸ್ವಾತಂತ್ರ್ಯ	-ಡಾ. ಸಿದ್ಧಲಿಂಗಯ್ಯ
೮.	ಚಪ್ಪಲಿಗಳು ಮತ್ತು ನಡಿಗೆ	-ಟಿ. ಯಲ್ಲಪ್ಪ

ಗದ್ಯ ಭಾಗ

೯.	ಡೇರ್ ಡೆವಿಲ್ ಮುಸ್ತಾಫಾ	-ಕೆ.ಪಿ. ಮಾರ್ಣಿಚಂದ್ರ ತೇಜಸ್ಸಿ
೧೦.	ಹಾಲಕ್ಕಿ ಶಕುನಾ	-ಜೆ.ಬಿ. ಖಾಡೆ
೧೧.	ಗಾಂಥೀ ಗಿಡ	-ಡಾ. ಸಂಗಮನಾಥ ಎಸ್. ಲೋಕಾಪುರ
೧೨.	ಮೂಗು ಮುರಿವವರು	-ಡಾ. ಗುರುದೇವ ಹುಲ್ಕೆಪ್ಪನವರಮಂತ
೧೩.	ವಲಸೆ ಹೋಗುವ ಜನಪದ ವ್ಯಂದಗಳು	-ಡಾ. ಅಚುನ್ ಗೊಳಸಂಗಿ
೧೪.	ಚೆನ್ನಣ್ಣ ವಾಲೀಕಾರರ ಕತೆಗಳಲ್ಲಿ ಜಮೀನಾಧಿ ಜಗತ್ತು-ಡಾ.ಸಿ.ಬಿ.ಹೊನ್ನಸಿದ್ಧಾರ್ಥ	
೧೫.	ಮೂವರು ವಿಶಾಲ ಹೃದಯಿಗಳು ಸಮಸ್ಯೆಯೊಂದನ್ನು ಬಿಡಿಸಿದ ಬಗೆ	-ಡಾ.ಎ.ಪಿ.ಜೆ. ಅಬ್ದುಲ್ ಕಲಾಂ
೧೬.	ಎಂದೂ ಒಡೆಯದ ಬಳಿಗಳು	- (ಅನು): ಜಿ.ಕೆ. ಮಧ್ಯಸ್ಥ -ಸುಮಂಗಲಾ

3. Marathi Basic

Syllabus prescribed for B.A is applicable to B.S.W.

**Semester II
Basic Marathi**

Course: Literary form: Poetry

Text: Maje Vidyapeeth: Narayan Surve.

Popular Prakashan, Mumbai

4. Hindi Basic

Syllabus of B.A/BSW II Semester

Hindi Basic 2016-17 onwards

Teaching hours per week:	05 hours	Total Marks:	100 Marks
Examination:	03 hours	Theory:	80 Marks
		Internal Assessment:	20 Marks

Text Books:

- काव्यायन, सं. डॉ. सुभाष तळेकर, डॉ. सुरेष साळुंके, जगत भारती प्रकाशन, इलाहाबाद
(अध्ययन के लिए मैथिलीशरण गुप्त से उदय प्रकाश तक की कविताएँ)
- पत्र-लेखन (सामान्य पत्र)

Distribution of Marks

काव्यायन – 65 अंक
पत्र-लेखन – 15 अंक

A	Objective type Questions (10 out of 14)	10 Marks
B	Annotations from Text Book (3 out of 5)	15 Marks
C	Essay type Questions from Text Book (3 out of 6)	30 Marks

D	Short Notes from Text Book (2 out of 4)	10 Marks
E	Letter (सामान्य पत्र) (1out of 3)	15 Marks
	Theory total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Reference Books:

१. प्रगतिवाद- डॉ. शिवकुमार मिश्र
२. प्रगतिवाद और समानान्तर साहित्य- रेखा अवस्थी
३. अज्ञेय और प्रयोगवाद- शैल सिन्हा
४. हिंदी के आधुनिक प्रतिनिधि कवि- द्वारिकाप्रसाद सक्सेना
५. आधुनिक काव्य की स्वच्छन्दवादी प्रवृत्तियाँ- अजब सिंह
६. आधुनिक हिंदी कविता का विकास: सामाजिक, सांस्कृतिक संदर्भ में-रामेश्वरलाल खण्डेलवाल
७. समकालीन काव्य की दिशाएँ - वेदप्रकाश अमिताब
८. प्रामाणिक आलेखन और टिप्पण - प्रो. विराज

5. Praakrit Basic

Syllabus for B.A. /BSW

Semester - II

Basic Praakrit

Teaching Hours : 5 Hours per week

B. A. Part -I. Second Semester			
Basic – Praakrit			
Teaching hours	-	5 hours per week	
Exam marks	-	80+20=100 of 3 hours Duration	
Text 1) कहाण्यतिगं– बारवई	-	40 Marks	
2) कर्गुण्डु चरियं	-	40 Marks	
3) Internal Assessment	-	20 Marks	
Assignment, Class records Skill, development			
Total		100 Marks	

B. A. Part - I
Basic – Praakrit

Question Paper Pattern

First Semester

I.	New type Questions/ Select the correct answer	10 Marks
II.	Translate passages (any two out of three)	14 Marks
III.	Explain with reference to contest (any four out of six)	12 Marks
IV.	Essay type from कहाण्यतिगं (with internal choice)	15 Marks
V.	Essay type from स्वप्नवासवदत्तम् (with internal choice)	14 Marks
VI.	Short notes (any three out of five)	15 Marks
Total		80 Marks

6. Sanskrit Basic

Syllabus for B.A. /BSW

Semester - II

Basic Sanskrit

Teaching Hours : 5 Hours per week

Examination. Marks: One Paper Carrying 100 Marks (80+20) of 3 hours duration.

1. नीतिशतकम् of भर्तृहरि : Samaj Pustakalaya, Dharwad,
2. कर्णभारम् of भास Samaj Pustakalaya, Dharwad

	Marks
a) नीतिशतकम् of भर्तृहरि	40
b) कर्णभारम् of भास	30
c) Grammar – Conjugation (लट्, लृट्, लङ्, लोट् क्रियापदानि)	10
d) Internal Assessment	20
i. Internal Assessment	
ii. Assignment, class – records	
Skill – Development – 10	_____
Total	100

Question Paper Pattern:

B. A. Part – I : Second Semester

Samskrit Basic (MIL)

I	Multiple choice questions from the prescribed text नीतिशतकम् of भर्तृहरि : (Any ten out of twelve)	10 Marks
II	a) Translation and explanation of Verses from नीतिशतकम् (Any three out five) a) Translation and explanation of Verses / Prose from कर्णभारम् (Any one out of two)	15 Marks
III	a) Critical Explanation from नीतिशतकम् (Any ten out four) a) Reference to the Context from कर्णभारम् (Any one out of four)	5 Marks
		6 Marks

IV	Short notes		
a)	From नितिशतकम् (Any one out of two)	4 Marks	
b)	From कर्णभारम् (Any one out of two)	4 Marks	
V	Essay Type question		
a)	On नितिशतकम् (Any One out of two)	10 Marks	
b)	On कर्णभारम् (Any One out of two)	10 Marks	
VI	Grammer	10 Marks	
		Total	80

7. Arabic Basic:

Syllabus for B.A/BSW
Semester – II
Basic Arabic

Paper : Prose, Poetry and History of Arabic Literature

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al-Qiratul Wadhiha Part-II (Prose)

Following Lessons.

- 1.Al Firashatu wazzahratu. 2.Azziyaratu. 3. Fis sooqi
- 4.Al Mahattatu. 5. Usratul amm. 6. Dukaanul Fawakhi
- By:Waheeduz.zama Al-Kiranvi.Pub.By:Maktaba Husainia Deoband (U.P)

2. Mukhtaaraatul Adab (Poetry)

By: Zaidaan Badraan

Pub.By: Majlis-e- Isha atul uloom Jamia Nizamiya Hyderabad.59

Following Poems

- 1.AtTaa ir 2. AnNasheedul madrasa 3. Alkitabu 4. Unsheatul Eid
- 5.Al Alamu. 6. Unshudatus Sabah.

3. Tareekh Adab-e-Arabi

Chapter No.I Teesri fasl

By: Dr.syed tufail Ahmad madaniPub.By:Deccan Traders Book Seller & Publisher 23-2-378, Moghalpura, Hyderabad. (A.P)

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Sura-Watteen.

The question paper should be broadly based on the following pattern.

1) Multiple choice from first and second text	10x1	= 10
2) Summary from first and second text with choice	2x7½	= 15
3) R.C. from first and second text with choice	3x5	= 15
4) Appreciation of verses from second text 3 out of 5	3x5	= 15
5) Question from third text with choice	2x7½	= 15
6) Question on Sura	1x10	= 10

		80

8. Persian Basic:

Syllabus for B.A/BSW Semester -II Basic Persian

Teaching Hours : 5 Hours per week

1. PRESCRIBED TEXT BOOK

Following portion only

Baharistan(Jami).

Textbook

Shahkar-E-Farsi by Hafez Abdul Alim Khan

Pub by:-Ram Narayanlal Bani mahdho2

katra road Allahabad(U.P)

2. PRESCRIBED TEXT BOOK

Following portion only

Rubaiyaat—Qataa-aath.

Textbook

Nisab-E-Farsi(PartII) by Dr.Aftaab Akhtar Razvi & Prof M.M. Jalali
Pub by:-Shahnaz publication Shamatganj Barlly(U.P)

9. Urdu Basic:

Syllabus for B.A/BSW Semester –II Basic Urdu

B.A Second Semester Urdu-Basic(MIL)

Paper-II. Prose, Poetry and fiction

Scheme of teaching:- Duration- 16 Weeks- 5hours per Week

Prescribed text books.

Detailed Text

1. Gulshan-e-adab

Edited by.

(Prose & Poetry)

Majlis-e-Idarat

Prose (Lessons 6 to 10)

Nasheman Publishers

Poetry: (4 Only)

Second Stage R.M.L Nagar

Shimoga-577202

- 1) Haju: Meerzaruswa
- 2) Nazam: Makhdum Mohiuddin
- 3) Nazam: Sahir Ludhyanavi
- 4) Nazam: Masood Siraj

Gazals (6 Only)

Firaque, Bashir badar, Majrooh, Iftekhar aarif, Parveen shakeer

Scheme of Examination (I & II Semester)

Total Marks – 100(Theory-80 Marks + Internal Assessment 20- Marks

- a) Each Paper of 100 Marks shall carry 20 Marks Internal Assessment out of 20 Marks , 4+10 shall be for semester test and remaining 3+3 shall be for H. Assignment & Attendance.
- b) In each paper 2 test shall be conducted for the award of Internal Assessment Marks, first test of 1 hour duration for maximum of 20 marks reduced to 4, shall be conducted in 8th week . Second test in 12th week of respective semester of maximum 80 marks & of 3 hours duration then reduced to 10 marks.

The question paper should be broadly based on the following pattern. (I & II Semester)

1. Multiple Choice questions from Detailed and N.D text. $10 * 1 = 10$
(10 out of 10)

Detailed text (Prose & Poetry)

2. Essay type question on Prose (1 out of 2) $1 * 15 = 15$
3. Question on reference to the context $4 * 2^{1/2} = 10$
(4 out of 6)
4. Summary of the Poem (1 out of 3) $1 * 10 = 10$
5. Appreciation of verses from Gazals (4 out of 6) $4 * 2^{1/2} = 10$

Non-Detailed text

6. Summary/ critical Appreciation of a story. $1 * 15 = 15$
(1 out of 3)
7. Short Note on character (2 out of 4) $2 * 5 = 10$

GROUP – II

GROUPED COMBINATION OF SUBJECTS

ARTS					
Sl. No.	A	B	C	D	E
1.	Applied Statistics	Computer Application	Arabic	Agri. Marketing	History
2.	Elements of Mathematics and Statistics	Psychology	Geography	Criminology and Forensic Science	Journalism & Mass Communication
3.	Kannada	Persian	Hindi	Economics of Rural Development	Folk literature
4.	Marathi	Political Science	Philosophy	Economics	Prakrit
5.	Statistics	Sanskrit	Sociology	Education	
6.	Urdu	Home-Science	Social Work	Music	-
7.	English			-	-

Note:

1. A candidate is not permitted to select more than one subject from one group (not more than three in total), subject to the availability of staff and facilities in his/her college.
2. Principals/Candidates are strictly advised to follow the approved regulations in respect of U.G Semester Courses, in addition to the above conditions.

GROUP- A

B.A. – SECOND SEMESTER

1. APPLIED STATISTICS (OPTIONAL)

B.A. Semester Applied Statistics (Optional)

Course Structure with effect from 2016-17 onwards

Semester	Title of the paper	Teaching hours per week	Theory marks	Internal assessment marks	Total marks	Duration of theory examination
I 2016-17 Onwards	Basic Statistics	05	80	20	100	3 hours
II 2016-17 Onwards	Descriptive Statistics	05	80	20	100	3 hours
III 2017-18 Onwards	Probability and Distribution	05	80	20	100	3 hours
IV 2017-18 Onwards	Statistical Inference	05	80	20	100	3 hours
V Paper-I 2018-19 Onwards	Theory of Sampling	05	80	20	100	3 hours
VPaper II 2018-19 Onwards	Population studies and Industrial Statistics	05	80	20	100	3 hours
VI Paper-I 2018-19 Onwards	Operations Research	05	80	20	100	3 hours

VI Paper-II 2018-19 Onwards	Analysis of Variance and Design of experiments	05	80	20	100	3 hours
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Regulations and Scheme of Instructions

Regulations for governing three years semesterised Bachelor degree programme of Rani Channamma University, Belagavi in Applied Statistics optional subject with effect from academic year 2016-17 onwards.

I. Goals and Objectives :

The following aims have been kept in view while designing the syllabus of Bachelor's degree programme (BA) in Applied Statistics as one of the optional subjects.

1. To create an aptitude and bring Statistical awareness among the students.
2. To train promising learners to teach Applied Statistics effectively at various level in the educational institutions.
3. To provide adequate Statistical knowledge and skills as needed for the competitive examination.
4. To enrich and enhance analytical skills through Statistical techniques.
5. To make the subject student friendly, socially relevant and to cultivate research culture among the students.

II. Admission criteria :

Any candidate who have passed PUC/10+2 with any subjects are eligible to choose Applied Statistics as one of the optional subject at the under graduate course. The other rules for admission are as per the university and government notifications from time to time.

III. Medium of instructions :

The medium of instruction will be in English, however, the student are allowed to opt Kannada medium also.

IV. Attendance :

A minimum of 75% of attendance in each semester is compulsory.

V. Scheme of instruction :

1. The M.A/M.Sc./M.Stat. Master degree holders in Statistics can only teach Applied Statistics optional subject at UG level.
2. Applied Statistics as an optional subject at UG level which consists of six semesters. There will be one theory paper in I, II, III and IV semesters of 100 marks. Where as in the V and VI semesters there will two theory papers each of 100 marks. The duration of teaching hours will be 5 hours per week in each paper.

VI. Scheme of theory examination :

1. Theory course shall carry 100 marks of which 80 marks allotted for semester end examination and 20 marks for internal assessment.
2. The semester end examination will be conducted by the university which will be of three hours duration and maximum 80 marks. The minimum passing marks in the examination is of 40 percent.
3. There shall be three sections in every question paper – A, B and C.
Section A shall have 12 questions of each 2 marks and candidates have to solve 10 questions ($10 \times 2 = 20$ marks). Section B shall have 8 questions of each 5 marks and the candidate have to solve 6 questions only ($6 \times 5 = 30$ marks). Section C shall have 6 questions of each 10 marks and the candidate have to solve 3 questions as per instructions ($3 \times 10 = 30$ marks).

Question paper pattern in *Applied Statistics (optional)* for all semesters.

Section A

I. Answer any **10** questions out of **12** questions (Q.Nos. 1 to 12), $10 \times 2 = 20$ marks.

Section B

II. Answer any **6** questions out of **8** questions (Q.Nos. 13 to 20), $6 \times 5 = 30$ marks

Section C

III. Answer the following questions (Q.Nos. 21 to 26) $3 \times 10 = 30$ marks

21 or 22

23 or 24

25 or 26

Total 80 marks

Rani Channamma University, Belagavi

BLUE PRINT FOR MODEL QUESTION PAPERS IN APPLIED STATISTICS

Questions of two marks, five marks and ten marks to be asked from each unit of the semester syllabus of B.A. Course in Applied Statistics is as follows:

B.A. II Semester Applied Statistics Paper- Descriptive Statistics

Unit and unit title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Index Numbers	3	2	2	36
II Time Series	3	2	1	26
III Correlation	2	2	1	24
IV Regression	2	1	1	19
V Association of Attributes	2	1	1	19
Total questions	12	08	06	124

BA II Semester Applied Statistics (optional)

Descriptive Statistics

UNIT I Index Numbers

Definition, uses and limitations of index numbers. Brief description of the steps in the construction of index numbers. Classification of index numbers. Construction of Laspeyre's, Paasche's, Fishers, and Marshall- Edgeworth's price and quantity index numbers. Tests of a index number- Unit test, time reversal test, factor reversal test and circular test. Verification of index numbers satisfying the time reversal and factor reversal tests. Problems on index numbers. Cost of living index numbers – meaning, uses and brief description of the steps involved in the construction of a cost of living index number. Methods of construction of cost of living index numbers- Aggregate expenditure

method and Family budget method. Problems on cost of living index number.

15 Hours

UNIT II Time Series

Definition, uses, components of time series, brief explanation of the components of time series. Measurement of trend by graphical, semi-average, moving averages method and problems on them. Method of least squares- Fitting of straight line trend – method, normal equations, obtaining trend values, estimating future trend and plotting the original and trend values on the graph. Fitting of second degree trend- normal equations and obtaining trend equation. Making future estimates.

15 Hours

UNIT III Correlation

Definition, Meaning of types of correlation-positive, negative, perfect and no correlation with examples. Utility of study of correlation analysis. Methods of studying correlation. Scatter diagram-definition and explanation with charts. Merits and demerits, problems regarding construction of scatter diagram. Karl Person's coefficient of correlation – definition, formulae, and properties of coefficient of correlation. Problems based on ungrouped data. Spearman's Rank coefficient of correlation – definition and explanation of method with merits and demerits. Problems with ties and without ties.

15 Hours

UNIT IV Regression

Definition of regression, regression equation of X on Y and Y on X. Properties of regression co-efficient and regression lines. Problems based on ungrouped data. Comparison between correlation and regression.

08 Hours

UNIT V Association of Attributes

Meaning of association of attributes, definition of class of the first order and second order. Methods of studying association. Yule's coefficient of association and its interpretation. Determination of Yule's coefficient of association in case of two attributes.
07 Hours

Reference and Text Books

1. S.G.Gani - Sankhyashatra and ganakayantra-vol I & II
2. S.C.Gupta - Fundamental of Statistics.
3. S.P.Gupta - Statistical methods.
4. Rajmohan - Statistics vol II
5. S.C.Gupta & V.K.Kapoor - Fundamentals of Applied Statistics.
6. G.S.Monga - Mathematics and Statistics for Economics.
7. B.L.Agarawal – Programmed Statistics.
8. Siddhendu Biswas – Topics in Statistical Methodology.

B.A. - SECOND SEMESTER

2. PAPER: ELEMENTS OF MATHEMATICS AND STATISTICS – II

(Arithmetic, Analytical Geometry & Economic Statistics)

Objectives :

- 1) To promote the knowledge of Arithmetic & Analytical Geometry.
- 2) To initiate the importance of economic statistics.

Teaching Hours : 5 Hours per week

Duration of Examination: 3 hrs.

Max. Marks: 80

Unit I:

Arithmetic Geometric and Harmonic Progressions, sum of first n terms of A.P., G.P. and H.P. Proof of $G^2 = AH$.

(15 Hrs)

Unit II:

Analytical Geometry

Distance formula, section formula. Formula for the area of a triangle.

Standard form of equation to a straight line. Parallel and perpendicular lines. Equation of a line. The circle. Equation tangent to a circle. Radian axis of two circles. Condition for orthogonality.

(15 Hrs)

Unit III: Time Series

Meaning, uses & components of time series. Measurement of trend- Graphical method, Semi – averages method, Method of moving averages and method of least squares-First & Second degrees. Simple problems (brief explanations only).

Hrs

(10

Unit IV: Correlation

Meaning, types of correlation, methods of studying correlation- Scatter diagram method, Karl Pearson's method in case of ungrouped data & Rank Correlation method. Properties of coefficient of correlation coefficient of determination " r^2 " (without Proof) and numerical problems.

(10 Hrs)

Unit V: Regression:

Meaning of regression, regression lines, Regression coefs. Properties of regression lines & Regression Coefficients (without Proof) and numerical problems.

(10

Hrs)

Reference and Text Books:

1. Gani.S.G. Sankhyashastra and Ganakayantra Vol. – II & I.
2. B.L.Agarwal Programmed Statistics
3. G.S.Monga Mathematics and Statistics for Economics.
4. B.R.Bhat, T.Srivenkataramana, K.S.Madhava Rao Statistics Vol. – II & I.
5. D.C.Sancheti & V.K.Kapoor. Statistics (Theory, Methods & Application).
6. Raj Mohan: Business Statistics.
7. Fugget:Introduction to MS Excel.
8. Dareshwar: Business Statistics.
9. S.P.Gupta: Fundamentals of Statistics.
10. Agarwal: Quantitative Techniques for Management.

11.P.U.C-I Year Mathematics - Bosco S.S.

12.P.U.C-I Year Mathematics - P.G. Umarani & Umarani

13.Black. J & Bradley J.F. (1973), Essential Mathematics for Economics

3. Kannada (Optional)

ಬಿ. ಎ. ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಬಣಿಕ ಕನ್ನಡ

- ಇ. ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯನ್ನು ಸೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ನಾಟಕಪೋಂದನ್ನು ಹಾಗೂ ನಾಟಕ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹಂಟ್ಟಿ ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯನಿಸುವುದು.
- ಈ. ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ಲ೦ ಗಂಟೆಗಳಿಗೆ ರೂಪ್ತಿಯೇ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ಱ೦೦ ಅಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ಱ೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ಱ೦೨, ಮೊದಲ ಕೆರು ಪರೀಕ್ಷೆಗೆ ಱ೦೪, ಎರಡನೆಯ ಕೆರು ಪರೀಕ್ಷೆಗೆ ಱ೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ರಮಕ್ಕೆ ಱ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಧಿಯರಿ ಪರೀಕ್ಷೆಗೆ ಲ೦ ಅಂಕಗಳು.

ಪರ್ಯಾಕ್ರಮೆ

- ಇ. ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ – (ಇ೦ ಅಂಕಗಳು) ಇ೦ ಗಂಟೆಗಳ ಪಾಠ
 - ಎ. ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ರೂಪ-ಲಕ್ಷಣಗಳ ಕುರಿತು ಒಳನೋಟಗಳು (ಹತ್ತು ಅಂಕಗಳು)
 - ಬಿ. ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಕಾರಗಳ ಸ್ವರೂಪ, ಪ್ರೇರಣೆ, ಚಲ್ಲವಳ (ನವೋದಯ, ಪ್ರಗತಿಶೀಲ, ನವ್ಯ, ದಲಿತ-ಬಂಡಾಯ, ಮಹಿಳಾ) ಧೋರಣೆಗಳು (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)
 - ಸಿ. ಪ್ರಮುಖ ಕವಿಗಳ ಕೃತಿ, ಪ್ರಕಾರಗಳನ್ನು ಸೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು. ನವೋದಯ – ಬಿ.ಎಂ.ಶ್ರೀ, ಗೋವಿಂದ ಷ್ಟೇ, ಡಿ ವಿ ಗುಂಡಪ್ಪ, ಶುವೇಂಪು, ಬೇಂದ್ರೆ, ಮತಿನ, ಮಾಸ್ತಿ, ಕಾವ್ಯನಂದ, ಆನಂದ ಕಂದ, ಚನ್ನವೀರ ಕಣವಿ, ಪ್ರಗತಿಶೀಲ – ಬಸವರಾಜ ಕಟ್ಟಿಮನಿ, ನಿರಂಜನ, ಸು ರಂ ಎಕ್ಕುಂಡಿ. ನವ್ಯ – ಗೋಕಾಕ, ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗ, ಕಂಬಾರ, ಲಂಕೇಶ, ತೇಜಸ್ಸಿ, ದಲಿತ –ಬಂಡಾಯ– ದೇವನೂರು ಮಹಾದೇವ, ಬರಗೂರು ರಾಮಚಂದ್ರಪ್ಪ, ಚಂಪಾ, ಕುಂವೀ, ಸಿದ್ಧಲಿಂಗಯ್ಯ, ಮಹಿಳಾ ಸಾಹಿತ್ಯ – ಸಾರಾ ಅಭಿಬಕರ, ವೃದೇಹಿ, ನೇಮಿಚಂದ್ರ (ಮುವತ್ತು ಅಂಕಗಳು)
- ಉಂಟು ತಪ್ಪಿ : ಕುವೆಂಪು –(ಇ೦ ಅಂಕಗಳು) (ಇ೦ಗಂಟೆಗಳ ಪಾಠ)
 - ಎ. ಉಂಟು ತಪ್ಪಿ ನಾಟಕ (ಹತ್ತು ಅಂಕಗಳು)
 - ಬಿ. ಕನ್ನಡದಲ್ಲಿ ನಾಟಕ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹಂಟ್ಟಿ ಬೆಳವಣಿಗೆ (ಹತ್ತು ಅಂಕಗಳು)

ಪರಮಾಶಾಸನ ಗ್ರಂಥಗಳು

- ಇ. ಹೊಸಗನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ : ಎಲ್. ಎಸ್. ಶೇಷಗಿರಿರಾವ್
- ಉ. ನೂರು ಮರ ನೂರು ಸ್ವರ : ಕೇತೇನಾಥ ಕುತ್ತ-ಕೋಟಿ

೨. ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ : ಎಲ್ಲ ಎಸ್ ಶೇಷಗಿರಿರಾವ್

ಬಿ. ಎ ಎರಡನೆಯ ಸೆಮಿಸ್ಪರ್ಶ
ಕನ್ನಡ ಲಭ್ಯಕ ಪತ್ರಿಕೆ
ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

ಅವಧಿ : ೩ ಗಂಟೆಗೆ

ಅಂಕಗಳು : ೮೦

ಭಾಗ - ೧
ಎ ವಿಭಾಗ

ಪ್ರಶ್ನೆ - ೧ ಕನ್ನಡದ ಆಧುನಿಕ ಜಿಂಟನೆಗಳನ್ನು ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ
(ಎರಡು ಪ್ರಶ್ನೆಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

-೮೦

ಬಿ. ವಿಭಾಗ

ಪ್ರಶ್ನೆ - ೨ (ಅ) ಆಧುನಿಕ ಸಾಹಿತ್ಯದ ಪ್ರಕಾರಗಳ ಸ್ವರೂಪ, ಪ್ರೇರಣೆ, ಧೋರಣೆ ಕುರಿತು
ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ
(ಎರಡು ಪ್ರಶ್ನೆಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
(ಆ) ಬೇಕಾದ ಒಂದಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ
(ಎರಡು ಟಿಪ್ಪಣಿಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

-೧೦೦

-೦೫

ಸಿ. ವಿಭಾಗ

ಪ್ರಶ್ನೆ - ೩ (ಅ) ಪ್ರಮುಖ ಕವಿ, ಕೃತಿ, ಪ್ರಕಾರಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ
(ಎರಡು ಪ್ರಶ್ನೆಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
(ಆ) ಬೇಕಾದ ಮೂರಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು
(ಆರು ಟಿಪ್ಪಣಿಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

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-೦೫

ಭಾಗ - ೨

ಪ್ರಶ್ನೆ - ೪ (ಅ) ಶೂದ್ರತಪಸ್ಸಿ/ನಾಟಕ ಪ್ರಕಾರಕ್ಕೆ ಸಂಬಂಧಿಸಿಸಂತೆ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ
(ಎರಡು ಪ್ರಶ್ನೆಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
(ಆ) ಬೇಕಾದ ಒಂದಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು
(ಎರಡು ಟಿಪ್ಪಣಿಗಳಲ್ಲಿ ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)
ಪ್ರಶ್ನೆ - ೫ ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿಸಲು ಹೇಳುವುದು
(ಬಿ) ಮತ್ತು ಸಿ ವಿಭಾಗದಿಂದ ತಲಾ ಇದು ಹಾಗೂ ಭಾಗ - ೨ ರಿಂದ ಇದು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳುವುದು)

-೧೦೦

-೦೫

-೧೦೫

4. Marathi (Optional)

BA Semester II Optional Marathi

Course: Literary form: Pravas Varnan

Text: Pooriniya: Anil Avachat

Mouj Prakashan Gruh, Mumbai

5. Statistics (Optional)

**B.A/ B.Sc. COURSE IN STATISTICS (OPTIONAL)
SECOND SEMESTER: THEORY PAPER
2017-18 ONWARDS**

Total: 50 Hours.

STTH-2: BIVARIATE DATA ANALYSIS AND PROBABILITY DISTRIBUTIONS.

Unit 1: Bivariate distributions:

Bivariate distribution function: Joint, Marginal, Conditional distributions for discrete and continuous variates, Addition and Multiplication law of Expectation. (with proof) Conditional expectation, Covariance, Transformation of two random variables.

06 Hours.

Unit 2: Simple Correlation and Regression:

Definition, Types of Correlation, Scatter diagram Karl Pearson's Correlation Coefficient and its Properties (with proof), Coefficient of determination. Definition and derivation of Rank correlation coefficient. Definition of Regression and derivation of Regression lines, Regression coefficients and their properties (with proof).

10 Hours.

Unit 3: Standard Discrete distributions:

Uniform, Bernoulli, Binomial, Poisson, Negative binomial, geometric distributions, definition, mean, variance and m.g.f., and moments up to fourth order only. Hyper geometric distribution:

definition, mean and variance. Recurrence relation for probabilities and moments of Binomial and Poisson distributions.

14 Hours.

Unit: 4. Standard Continuous distribution:

Uniform, Gamma, Cauchy, Exponential, Beta distribution of I and II Kind: Definition, mean, variance, MGF. Normal distribution: Definition and properties: mean, median, mode and variance, odd ordered and even ordered moments. Transformation of Bivariate variables.

14 Hours.

Unit: 5. Index number:

Meaning and applications, Price and Quantity relatives, Construction of Index numbers and their computation, interpretations, Simple aggregate and Weighted average methods. Laspeyre's, Paasche's, Marshall-Edgeworth's, Drobisch-Bowley's and Fisher's index number. Time reversal and Factor reversal Tests. Consumer's price index number and its construction. **08 Hours.**

SECOND SEMESTER:

STPR-2: PRACTICAL PAPER.

1. Bi-variate distributions-Computation of marginal and conditional distributions.
2. Correlation: Computation of Karl Pearson's correlation coefficient, Rank correlation coefficient and interpretations.
3. Regression: Regression equations.
4. Fitting of Binomial distribution.
5. Fitting of Poisson distribution.
6. Fitting of Normal distribution.
7. Index numbers: Construction of Laspeyre's ,Paasche's, Marshall-Edgeworth's 'Drobisch-Bowley's and Fisher's index numbers.
8. Tests of consistency: Time-reversal and Factor-reversal tests.
9. Construction of Cost of living index numbers: Aggregate Expenditure and Family Budget methods.

Books for study:

1. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons publications.
2. Hogg .R.V.and Craig.A.T(1978):Introduction to Mathematical Statistics.-4/e Macmillan
3. Mukyopadhyay.P.(1996) .Mathematical Statistics.-Kolkotta Publishing House.
4. Mood.A.M.,Graybill.F A. and Boes D.C.(1974): Introduction to the Theory of Statistics. McGrawHill.
5. Goon AM, Gupta M.K., Das Gupta.B.(1991): Fundamentals of Statistics vol-I World

- Press Kolkatta.
6. Gupta S.C and Kapoor V.K.: Fundamentals of Applied Statistics- Sultan Chand & Sons publications.

Books for Reference:

1. Rohatgi.V.K.(1984):An introduction to probability theory and Mathematical statistics.
2. Murry R.Speigel (1982): Theory & Problems of Statistics,Schaum's Publishing Series.
3. P.G.Hoel (1971): Introduction to Mathematical statistics,asia publishing house.
4. Cooke, Cramer and Clake: Basic Statistical Computing, Chapman and Hall.
5. Walpole R.E and Myers S.L.(1988):Probability and Statistics for Engineers and Scientists, 6th Edition, Prentice Hall, New Jersey.

6. Urdu (Optional)

B.A Second Semester Urdu Optional

Paper II: Study of Sketch & Poetry

Scheme of teaching: Duration 16 weeks 5 hours per week.

Prescribed text books.

I.Chand Hum Asar

By
Maulvi Abdul Haq
Pub. by Anjuman Taraqui Urdu,
Hindi- Delhi.

Following Sketches only

1. Prof. Mirza Hairat
2. Sayed Mehmood Marhoom
3. Moulana Waheeduddin Salim Marhoom
4. Guddi ka lal- Noor Khan
5. Muhsanulmulk
6. Moulana Mohd. Ali Marhoom

7. Shaikh Gulam Qadir Girami
8. Hali

II. Bal-e-Jibrail by Allama Iqbal

Following Poems Only

1. Masjid-e-Qurtaba
2. Taarique ki Dua
3. Ruh-e-arzi Adam ka.....
4. Jibrail o Iblis
5. Azaan
6. Panjab ke Dahqan se
7. Khudi
8. Shaheen

Scheme of Examination (I & II Semester)

Total Marks – 100(Theory-80 Marks + Internal Assessment 20- Marks

- a) Each Paper of 100 Marks shall carry 20 Marks Internal Assessment out of 20 Marks , 4+10 shall be for semester test and remaining 3+3 shall be for H. Assignment & Attendance.
- b) In each paper 2 test shall be conducted for the award of Internal Assessment Marks, first test of 1 hour duration for maximum of 20 marks reduced to 4, shall be conducted in 8th week . Second test in 12th week of respective semester of maximum 80 marks & of 3 hours duration then reduced to 10 marks.

The question paper should be broadly based on the following pattern. (I & II Semester)

Q.1 Multiple Choice questions from both texts	10 * 1 =10
Q.2. Essay/ Critical type question with choice on the form and art & style of writer (2 out of 3)	2 * 10 =20
Q.3. Essay /Critical question on the sketches (1 out of 2)	1 * 15 =15
Q.4. Essay type question on form of Nazam	1 * 10 =10
Q.5. Essay/ Critical question on 2 nd text on the Art & style Of Poet Iqbal	1 * 15 =15
Q.6. Critical appreciation of Poem (1 out of 3)	1 * 10 = 10

B.A Second Semester

7. English (Optional)

Detailed Syllabus for BA (With effect from 2016-17 onwards) Semester – II: Optional English

**English Literature (Restoration Age, Age of Pope and Age of Dr. Johnson
1660-1798) Introduction to Literature, Literary Terms and Forms and
Representative Text**

Teaching Hours: 5 per week

Section – A: History of English Literature (30 Marks)

1. Features of Restoration Literature
2. Restoration Poetry
3. Restoration Comedy
4. Neo-classical Poetry
5. Periodical Essay
6. 18th Century Novel
7. Sentimental Comedy

Section – B: Rape of the Lock – Alexander Pope (20 Marks)

Section – C: 30 Marks

1. Introduction to the Study of Literature
 - i. Literature and Science
 - ii. Literature and Morality
 - iii. Literature and Culture
2. Study of Literary Terms
Fable, Pun, Hyperbole, Climax, Anti-climax, Alliteration, Personification, Catharsis, Allusion, Heroic-Couplet
3. The Study of Literary Forms
Prose and Drama: Essay, Novel, Short Story, Biography, Comedy, Tragedy

Reference Books

1. R. D. Trivedi. *A Compendious History of English Literature*
2. Edward Albert. *History of English Literature*
3. David Daiches. *History of English Literature*
4. M. H. Abrams. *A Glossary of Literary Terms*
5. M. H. Abrams and Geoffrey Galt Harpham. *A Hand Book of Literary Terms*
6. B. Prasad. *Introduction to English Literature* 4

Pattern of Question Paper
(80 Marks paper of three hours and 20 Marks for I.A.)

1) Objective type questions on History of English Literature (Questions will be set on Authors, works, trends & concepts: Excluding the prescribed text book)	10X1=10
2) Essay type question on History of English Literature (One out of Two)	10
3) Essay type question on History of English Literature (One out of Two)	10
4) Essay type question on Rape of the Lock (One out of Two)	10
5) Short Notes on Rape of the Lock (Two out of Four)	2X5= 10
6) Short Notes on Study of Literature (Two out of Four)	2X5= 10
7) Short notes on Literary Terms (Two out of Four from Terms)	2X5= 10
8) Short notes on Literary Forms (Two out of Four from Forms)	2X5= 10

80

GROUP- B

B.A Second Semester

1.Computer Application

BACA-2.1: Spreadsheets and Database System tools

Teaching Hours: 4 Hrs/week

Marks: Main Exam: 80

Total Hours: 50

IA: 20

UNIT I

08Hrs

Components of the Excel window, navigating workbook, cells, columns, and rows, insert, reposition, and delete worksheets, Toolbars and Menus, keyboard shortcuts.

Creating worksheet, entering data into worksheet, heading information, data, text, dates, Cell formatting values, saving & protecting worksheet.

Working with single and multiple workbook – copying, renaming, moving, adding and deleting, coping entries and moving between workbooks.

UNIT II

12Hrs

Working with formulas & cell referencing. - Autosum - Coping formulas - Absolute & Relative addressing.

Working with ranges – creating, editing and selecting ranges, sorting.

Formatting of worksheet – Auto format, changing – alignment, character styles, column width, date format, borders & colours, currency signs.

Previewing & Printing worksheet – Page setting, Print titles, Adjusting margins, Page break, headers and footers.

Excel Graphs and charts: Using wizards, various charts type, formatting grid lines & legends, previewing & printing charts.

UNIT III

10Hrs

Data Base Management System: Introduction to Database and RDBMS, Database Concepts, Introduction to Microsoft Access, Features of Access, Starting Access, Access Terminology, Exiting Access, Microsoft Access Hardware & Software Requirements

Designing a Database- About designing a database, Steps in designing a database, Creating a Database using blank database, Creating a Database using Database Wizard, Opening a existing database

UNIT IV

10Hrs

Data Base Tables: Introduction to Tables, Different Ways of creating a table, Guidelines for naming fields, controls and objects, Creating a table by entering data in a datasheet, Create a table using the Table Wizard.

Designing a Table- Create a table from scratch using Design view, Field/Variable name Conventions, About the Data types, Setting Primary Keys, Field Properties - Field Size, Format, Decimal Places, Input Mask, Caption, Default Value, Data Validation, Required, Allow Zero Length, Indexed, Sorting and Filtering Data.

Modifying the Table Design - To insert the field within the table, Rename a field name in a table, Deleting Fields, Moving Fields, Changing a Field Size, Saving a Table, Working with Tables in Datasheet View - Viewing the Table in Datasheet view, Adding Records, Sizing the Columns, Navigating

the Datasheet - Using the navigation Buttons, Using the Go To Menu, Finding a Specific Value - Using Wildcards, Editing And Deleting Records, Undoing Edits, Cutting, Copying and Pasting Data.

UNIT V

10Hrs

Sorting and Filtering Data in a Datasheet - Quick-Sort Feature, Filter By Selection.

Relationship - Relationship in a Database, How the relationship work, Types of Mapping in Relationships, Define Relationships.

Creating and Manipulating Tables using SQL- CREATE Table statement and simple SQL Query statements.

Report- Parts of a Report, Creating a Report, Creating a Columnar Report with Auto Report, Tabular Auto report, Creating Reports with Wizards, Examples of Report

References:

1. Microsoft Excel 2013: Comprehensive, Enhanced Edition, Freund, Jones, and Starks, Cengage Learning.
2. Microsoft Access 2013 by Joyce Cox and Joan Lambert Published by Microsoft Press
3. Microsoft Office – Complete Reference – BPB Publication
4. Learn Microsoft Office – Russell A. Stultz – BPB Publication

BACA-2.2: Computer Laboratory- MS Excel and MS-Access

Practical Hours: 4 Hrs/week

Marks: Main exam: 40

IA: 10

1. Assignments (in general)
Working with Ranges, Creating Simple Formulas, Copying and Moving Data, Formatting Numbers, Formatting Text, Working with Columns and Rows, Formatting Cells Using Automatic Formatting and Styles, creating charts, using built in formulas.
2. Prepare a list of Students in MS-Excel considering the following fields: Name Roll No., Sub1 Marks, Sub2 Marks, Sub3 Marks, Sub4 Marks, Sub5 Marks, Total, Percentage of Marks, Grade obtained.
 - a. Compute total marks of each student
 - b. Compute percentage of marks scored in total
 - c. Sort the students list in ascending order of percentage
 - d. Determine the students with highest percentage in a separate field
 - e. Determine the number of students who have scored more than 75 % in a separate field.
 - f. Filter out list of students who have scored less than 40%
3. For the following data, draw a histogram using the following data.

Student Marks	0-20	20-40	40-60	60-80	80-100
No. of Students	2	4	30	44	10

4. For the following table format enter appropriate data and, use If function to calculate whether each movie was a flop or a success. Use the following criteria:
 - If the profit was less than 100,000,000 then the movie is a flop
 - Otherwise the movie is a success

Copy the function down to rate each movie in the list.

Movie	Budget (\$)	World Gross (\$)	Profit	Flop or Not?
Spider-Man 3	25,80,00,000	88,74,36,184	62,94,36,184	
King Kong (2005)	20,70,00,000	55,30,80,025	34,60,80,025	
Superman Returns	20,40,00,000	39,10,81,192	18,70,81,192	
...				

5. Assignments (in general)

Define Tables, Define Field Data Types, Modify Field Properties, Set Validation Rules, Define and Modify Primary Keys, Define and Modify Multi-Field Primary Keys, adding, editing, and deleting records, Create Tables Based on the Structure of Other Tables, Create and Modify Queries, sorting records, using common filters, create and modify forms, create reports.

6. SQL-Simple assignments for creating tables using SQL CREATE TABLE statement and executing SQL queries using SELECT statement.

Note: Students are encouraged to implement the assignments using open source softwares such OpenOffice/Google documents.

References:

1. Microsoft Excel 2013: Comprehensive, Enhanced Edition, Freund, Jones, and Starks, Cengage Learning, 2016, ISBN: 9781305501171.
2. Microsoft Access 2013 by Joyce Cox and Joan Lambert Published by Microsoft Press
3. Microsoft Office – Complete Reference – BPB Publication
4. Learn Microsoft Office – Russell A. Stultz – BPB Publication

Theory and Practical Evaluation Scheme

I. Theory Examination-

Max. Marks: 80

Duration - 3 Hours.

Theory question paper pattern:-		Remarks
Questions	Marks	
SECTION A Q1. Answer all the questions 10 sub questions (a-j)	$2 \times 10 = 20$	ability to write short answers upto 150 words
SECTION B Q2. through Q6: Answer any four questions	$4 \times 5 = 20$	ability to write answers upto 500 word
SECTION C Q7. through Q11: Answer any four questions	$4 \times 10 = 40$	ability to write descriptive answers

Note: For Section-B, one question from each unit shall be considered. For Section-C, one question from each unit shall be considered.

II. Practical Examination

Max. Marks: 40 Marks

Duration - 3 Hours.

Certified Journal is compulsory for appearing Practical Examination

Students shall be given two programming assignments taking into consideration of duration of the time allotted to students for writing, typing and executing the programs.

Algorithm/program design : 15

Execution : 15 (includes program code correctness and correct execution results)

Journal : 05

Viva-Voce : 05

Note: Guidelines given by the University from time-to-time shall be followed for IA.

B.A Second Semester

2. Psychology (Optional)

Optional Paper 2.1 : FUNDAMENTALS OF PSYCHOLOGY

Objectives:

1. This course aims at providing foundations for studies in psychology.
2. It will also focus on some important application areas of psychology.

Unit I. Motivation 10 hours

Definitions, Biological Motives (hunger, thirst, sex, maternal) and social motives. Achievement motivation, Maslow's hierarchy of motives.

Unit II. Learning 10 hours

Definitions, Types of learning: trial & error, learning by insight, conditioning: Classical and Operant – Generalization, Discrimination, Extinction & Spontaneous recovery. Transfer of training, Role of motivation in learning.

Unit III. Memory 10 hours

Definitions, Stages-Learning , Retention recall and recognition, Long term memory (LTM) Short term memory (STM), Forgetting: Meaning, Causes of forgetting, Normal and Abnormal forgetting. How to improve the memory.

Unit IV. Intelligence & Thinking 10 hours

Intelligence: Definitions types of intelligence, IQ Concept, Measurement of Intelligence – Verbal, Non-Verbal, Performance, & DAT.

Thinking : Definitions- Creative thinking, Stages in problem solving.

Unit V. Personality 10 hours

Definitions, Classification of personality: Sheldon, Carl Jung. Assessment of personality: Rating scales, Questionnaires and Projective techniques. Theories of personality, (psycho analytic, and behavioristic theory.)

References:

- Robert A. Baron(2005) Psychology , Pearson Education
- Morgan C.T. King R.A. & Robinson (Latest Edition)- Introduction to psychology. New Delhi, oxford and IBH Publishing Co.
- Hilgard E.I. Atkinson R.C., Atkinson R.L., Smith , (Latest Edition)- Introduction to psychology. 10th Edition IBH Publishing Co.
- Nataraj P- Psychology For Beginners Mysore Srinivas Publications (Latest Edn
- Nataraj P - Samanniya Manovignyan,(Kannada) Mysore Srinivas

Publications.

- Dr.A Shridhar – Saral Manovignyan.
- Madhuchandra K - Samanniya Manovignyan 1&2

Practical : Any Five

1. Bilateral transfer of learning
2. Insight on Motor learning (step maze).
3. Meaning on Retention.
4. RPM.
5. OTIS mental ability test.
6. Level of Aspiration on achievement .
7. Retroactive inhibition.
8. Cyclothyme-Schizothyme Questionnaire
9. Concept formation.

Statistics : Mean and median

Any five experiments may be selected from the above list with at least one experiment from each unit.

Practical batches : 10 Students per batch.

Examination : 8 Students per batch.

Mark : 40 Marks for examination +10 marks for journal records
as an internal assessment.

40 Marks for exam :	Plan and Procedure	10
	Conducting one experiments	10
	Results and discussion	05
	Viva	10
	Statistics	05
	Total	40

MODEL QUESTION PAPER
B.A. IIInd Semester (Optional Psychology)
FUNDAMENTALS OF PSYCHOLOGY

Time : 3 hours

80

Max Marks:

Section-I

Answer any five of the following questions in three or four

Sentences each:

$$5 \times 3 = 15$$

Q.No.

1. Name the different types of Primary and Secondary motives.
2. What is learning.
3. Define memory?
4. What are the different stages of memory.
5. Name the various type of intelligence test.
6. What is thinking?
7. Define personality.

Section-II

Answer any five of the following questions in 10 to 15 Sentences each:

$$5 \times 5 = 25$$

5

8. Describe the Physiological motives.
9. Explain the trial and error learning.
10. Explain the transfer of learning.
11. What is long term memory ? explain
12. What is intelligence quotient.
13. Explain the stages of problem solving.
14. State the meaning & definition of personality.

Section-III

Answer any four of the following questions in two to three pages each:

$$4 \times 10 = 40$$

15. Explain the Maslow's hierarchy of motives.
16. What is learning ? Explain learning by conditioning.
17. What is forgetting? Explain normal and abnormal causes of forgetting.
18. What is thinking? explain creative thinking?
19. What is personality? Explain the classification of personality.
20. Explain the Projective techniques of assessing personality.

B.A.Second Semester

3. Persian (Optional)

Teaching Hours : 5 Hours per week

Paper II-Prose and Poetry

Scheme of teaching:-Duration-16 weeks-5 Hours per week

Prescribed Text Books

1. Adbeyat-E-Farsi-PartII

Prose & Poetry

By:- Prof. R.H.Killedar

Pub By:-Anwar-E-Adbiya,

Bluestar Press,

J.M. Road, Bijapur.

B.A.Second Semester

4. Political Science (Optional)

Political Thought

80 Marks 5 hrs per week

PART-A – Western Political Thinkers

Course Rationale:

This paper studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions. The legacy of the thinkers is explained with the view to establishing the continuity and change within the Western political tradition.

Chapter- 1

Plato

-

Justice, Education, Philosopher King Communism,
Ideal State

10 hours

Chapter-2	Aristotle -	State, Classification of Constitutions, Revolution, The Best State	10 hours
Chapter-3	Machiavelli -	Human Nature, Advice to the Prince, Separation of Politics	from ethics and religion
	J.S. Mill -	Liberty and Representative government	10 hours
Chapter-4	Karl Marx -	Theory of Communism, Economic Interpretation of History, Class war, Theory of surplus value, theory of State	4 hours

PART-B Indian Political Thinkers

Course Rationale:

This paper attempts to introduce students to the entire gamut of political thinking in India from the beginning to the present. It focuses on key thinkers from ancient to modern times to understand their seminal contribution to the evolution of political theorizing in India. It emphasizes on the distinctive contribution of Indian thinkers to political theorizing and the relative autonomy of Indian political thought.

Chapter- 1	Kautilya-	a) Saptanga Theory b) Mandal Theory	4 hours
Chapter-2	Basaveshwara,	Humanism, Casteless Society	4 hours
Chapter-3	Dr. B.R.Ambedkar,	Social Justice, and Casteless Society	4 hours
Chapter-4	Dr. Ram Manohar Lohia :	Socialism, Democracy	4 hours
Chapter-5	M.K. Gandhi :	Truth, Non-Violence and Satyagrah	4 hours

Books Reference

1. C L Wayper Political Thought, B.I.Publications, Bombay, 1983.

2. Mukherjee & Ramaswamy History of Political Thought Plato to Marx, Prentice-Hall India, New Delhi, 1999.

3 E Barker The Political thought of Plato Aristotle, Dover Publications, New York, 1959.

4 W Ebenstein Great Political Thinkers, Oxford and IBH, New Delhi, 1969.

5 G H Sabine History of Political Theory, Oxford and IBH, New Delhi, 1973.

6 M G Sibley Political Ideas and Ideologies, Surjeet Publications, New Delhi, 1981.

7 D R Bhandari History of European Political Philosophy, Bangalore Printing & Publishing Co. Ltd., Bangalore, 1990.

8 ඩො. ඩාස්ල රාජකීය සිද්ධාන්ත, පුළුලු ප්‍රකාශන, තාලිකෝටි.

9 ඩො. ඩාස්ල & ජී.බි. එලවංතරාජකීය සිද්ධාන්ත ප්‍රකාශන ඩිජාපාර.

10 ගුරුරාජ නා. ස්කෝලි පාඨ්‍යමාත්‍ය රාජකීය සිද්ධාන්ත රාහා ප්‍රකාශන දාරවාද 2010

11 ඩො. ඩාස්ල තාලිකෝටි තාලිකීය රාජකීය සිද්ධාන්ත ප්‍රකාශන ඩිජාපාර.

12 ඩො. ඩාස්ල තාලිකීය රාජකීය සිද්ධාන්ත ප්‍රකාශන, තාලිකෝටි.

13 ජී.බි. එලවංතර මත්තුවල්.එච්.සලුත් තාලිකීය රාජකීය සිද්ධාන්ත ප්‍රකාශන ඩිජාන්දින් ප්‍රකාශන දාරවාද.

14 Indian Political Thinkers: Modern Indian Political Thought N. Jayapalan

15 Indian Political Thought UrmilaSharama& S.K. Sharma

B.A.Second Semester

1. Sanskrit (Optional)

B. A. Part – I : Second Semester (Optional) Samskrit

Teaching Hours : 5 Hours per week

Examination Marks : One paper carrying 100 Marks (80+20) of 3 hours duration

Text

- a) चम्पूरामायणम् (किञ्चित्धाकाण्डं) of Bhojaraja ED. 40 Marks
Mahesh Adakoli. Abhijanyan, Bangalore

b) मध्यमव्यायोग of Bhasa (संस्कृत गद्य – पद्य)	40 Marks
Samaj Pustakalaya, Dharwad	
c) Internal Assessment	20
i) Internal Test - 10	
ii) Assignment, Class – records Skill – Development – 10	
	Total
	100 Marks

QUESTION PAPER PATTERN:

B. A. I : First Semester Samskrit Optional

- | | | |
|------|---|----------------------|
| I. | Multiple choice questions from चम्पूरामायणम् and मध्यमव्यायोग (Any ten out of twelve) | 10 Marks |
| II. | a) Translation and explanation of Prose / Verse from मध्यमव्यायोग (Any three out of five)
b) Translation and explanation from चम्पूरामायणम् मध्यमव्यायोग (Any two out of four) | 12 Marks
10 Marks |
| III. | a) Explain with reference to context from मध्यमव्यायोग (Any two out of four)
b) Explain with reference to context from चम्पूरामायणम् (Any two out of four) | 8 Marks
8 Marks |
| IV. | a) On मध्यमव्यायोग (any one out of two)
b) On चम्पूरामायणम् (any one out of two) | 6 Marks
6 Marks |
| V. | a) From मध्यमव्यायोग (any one out of two)
b) On चम्पूरामायणम् (any one out of two) | 10 Marks
10 Marks |

GROUP- C

B.A. Second Semester

1. Arabic (Optional)

Paper : Prose, Poetry and History of Arabic Literature.

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al-Qiratul Wadhiha Part II (Prose)

By: Waheeduz zama Al-Kiranvi. Pub.By:Maktaba Husainia Deoband.(u.p)
Following Lessons
1)Nizamul Hujrah 2)Al Ibaadah 3)Muhaadasatun 4)Al Khitab
5)Rihlatun ila dehli 6)Manzarul Huqool 7)Al Bareed

2. Lamaatul Adab (Prose)

By: Abdul Haleem Pub.By:N.V.Kitabghar, Near J.J.Hospital, Mumbai-8
Following Letters
1.Risaaltun ilal Waalid 2) Risaalatun ilal Amm
3)Risaalatun ila Mudeerul Majallah

3. Mukhtaaraatul Adab (Poetry)

By: Zaidaan Badraan
Pub.By: Majlis-e- Isha atul uloom Jamia Nizamiya Hyderabad.59
Following Poems
1.AsSaif war Rabee 2. Al Maqlooqaatu tatahaddasu anNafsiha
3. Nasheed Al al aabu ar Riyadiyah 4. Ar Riyadatu wad Diraasatu
5fi talabil ilmi 6. AsSafaru 7. Tadar Ro wa raja

4. Tareekh Adab-e-Arabi

Chapter No.II.
Adab-e- Islami ke sar chashme

By: Dr.syed tufail Ahmad madani .Pub.By:Deccan Traders Book & Publishers 23-2-378, Moghalpura, Hyderabad. (A.P) Sellers

5. The Holy Quraan. Pub.By:Taj Company Mumbai

Sura Albalad

The question paper should be broadly based on the following pattern.

- | | | | |
|----|--|------|------|
| 1) | Multiple choice from first & second text | 1x10 | = 10 |
| 2) | Summary from first second & third text with choice | 2x7½ | = 15 |
| 3) | R.C. from first and second text with choice | 3x5 | = 15 |
| 4) | Appreciation of verses from third text 3 out of 5 | 3x5 | = 15 |

5) Question from fourth text with choice	$2 \times 7\frac{1}{2}$	= 15
6) Question on Sura	1x10	= $\frac{10}{80}$

2. Geography (Optional)

B. A. / B. Sc I & II SEMESTER GEOGRAPHY (OPTIONAL)

COURSE STRUCTURE UNDER CBCS SYSTEM WITH EFFECT FROM 2015-2016 ONWARDS THEORY & PRACTICAL PAPER- I & II

Sem	Title of the Paper	Teaching Hours per Week	Marks	Internal Assessment Marks (IA)	Total Marks	Duration of Examination
I	Theory Paper - I Part – A: Physical Geography	05	80	20	100	3 Hrs
	Practical Paper - I Representation of Relief	04	40	10*	50	4 Hrs
II	Theory Paper - II Part – B: Physical Geography	05	80	20	100	3 hours
	Practical Paper - II <i>Basics of Cartography (Maps & Scales)</i>	04	40	10*	50	4 hours

*Note: Practical IA includes: 07+03=10 Marks for Assignments/Journal work and Attendance only

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY
SEMESTER – II
THEORY PAPER - II
PART – B: PHYSICAL GEOGRAPHY

Objectives: The aim of this course is to provide an understanding of weather and climate phenomena, dynamics of global climates, interaction between living organisms with climate and physical environment. Further, this paper is to provide in-depth understanding of different oceans, such as evolution of the oceans, physical and chemical properties of seawater, atmospheric and oceanographic circulation.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week (assignment / seminar/ discussion)

Practical : 04 hours per week

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10
 IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units	Topic	Teaching Hours
I	Weather and Climate: Definition and significance of Climatology, Distinction between weather and climate, elements and controlling factors of weather and climate, Composition and structure of atmosphere	08
II	Atmospheric Temperature: Insolation and Heat Balance (Budget), Vertical & Horizontal distribution of Temperature & Isothermal Maps. Atmospheric Pressure: measurement of pressure, pressure belts and Isobaric Maps. Winds: Planetary, Seasonal & Local winds, Cyclones and Anti-Cyclones	16
III	Atmospheric Moisture: Hydrological Cycle, Humidity, Clouds and its types, condensation and types of Rainfall.	08
IV	Oceanography: Meaning & Significance of Oceanography, Distribution of Land and Water bodies, Hypsographic curve, Bottom relief of Oceans; continental shelf, slope and deep sea plains.	10

V	Distribution of Temperature and Salinity of Ocean Water, Water Waves, Tidal theories and types of tides, Ocean Currents: Pacific, Atlantic & Indian ocean, Coral reefs, Oceans as a store house of mineral and food resources, human impact on marine environment.	18
		Total 60 hours

Reference:

1. Strahler & Strahler: Physical Geography
2. R. N. Tikka: Physical Geography
3. Majid Hussain: Physical Geography
4. Das Gupta & Kapoor: Physical Geography
5. Mallappa P: Physical Geography (Kannada)
6. Ranganath: Physical Geography (Kannada)
7. M.B.Gaudar: Physical Geography (Kannada)

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY
SEMESTER – II
PRACTICAL PAPER - II
BASICS OF CARTOGRAPHY (Maps & Scales)

Units	Topic	Teaching Hours
I	Cartography: Definition and importance of Cartography and cartography as a science of human communication	04
II	Maps and Scales: <ul style="list-style-type: none"> a) Maps: Meaning and Classification of maps, Characteristic features and uses of maps b) Scale: Definition and types of Scale, Conversion of Scale; V.S. into R.F. (five exercises each) and R.F. into V.S. (five exercises each) c) Calculation of Distance and Time: Latitudinal and Longitudinal 	06
III	Construction of Scale: Graphical/Plane, Comparative, Time, Pace and Diagonal scale and their importance (2 exercises each)	22
IV	Enlargement and Reduction of Maps by Graphical Method (three exercises each)	08
V	Viva	
		Total 40 hours

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganath: Practical Geography (Kannada)
4. Singh and Kanayia: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karennavar & S. S. Nanjannavar: Practical Geography (Kannada)
7. Pijushkanti Saha & Partha Basu- Advanced Practical Geography.

B. A. / B. Sc. II Semester (CBCS)
PATTERN/MODEL OF THEORY QUESTION PAPER
Paper- II: Part-B. Physical Geography

Time: 3 Hours

Max. Marks: 80

Instructions: 1. Attempt all sections

2. Wherever necessary draw diagrams and maps.

SECTION-A

(2 x 10 = 20 marks)

- Note:** 1) Answer any Ten questions.
 2) Answer should not exceed 50 words
 3) Each question carries two marks.

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

SECTION-B

(5x 6= 30 marks)

- Note:** 1) Answer any Six questions.
 2) Answer should not exceed 200 words
 3) Each question carries five marks.

13	
14	
15	
16	
17	
18	
19	
20	

SECTION-C

(10 x 3 = 30 marks)

- Note:** 1) Answer any Three questions.
 2) Answer should not exceed 500 words
 3) Each question carries Ten marks.

21	
22	
23	
24	
25	
26	

B. A. / B. Sc. II Semester (CBCS)
PATTERN/MODEL OF PRACTICAL QUESTION PAPER
Practical Paper- II: BASICS OF CARTOGRAPHY

Center No:.....

Max. Marks: 40

Seat No:

Date:.....

Time : 3 Hours

Instructions:

1. Attempt all questions.
2. This question paper should be attached with the main answer book.
3. Examiner should prepare the question paper covering each unit of the syllabus.

Q. No. 1	1. 2. 3. (For framing the questions, Examiner should refer unit no 1& 2).	6 marks (3X2)
Q. No. 2	a). Convert the following V. S. into R. F. (any two) i) ii) iii) iv) (Examiner should refer unit no 2).	4 marks
	b). Convert the following R. F. into V. S. (any two) i) ii) iii) iv) (Examiner should refer unit no 2).	4 marks
Q. No. 3	a). Draw/Construct thescale and write its procedure. (Examiner should refer unit no 3).	5 marks
	b). Draw/Construct thescale for the given R. F. and write its procedure. (Examiner should refer unit no 3).	6 marks
Q. No. 4	a). Enlarge the given map (Examiner should refer unit no 4).	5 marks
	b). Reduce the given map (Examiner should refer unit no 4).	5 marks
Q. No. 5	Viva	5 marks
	Total	40 marks

ooOo

B.A. Second Semester

3. Hindi (Optional)

Syllabus of B.A. II Semester

Hindi Optional 2016-17 onwards

Teaching hours per week:	05 hours	Total Marks:	100 Marks
Examination:	03 hours	Theory:	80 Marks
		Internal Assessment:	20 Marks

Text Books:

- काव्य-संचयिका सं. प्रो. श्रीराम शर्मा, वाणी प्रकाशन, नई दिल्ली-02
[अध्ययन केलिए मैथिली शरण ग्रन्ति, प्रथाद, निराला, दिनेकर, अद्वेष, मुक्तिलोध, सक्सेना और केदरजग्नी-रीहू की कविताएँ]
- व्याकरण

Distribution of Marks

काव्य-संचयिका 55 अंक

व्याकरण 25 अंक

A	Objective Type Questions (10 out of 14)	10 Marks
B	Annotations from Text Book (3 out of 5)	15 Marks
C	General Questions based on Text Book (2 out of 4)	20 Marks
D	Short Notes from Text Book (2 out of 4)	10 Marks
E	Questions Based on Grammar (5 out of 6)	25 Marks
	Theory total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

The following topics are prescribed for Syllabus.

१. वर्ण– परिभाषा, भेद (स्वर, व्यंजन)
२. शब्द– परिभाषा, भेद (तत्सम, तद्भव, देशी, विदेशी)
३. पद– परिभाषा, भेद (संज्ञा, सर्वनाम, विशेषण, क्रिया, क्रिया विशेषण, समुच्चयबोधक, विस्मयादिबोधक)
४. वाक्य–परिभाषा भेद (अर्थ की दृष्टि से रचना की दृष्टि से)

Reference Books:

१. छायावाद– डॉ. नामवर सिंह
२. स्वच्छन्दतावादः छायावाद– अजब सिंह
३. प्रगतिवाद– डॉ. शिवकुमार मिश्र
४. प्रगतिवाद और समानान्तर साहित्य– रेखा अवस्थी
५. अज्ञेय और प्रयोगवाद– शैल सिन्हा
६. हिंदी के आधुनिक प्रतिनिधि कवि– द्वारिकाप्रसाद सक्सेना
७. आधुनिक काव्य की स्वच्छन्दवादी प्रवृत्तियाँ– अजब सिंह
८. आधुनिक हिंदी कविता का विकासः सामाजिक, सांस्कृतिक संदर्भ में–रामेश्वरलाल खण्डेलवाल
९. आधुनिक हिंदी व्याकरण और रचना– डॉ. अशोक बन्ना
१०. आधुनिक हिंदी व्याकरण और रचना– डॉ. वासुदेवनन्दन प्रसाद
११. हिंदी व्याकरण– डॉ. कामताप्रसाद गुरु

4. Sociology (Optional)

B. A. Second Semester

COMMUNITY, INSTITUTIONS, CULTURE, AND SOCIAL CHANGE

Objectives of the Paper:

- To understand the Nature, Structure and Features of Communities.
 - Make the students to be acquainted with Basic Social Institutions.
 - To make the students to understand the contents of Culture and Civilisation.
 - To understand the processes of Social Change.

Unit- I	Social Community (Meaning, Characteristics, & Types)	12 Hours
1.	Tribal Community	
2.	Rural Community	
3.	Urban Community	

Unit- II Social Institutions 12 Hours

(Meaning, Definitions, Features, & Functions)

1. Marriage
2. Family
3. Religion

Unit- III Culture and Civilisation 12 Hours

1. Culture: Meaning, Definitions, Nature, and Significance
2. Culture and Civilisation
3. Cultural Lag and Cultural Diffusion

Unit- IV Social Control 12 Hours

1. Social Control- Meaning, Definitions, Features
2. Importance of Social Control
3. Types of Social Control
 - Informal Social Control: Customs, Folkways, and Mores
 - Formal Social Control: Law and Education

Unit- V Social Change and Social Development 12 Hours

1. Social Change: Meaning, Definitions, and Features
 2. Theories of Social Change: Cyclical, Evolution and Defusion
 3. Factors of Social Change: Geographical, Biological,
Technological, and Cultural
 4. Forms of Social Change- Progress and Development
-

References:

1. Abraham Francis (2006): Contemporary Sociology, Oxford University Press, New Delhi.
2. Bottomore, T.B.: Sociology: A Guide to Problems and Literature. Bombay: George Allen and Unwin, India.
3. David Popenoe (1977): Sociology (3rd Edition), Prentice Hall, INC, Engelwood Cliffs, New Jersey
4. Davis Kingsley (1982): Human Society, Surfeit Publications, New Delhi
5. Fulcher James & Scott John (2003): Sociology (2nd Edition), Oxford University Press, New York.
6. Gisbert Pascual (1983): Fundamentals of Sociology. Orient Longmans, Bombay 1983.
7. Haralambos Michael (1997): Sociology- Themes and Perspectives. Oxford University Press, Delhi.
8. Jayaram, N. (1988): Introduction to Sociology. MacMilan, Madras. India.

9. Mulgund, I.C. (2008): Readings in General Sociology, Shruti Prakashan, Dharwad.
10. Shankar Rao (2004): Sociology: Primary Principles. S. Chand & Co. New Delhi
11. Sharma, R. N. (1976): Principles of Sociology. Media Publishers and Promoters, Ltd., Bombay.

5. Social Work(Optional)

COURSE STRUCTURE FOR SOCIAL WORK
AS AN OPTIONAL PAPER FOR BACHELOR OF ARTS (BA)
(To be effective from the Academic Year 2016-2017)

SEMESTER-II

Sl. No.	Group	Code No.	Title of the Paper
1	II	2.3	Dynamics of Human Behaviour
2	II	2.4	Social Work Practicum - II

Paper Code: 2.3

Paper Title: DYNAMICS OF HUMAN BEHAVIOUR

Objectives:

- a) Understand the fundamentals of psychology.
- b) Understand the role of Heredity and environment on human behavior.
- c) Understand various psychological situations.

Course Content:

UNIT I

Introduction to Psychology: Meaning and definition of psychology; Branches of Psychology; Need for knowledge of psychology for Social Workers.

UNIT II

Basic Concepts: Brain Functioning, Motivation, Perception, Cognition, Attention, Emotion, Intelligence, Learning, Behaviour, and Attitude.

UNIT III

Understanding Human Behaviour: Heredity - Concept and Mechanism; Environment - internal and external; Interplay of heredity and environment in shaping behaviour; Significance of Social Psychology; Concepts of Group, Crowd, Mob, Audience, Leadership, Public Opinion, and Propaganda.

UNIT IV

Beginning of Life: Human reproductive system; Fertilization and Foetal development; Delivery and pre-natal and post-natal care and their importance in development.

UNIT V

Developmental Tasks and Hazards during Infancy, Babyhood, Childhood, Puberty, Adolescence, Adulthood, Middle Age, and Old Age.

References:

- Bhatia, Hansraj. 1970. Elements of Psychology. Mumbai: Somayya Publications.
- Hurlock. E.B. 1995. Child Growth and Development. New York: Tata McGraw-Hill Publishing Company Ltd.
- Hurlock. E.B. 1995. Developmental Psychology, 3rd Edition. New York: Tata McGraw-Hill Publishing Company Ltd.
- Kuppuswam, B. 1980. An Introduction to Social Psychology. Mumbai: Media Promoters and Publishers.
- Misra, G. (Ed.) 1990. Social Psychology in India. New Delhi: Sage Publications.
- Morgan, C.T. et al. 1993. Introduction to Psychology. 7th Edition. Tata McGraw-Hill Publishing Company Ltd.
- Prabhu, V. Vinay. 1999. A Student's Handbook of General Psychology. Vinay Publication.

Paper Code: 2.4

Paper Title: SOCIAL WORK PRACTICUM - II

Objectives:

- a) To develop among students an understanding about different approaches of providing help to people in need.
- b) To familiarize the students with the professional role of social workers.
- c) To develop self-awareness and orientation to team work.
- d) To develop introductory skills in use of programme media.
- e) To develop skills in report writing and use of supervision.

Course Content:

This paper comprises:

- Observation visits to welfare, educational, developmental, industrial and allied agencies.
- Structured Experiences Laboratory to help students understand and practice various skills required for effective practice of Fieldwork Practicum.

Note: Each student is expected to spend ten hours per week in the Field / Agency and the Faculty Supervisor is expected to spend about eight hours per week for this paper by conducting Orientation Classes, arranging for Orientation Visits / Fieldwork Placement, conducting Structured Experience Laboratory classes, Field Visits for Supervision and Guidance, Individual Conferences and Group Conferences on a weekly basis, and Correction of Fieldwork Reports. Thus, the workload for this paper for each of the Faculty Supervisor may be considered equivalent to one full theory paper.

References:

- Kohli, A.S. 2004. *Field Instruction and Social Work: Issues, Challenges and Response*. Delhi: Kanishka.
- Lawani, B.T. 2009. *Social Work Education and Field Instructions*. Agra: Current Publications.
- Mathew, G. *Supervision in Social Work*. Mumbai: TISS.
- Roy, S. 2012. *Fieldwork in Social Work*. Jaipur: Rawat Publications.
- Sajid, S.M. 1999. *Fieldwork Manual*. New Delhi: Department of Social Work, Jamia Millia Islamia.
- Singh, R.R. (ed.) 1985. *Fieldwork in Social Work Education: A Perspective for Human Service Profession*. New Delhi: Concept Publishing.
- Subedhar, I.S. 2001. *Fieldwork Training in Social Work*. New Delhi: Rawat.
- University Grants Commission. 1978. *Review of Social Work Education in India: Retrospect and Prospect*. New Delhi: UGC.

GROUP- D

B.A Second Semester

1. Agricultural Marketing (Optional)

**Subject: MICRO ECONOMICS - PAPER II
(Teaching Hrs. 5 per week)**

Objectives :

1. To popularize cost & revenue concepts .
2. To know how prices are determined.
3. To educate about distribution of income.

Unit - 1 : Cost and Revenue Analysis.

Meaning & types of Cost of production and Revenue.
Short run & Long run Cost and Revenue curves.
Production Function. Law of variable proportions.
Role of innovations in promoting production.

Unit - 2 : Market

Meaning and Classification of Market.
Meaning of Firm & Industry.
Equilibrium of Firm & Industry : Short run & Long run.
Role of Entrepreneur in promoting marketing.
Meaning and features of Perfect Competition.

Unit - 3 : Monopoly

Meaning and features of Monopoly Market. Price and output determination in short run & long run under Monopoly Price discrimination. Meaning & types.
Evils & Control of Monopoly.
Meaning and feature of Oligopoly.

Unit - 4 : Monopolistic Competition

Meaning and features of Monopolistic Competition.
Price and output determination in short run and in long run under Monopolistic Competition.
Skimming & Penetration price policy.

Unit - 5 : Factor Pricing

Meaning of distribution. Marginal Productivity theory of distribution.

- a) Rent : Meaning & Concepts of Rent. Ricardian theory & Modern theory of rent - Quasi rent.
- b) Wages : Meaning & Concepts of Wages. Subsistence theory. Nominal & real wages. Wage differentials. Minimum Wages.
- c) Interest : Net & Gross Interest. Liquidity Preference theory of Interest.
- d) Profit : Meaning & Concepts of Profit. Risk & Uncertainty theory. Innovation theory.

Reference Books:

1. Principles of Economics	M. L. Seth.
2. Principles of Economics	K. K. Dewett.
3. A Text book of Economic Theory	A. W. Stonier and Hague
4. A Text book of Economics	P.A. Samuelson and Nogardus
5. Micro Economic Theory	M. L. Jingan
6. Modern Economics	K.K. Dewett and K.P.M. Sundaram
7. Micro Economics	P. N. Chopra
8. Economic Theory	Kulkarni and Kalkundrikar

Allotment of Teaching Hrs

Total Teaching Hrs	:	50 hrs
Practical 04 Hrs per week	:	
Two Internal Tests	:	02 Hrs
Group Discussion and Case Studies	:	04 Hrs
Seminar, Field Works and Home assignments	:	04 Hrs
Total	:	60 Hrs

Allotment of Marks

- A) Theory Exam - 80 Marks + Internal Marks $20 = 100$
- B) Practical Exam - 40 Marks + Internal Marks $10 = 50$

Practicals :

1. Study of different types of markets.
2. Identification of nature of market by visiting the local markets.
3. A practical study of oligopoly market.

4. A practical study of monopolistic market.
5. A practical study of socio- economic conditions of labors.
6. A collection of data of profit earned by a company.
7. Visit to agriculture marketing society.

2. Criminology and Forensic Science (Optional)

B.A.SECOND SEMESTER

PAPER 2A: INTRODUCTION TO FORENSIC SCIENCE

Max.Marks: 80+20=100

Teaching 5 Hrs/Week

Course Objectives:

This course will introduce basics of Forensic Science, its main tenets, organization and administration and the related institutions. It also introduces students to basic theory and practice in respect of the use of scientific knowledge relating to physical clues and their links with the crime and the criminals.

Course Contents:

UNIT I:

(i) Forensic Science as a science applied to the cause of justice; Basic Principles of Forensic Science; Scientific evidence (section 43, 45, 59 to 79, 137-138 of IE Act) to link and identify criminals through physical “clues” and their tools (ii) Identification of criminals through eye witness description, identification parade and its procedure; drawing features of body (Anthropometry, Bertillonage, Portait Parle); (iii) identification of criminals through their body parts, fluids or distinguishing features;

UNIT II:

Law of Individual Differences: Quetelet’s Rule, means of identity: fingerprints, footprints, bite marks, lip prints, tool marks, Iris image, biometric method, DNA fingerprinting; body smells: dog squad; modus operandi.

UNIT III:

Linking clues found in the crime scene to the criminals: (a) Ballistics, (b) Handwriting and questioned documents, printed matter, e-mails/sms; (c) soil analysis in vehicle accidents, tyre or skid marks; (d) clues in arson and fire investigation; (e) voice identification;

UNIT IV:

Linking clues to criminals: toxicology: definition of poison, types of poisons, major poisons and their identification; toxicological methods: chromatography, spectrometer, other major methods of chemical examination; (b) addictive drugs: opium and opiates, cannabis, LSD, cocaine, amphetamines, NDPS Act and its implementation.

UNIT V:

Forensic Medicine: “dead body tells a tale”: (a) autopsy: cause of death and types of death; rigor mortis and time of death; cadaveric spasm and signs of violence; ligature marks in hanging cases: suicidal or homicidal; types of injuries and weapons used; body fluids and their identity; blood and its grouping, semen, sweat and smell; hair, bones, determination of age and sex.(b) in some cases biopsy of samples of the accused and victims would be needed such as DNA, hair, blood;

References:

1. Textbook of Medical Jurisprudence by J.N. Modi
2. Forensic Science in Crime Investigation by Nabar.B.S.
3. Forensic Science in Criminal Investigation by B.R.Sharma
4. Criminalistics by Paul Kirk
5. Criminalistics by Safferstien, Richard M
6. Hand Book of Forensic Science –Karnataka Police Academy, Mysuru.

**PAPER 2B
PRACTICAL**

Max.Marks: 40+10=50

4 Hrs/Week

- I. Fingerprint patterns and developing latent Fingerprint by using powders.
- II. Handwriting Comparison, Examination of Currency and Forged documents.
- III. Lifting of surface and sunken footprints
- IV. Examination of Hair
- V. Blood Grouping and Benzedrine Test
- VI. Examination of Glass Fracture
- VII. Visit to Regional Forensic Science laboratory and Fingerprint unit.

B.A Second Semester

3. Economics of Rural Development (Optional)

Subject: MICRO ECONOMICS - PAPER II
(Teaching Hrs. 5 per week)

Objectives:

1. To popularize cost & revenue concepts .
2. To know how prices are determined.
3. To educate about distribution of income.

Unit - 1 : Cost and Revenue Analysis.

Meaning & types of Cost of production and Revenue.
Short run & Long run Cost and Revenue curves.
Production Function. Law of variable proportions.
Role of innovations in promoting production.

Unit - 2 : Market

Meaning and Classification of Market.
Meaning of Firm & Industry.
Equilibrium of Firm & Industry : Short run & Long run.
Role of Entrepreneur in promoting marketing.
Meaning and features of Perfect Competition.

Unit - 3 : Monopoly

Meaning and features of Monopoly Market. Price and output determination is short run & long run under Monopoly Price discrimination. Meaning & types.
Evils & Control of Monopoly.
Meaning and feature of Oligopoly.

Unit - 4 : Monopolistic Competition

Meaning and features of Monopolistic Competition.
Price and output determination in short run and in long run under Monopolistic Competition.
Skimming & Penetration price policy.

Unit - 5 : Factor Pricing

Meaning of distribution. Marginal Productivity theory of distribution.
a) Rent : Meaning & Concepts of Rent. Recardian theory & Modern theory of rent - Quasi rent.

- b) Wages : Meaning & Concepts of Wages. Subsistence theory. Nominal & real wages. Wage differentials. Minimum Wages.
- c) Interest : Net & Gross Interest. Liquidity Preference theory of Interest.
- d) Profit : Meaning & Concepts of Profit. Risk & Uncertainty theory. Innovation theory.

Reference Books:

1. Principles of Economics	M. L. Seth.
2. Principles of Economics	K. K. Dewett.
3. A Text book of Economic Theory	A. W. Stonier and Hague
4. A Text book of Economics	P.A. Samuelson and Nogardus
5. Micro Economic Theory	M. L. Jingan
6. Modern Economics	K.K. Dewett and K.P.M. Sundaram
7. Micro Economics	P. N. Chopra
8. Economic Theory	Kulkarni and Kalkundrikar

Allotment of Teaching Hrs

• Total Teaching Hrs	:	50 hrs
• Two Internal Tests	:	02 Hrs
• Group Discussion and Case Studies	:	04 Hrs
• Seminar, Field Works and Home assignments	:	04 Hrs
Total	:	60 Hrs

Allotment of Marks

A) Theory Examination	-	80 Marks
B) Internal Assessment including attendance	-	20 marks
Total marks	-	100 marks

B.A Second Semester

4. Economics (Optional)

Subject: MICRO ECONOMICS - PAPER II
(Teaching Hrs. 5 per week)

Objectives:

1. To popularize cost & revenue concepts.
2. To know how prices are determined.
3. To educate about distribution of income.

Unit - 1 : Cost and Revenue Analysis.

Meaning & types of Cost of production and Revenue.
Short run & Long run Cost and Revenue curves.
Production Function. Law of variable proportions.
Role of innovations in promoting production.

Unit - 2 : Market

Meaning and Classification of Market.
Meaning of Firm & Industry.
Equilibrium of Firm & Industry : Short run & Long run.
Role of Entrepreneur in promoting marketing.
Meaning and features of Perfect Competition.

Unit - 3 : Monopoly

Meaning and features of Monopoly Market. Price and output determination in short run & long run under Monopoly. Price discrimination. Meaning & types.
Evils & Control of Monopoly.
Meaning and feature of Oligopoly.

Unit - 4 : Monopolistic Competition

Meaning and features of Monopolistic Competition.
Price and output determination in short run and in long run under Monopolistic Competition.
Skimming & Penetration price policy.

Unit - 5 : Factor Pricing

Meaning of distribution. Marginal Productivity theory of distribution.

- theory of
- a) Rent : Meaning & Concepts of Rent. Recardian theory & Modern rent - Quasi rent.
 - b) Wages : Meaning & Concepts of Wages. Subsistence theory. Nominal & real Wages. Wage differentials. Minimum Wages.
 - c) Interest : Net & Gross Interest. Liquidity Preference theory of Interest.
 - d) Profit : Meaning & Concepts of Profit. Risk & Uncertainty theory. Innovation theory.

Reference Books:

1. Principles of Economics	M. L. Seth.
2. Principles of Economics	K. K. Dewett.
3. A Text book of Economic Theory	A. W. Stonier and Hague
4. A Text book of Economics	P.A. Samuelson and Nogardus
5. Micro Economic Theory	M. L. Jingan
6. Modern Economics	K.K. Dewett and K.P.M. Sundaram
7. Micro Economics	P. N. Chopra
8. Economic Theory	Kulkarni and Kalkundrikar

Allotment of Teaching Hrs

Total Teaching Hrs	:	50 hrs
Two Internal Tests	:	02 Hrs
Group Discussion and Case Studies	:	04 Hrs
Seminar, Field Works and Home assignments	:	04 Hrs
Total	:	60 Hrs

Allotment of Marks

A) Theory Examination	- 80 Marks
B) Internal Assessment including attendance	- 20 marks
Total marks	- 100 marks

B.A Second Semester

5. Education (Optional)

B.A. Second Semester EDUCATION (Optional)

SOCIOLOGICAL FOUNDATIONS OF EDUCATION

Teaching 05 hours per week

Total 60 hours

OBJECTIVES:-

Upon Completion of the course, the students will be able to:-

- 1) describe the components and principles of curriculum
 - 2) trace the role of Education in Socialization process and favorable conditions for effective socialization
 - 3) interpret the role of teacher in ancient and Free India
 - 4) the role and importance of Education in Social change
 - 5) develop awareness of eternal human values

Unit I- Society and Education

- 1.1 Sociological bases of Education- meaning and concept
 - 1.2 Meaning and importance of Socialization
 - 1.3 Education as a Socializing factor, conditions for effective socialization
 - 1.4 Meaning and concept- Culture, cultural change and cultural lag
 - 1.5 Education for transmission and refinement of culture

12 hrs

Unit II – Curriculum (Functions and Design)

- 2.1 Curriculum- meaning and importance of Curriculum
 - 2.2 Components of Curriculum
 - 2.3 Distinction between Curriculum and Syllabus
 - 2.4 Principles of curriculum construction
 - 2.5 Curriculum Design: Subject centered, Learners centered, Problem centered, Activity Centered

12 hrs

Unit III- Education for Social Change

- 3.1 Social change: meaning and significance
- 3.2 Factors influencing social change,
- 3.3 Resistance for social change and Education as an instrument of social change
- 3.4 Modernization - meaning, characteristics, causes and Educational implications.
- 3.5 Education and Economic Development: their inter-relationship, Education as an aspect of Human Resource Development

12 hrs

Unit IV - Teacher

- 4.1 The role of teacher in ancient India
- 4.2 Educational qualifications of a teacher, Qualities and responsibilities of a teacher
- 4.3 Relationship between teacher and students, teacher and parents, teacher and head master
- 4.4 The role of a teacher in modern India
- 4.5 Professional ethics of teacher

12 hrs

Unit V- Education and Values

- 1.1 Values – Meaning and definitions
- 1.2 Importance of values
- 1.3 Classification : Physical, emotional, mental, aesthetic, social, moral and spiritual values and their examples
- 1.4 Religions as sources of eternal human values : Righteousness, Non violence, universal love or humanism, truthfulness and peace
- 1.5 Approaches to inculcation of Value Education : Direct, Indirect, Incidental and integrated methods

12 hrs

ASSESSMENT

Internal	Internal Marks	External Marks
Two Tests (4+10)	14 Marks	
Assignment/Seminar/Project/ Field work/ NSS/ NCC (3)	03 Marks	Theory Examination
Attendance (3)	03 Marks	80 Marks

Assignments: (any one)

- 1) Analyze the importance of Value Education in present context
- 2) The role of teacher in ancient India
- 3) Distinction between Curriculum and Syllabus
- 4) Education as Socializing factor, conditions for effective socialization
- 5) Any other assignment suggested by the teacher relevant to the topics

References:

- Brown.F.1. - (1947) Educational sociology: New Delhi: Prentice Hall
- Bhushan.V.S- (1982) Introduction to sociology, Allahabad: Kitab Mahal
- Mathur.S.S. - (1966) A Sociological approach to Indian Education, Vinod Pustak Maldig
- Agarwal J C - Theory and Principles of Education Vikas Publishing House Pvt. Ltd. Delhi
- Chaube S P - Foundations of Education Vikas Publishing House Pvt. Ltd. Delhi
- Dr.Sharma - Philosophical and sociological Foundations of Education. Laxmi Narian Agarwal Education Publishers, Anupam Plaza Agra.
- Saiyibuduim - Education culture and social order
- Moris Ginsburg -Sociology of Education
- Lokman Ali – Teacher Education
- S.K.Murthy - Philosophical and Sociological foundations of Education
- R.S.Pandey - Principles of Education
- Ottaway - Introduction to the sociology of Education
- ಬಿ.ಡಿ. ಕರ್ಜಗಿ - ಶೈಕ್ಷಣಿಕ ತತ್ವಗಳು ಮತ್ತು ಶೈಕ್ಷಣಿಕ ಸಮಾಜಶಾಸ್ತ್ರ
- ಮೌ.ದಳವಾಯಿ ಎಸೋ.ಬಿ(2011) ಸಮಾಜಶಾಸ್ತ್ರದ ದೃಷ್ಟಿಯಲ್ಲಿ ಶೈಕ್ಷಣಿಕ ವಿದ್ಯಾನ್ವಿತ ಪ್ರಕಾಶನ,ಗದಗ

-  **ಮೇ. ಕೆ.ಜಿ. ಸುಲಕ್ಷ್ಯ - ಶಿಕ್ಷಣದ ತಾತ್ವಿಕ ಹಾಗೂ ಸಾಮಾಜಿಕ ಬುನಾದಿಗಳು**
-  **ಮೇ.ದಳವಾಯಿ ಎಸ್.ಬಿ(2013-14) ಪ್ರಗತಿಶೀಲ ಭಾರತದಲ್ಲಿ ಶಿಕ್ಷಣ ,ವಿದ್ಯಾನಿರ್ದಿಷ್ಟ ಪ್ರಕಾಶನ,ಗದಗ**
-  **ರುದ್ರೇಶ ಬಿ ಎಸ್ (2007)- ಭಾರತೀಯ ಸಮಾಜದಲ್ಲಿ ಶಿಕ್ಷಕ ಹಾಗೂ ಶಿಕ್ಷಣ, ವಿದ್ಯಾನಿರ್ದಿಷ್ಟ ಪ್ರಕಾಶನ,ಗದಗ**
-  **ಚಂದ್ರಾಚಾರ ಎಚ್.ಎಂ.(2002-03) ಶಿಕ್ಷಣದ ಪರಿಕಲ್ಪನಾತ್ಮಕ ಬುನಾದಿಗಳು,ಅಶ್ವಿನಿ ಪ್ರಕಾಶನ,ರಾಜೀವೆನ್ನೂರು**

Question Paper Pattern: **Total 80 Marks**

- | | |
|--|------------------------|
| Q.I. Answer any 10 out of 12 questions in two to three sentences each | (10x2=20 marks) |
| Q.II. Answer any 5 out of 7 questions in about one page each | (5x5=25 marks) |
| Q.III. Answer any 2 out of 3 questions in about two pages each | (2x10=20 marks) |
| Q.IV. Answer any 1 out of 2 questions in about three pages | (1x15=15 marks) |

6. Hindustani Music (Optional)

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚರ್)

ಬಿ. ಎ. II ಸೆಮಿಸ್ಪರ್ದೆ
ಕಲಿಕೆ ಮತ್ತು ಪರೀಕ್ಷೆ ವಿಧಾನ

ಕಲಿಕಾ ಅವಧಿಗಳು:
ಶಾಸ್ತ್ರ ವಿಭಾಗ ಪ್ರತಿ ವಾರಕ್ಕೆ : 2 ಫಂಟೆಗಳು
ಪ್ರಾಯೋಗಿಕ ಪ್ರತಿವಾರಕ್ಕೆ 6 ಗಂಟೆಗಳು
ರಿಯಾಜ್ ಪ್ರತಿವಾರಕ್ಕೆ : 1 ಗಂಟೆ
(ಬೋಧನಾ ಅವಧಿ ಹೊರತು ಪಡಿಸಿ.)

ಪರೀಕ್ಷೆ ವಿಧಾನ:

ಶಾಸ್ತ್ರ ವಿಭಾಗ: 40 ಅಂಕಗಳ ಒಂದು ಪತ್ರಿಕೆ 2 ಗಂಟೆಗಳ ಅವಧಿ (ಪರೀಕ್ಷೆ 40 + ಅಂತರಿಕ 10 = 50)
ಪ್ರಾಯೋಗಿಕ: 80 ಅಂಕಗಳ ಪ್ರಾಯೋಗಿಕ ಪತ್ರಿಕೆ ಪ್ರತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ 15 ನಿಮಿಷ ಅವಧಿಯ
ಪ್ರಯೋಗಿಕ ಪರೀಕ್ಷೆ

ಅಂತರಿಕ ಮೌಲ್ಯಮಾಪನ ಅಂಕಣ: 1) ಪ್ರಾಯೋಗಿಕ – 20 (ಪ್ರಾಯೋಗಿಕ ಪರೀಕ್ಷೆ 80 + ಅಂತರಿಕ 20 = 100)

II ಸೆಮಿಸ್ಪರ್ದೆ ಒಟ್ಟು ಅಂಕಗಳು 150 ಅಂಕಗಳು

- ❖ ಪ್ರಾಯೋಗಿಕ ತರಗತಿಯಲ್ಲಿ ಗರಿಷ್ಟ 5 ವಿದ್ಯಾರ್ಥಿಗಳು ಒಂದು ತರಗತಿಗೆ ಕಡ್ಡಾಯವಾಗಿದ್ದು, ಮುರುಷ ಮತ್ತು ಮಹಿಳಾ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಪ್ರತ್ಯೇಕ ಬ್ಯಾಚಗಳನ್ನು ಮಾಡಬೇಕು.
- ❖ ಪ್ರಾಯೋಗಿಕ ಹಾಗೂ ಶಾಸ್ತ್ರ ವಿಭಾಗಗಳಲ್ಲಿ ತೇಗೆಡೆಯಾಗುವುದು ಕಡ್ಡಾಯವಾಗಿದೆ.
- ❖ ಪ್ರತಿವಾರಕ್ಕೆ 1 ತಾಸಿನ ರಿಯಾಜ ತರಗತಿಯ ಎಲ್ಲ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಕಡ್ಡಾಯವಾಗಿದ್ದು, ತಬಲಾ ಸಾಧಿದಾರರೊಂದಿಗೆ ತರಗತಿ ನಡೆಯುವುದು.

ಸಂಗೀತಶಾಸ್ತ್ರ (ಧೇರಿ)

ಗರಿಷ್ಟ ಅಂಕಗಳು: 40

- 1) ರಾಮಾಯಣ ಮತ್ತು ಮಹಾಭಾರತ ಕಾಲದ ಸಂಗೀತದ ಬೆಳವಣಿಗೆ.
- 2) ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತದ ಹಾಡುಗಾರಿಕೆಯ ವಿವಿಧ ಶೈಲಿಗಳು. (ಧ್ರುವದ್ವಾ, ಧರ್ಮಾರ, ಖ್ಯಾಲ, ತುಮರಿ, ಟಪ್ಪಾ, ತರಾನಾ)
- 3) ತಬಲಾ ವಾದ್ಯದ ಪರಿಚಯದೊಂದಿಗೆ ಚಿತ್ರ ಸಹಿತ ಅಂಗವಣಣನೆ.
- 4) ನಿಬಂಧಗಳು:
 1. ಜೀವನ ಮತ್ತು ಸಂಗೀತ
 2. ನಿಸಗ್ರಹ ಮತ್ತು ಸಂಗೀತ
 3. ರಾಷ್ಟ್ರೀಯ ಭಾಷ್ಯಕೆಯಲ್ಲಿ ಸಂಗೀತದ ಪಾತ್ರ

5) ಸಂಗೀತ ಗ್ರಂಥಗಳು

1. ನಾಟ್ಯಶಾಸ್ತ್ರ
 2. ಬೃಹದ್ಯೇತಿ
 3. ನಾರದೀಯ ಶಿಕ್ಷಣ
- 6) ತಬಲಾ ವಾದ್ಯದ ವಿವಿಧ ಪ್ರಾಣೆಗಳು
- 7) ಜಾನಪದ ಸಂಗೀತದ ಹುಟ್ಟಿ ಮತ್ತು ಬೆಳವಣಿಗೆ.

ಪ್ರಾಯೋಗಿಕ

ಗಾಯನ

ಗರಿಷ್ಠ ಅಂಕಗಳು: 80

- 1) ರಾಗ: ಭೈರವ. ಈ ರಾಗದಲ್ಲಿ ಬಡಾಶ್ಯಾಲ ಮತ್ತು ಒಂದು ಫೋಟಾಶ್ಯಾಲನ್ನು 4 ಆಲಾಪ 4 ತಾನಗಳೊಂದಿಗೆ ಹಾಡುವುದು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 2) ರಾಗಗಳು:
ದುರ್ಗಾ, ಬೃಂದಾವನಿಸಾರಂಗ
ಮೇಲ್ಮೈಸಿದ ತಲಾ ಒಂದೊಂದು ಫೋಟಾಶ್ಯಾಲಗಳನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ತಾನಗಳೊಂದಿಗೆ ಹಾಡಲು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 3) ಸುಗಮ ಸಂಗೀತ :- ಯಾವುದೇ ಒಂದು ರಾಗದಲ್ಲಿ ವಚನ ಹಾಡುವುದು.
- 4) ತಾಲಗಳು:
ಕೇರವಾ, ರೂಪಕ, ಏಕತಾಲ
ಮೇಲ್ಮೈಸಿದ ತಾಲಗಳನ್ನು ಕೈಯಲ್ಲಿ ಹಾಕಿ ತಾಲಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

ಸಿತಾರ

1) ರಾಗ: ಭೃರವ. ಈ ರಾಗದಲ್ಲಿ ಮಸೀತೋಖಾನಿಗ್ತೋ ಹಾಗೂ ಒಂದು ರಚಾಖಾನಿಗ್ತೋನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸಿತಾರದಲ್ಲಿ ನುಡಿಸಿ ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

2) ರಾಗಗಳು:

ದುರ್ಗಾ, ಬೃಂದಾವನಿ ಸಾರಂಗ

ಮೇಲಾಣಿಸಿದ ತಲಾ ಒಂದೊಂದು ರಚಾಖಾನಿ ಗ್ತೋಗಳನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸಿತಾರದಲ್ಲಿ ನುಡಿಸುವುದು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

3) ಸಿತಾರ ವಾದ್ಯದಲ್ಲಿ ರಾಷ್ಟ್ರೀಯ ನುಡಿಸುವುದು.

4) ತಾಲಗಳು:

ಕೇರವಾ, ರೂಪಕ, ಏಕತಾಲ

ಮೇಲಾಣಿಸಿದ ತಾಲಗಳನ್ನು ಕೈಯಲ್ಲಿ ಹಾಕಿ ತಾಲಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

ತೆಬಲಾ

1) ತೀನತಾಲದಲ್ಲಿ ಒಂದು ಪೇಶಾರ, ಒಂದು ಕಾಯ್ದಾವನ್ನು ನಾಲ್ಕು ನಾಲ್ಕು ಪಲ್ಲಾಗಳನ್ನು ತಿಹಾಯಿ ಸಹಿತ ನುಡಿಸುವುದು.

2) ವಿಲಂಬಿತ ಏಕತಾಲದ ತೇಕಾ ನುಡಿಸುವುದು.

3) ರಘುಪತಾಲದಲ್ಲಿ ಒಂದು ಪೇಶಾರ್ ಒಂದು ಕಾಯ್ದಾವನ್ನು ನಾಲ್ಕು ನಾಲ್ಕು ಪಲ್ಲಾಗಳನ್ನು ತಿಹಾಯಿ ಸಹಿತ ನುಡಿಸುವುದು.

4) ತೀನತಾಲದಲ್ಲಿ ಧಾ, ಧೀನಾ, ಗಿನಾ, ತಿಟ, ತ್ರುಕ, ತಿರಕೆಟ, ಕೆಟಕ, ಧಿಟ, ಧಾಗೆ, ಕತ್ತಾ, ಬೋಲೋಗಳನ್ನು ಬಳಸಿ ಹುಸಿಯಿಂದ ಸಮೃದ್ಧಿಸಿ, ಸಮೃದ್ಧಿಸಿ ಸಮೃದ್ಧಿಸಿ ತಲಾ ಎರಡು ತಿಹಾಯಿ ನುಡಿಸುವುದು.

ರಾಣಿ ಚನ್ನಮ್ಮೆ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ
ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚಿಕ)

ಬಿ. ಎ. II ಸೆಮಿಸ್ಟರ್
ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ

ಗರಿಷ್ಠ ಅಂಕಗಳು: 40

ಅವಧಿ: 2 ಗಂಟೆಗೆ

- ಸೂಚನೆ: 1) ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.
2) ಮೊದಲನೇಯ ಪ್ರಶ್ನೆ ಕಡ್ಡಾಯವಾಗಿದೆ.
3) ಎಲ್ಲ ಪ್ರಶ್ನೆಗಳಿಗೆ ಸಮಾನ ಅಂಕಗಳು.

1) ಕೆಳಗೆ ಕಾಣಿಸಿದ ಬೇಕಾದ ಒಂದು ರಾಗದ ಫೋಟಾ ಖಾಲನ್ನು 4 ಅಲಾಪ, 4 ತಾನಗಳೊಂದಿಗೆ ಅಥವಾ ಒಂದು ರಚಾಖಾನಿ ಗತನ್ನು 4 ಅಲಾಪ ಹಾಗೂ 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸ್ವರ ಲಿಪಿ ಪದ್ದತಿಯಲ್ಲಿ ಬರೆಯಿರಿ.

- a. ಭೃತ್ಯರವ
b. ಬೃಂದಾವನಿ ಸಾರಂಗ

ಅಥವಾ

ರುಪ್ತಾಲದ ಸ್ವರ್ತಂತ್ರ ವಾದವನ್ನು ತಾಲಲಿಪಿ ಪದ್ದತಿಯಲ್ಲಿ ಬರೆಯಿರಿ.

2) ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತದ ಹಾಡುಗಾರಿಕೆಯ ಈ ಕೆಳಗಿನ ಶ್ಲೋಗನ್ನು ವಿವರಿಸಿರಿ.

- a. ಧೃಪದ
 - b. ಧರ್ಮಾರ,
 - c. ಖ್ಯಾಲ
 - d. ತುಮರಿ
 - e. ಟಪ್ಪ್ತಾ
 - f. ತರಣಾ
- 3) ರಾಮಾಯಣ ಮತ್ತು ಮಹಾಭಾರತ ಕಾಲದ ಸಂಗೀತದ ಬೆಳವಣಿಗೆ ಕುರಿತು ಬರೆಯಿರಿ.
- 4) ತಬಲಾ ವಾದ್ಯದ ವಿವಿಧ ಪರಾಣೆಗಳ ಕುರಿತು ವಿವರಿಸಿರಿ.
- 5) ಈ ಕೆಳಗಿನವುಗಳಿಗೆ ನಿಬಂಧ ಬರೆಯಿರಿ. (ಬೇಕಾದ 2)
- a. ನಿಸಗ್ರ ಮತ್ತು ಸಂಗೀತ
 - b. ಜೀವನ ಮತ್ತು ಸಂಗೀತ
 - c. ರಾಷ್ಟ್ರೀಯ ಭಾಷ್ಯಕ್ಕೆಯಲ್ಲಿ ಸಂಗೀತದ ಪಾಠ

GROUP – E

B.A Second Semester

1. HISTORY (Optional)

History and Archaeology B.A. IInd Semester

History and Culture of Karnataka (1336 to 1956)

Paper II

One paper carrying 80 Marks and three hours duration
(Teaching hours: 5 hours Per week – 16hoursX 5= 80 hours)

UNIT- I

- A. Vijayanagara: Introduction, Krishnadevaraya, Ramaraya, Battle of Talikote and Decline.
 - B. Society, (Caste system and status of women), State income, Industrial and Irrigation taxes, Guilds (Craft guilds and Merchant guilds), Art and Architecture.
 - C. Bahamani and Adilshahis
- Md. Gavan, Ibrahim-II
State income and trade contacts, development of cities

20 Hours

UNIT-II

- A. Religion and Phylosophy: New religious sects, Kalamukha and Shakta Sufis in Karnataka
- B. Dasa Literature: Purandara dasa and Kanakadasa, Christianity and its impact.
- C. Wodeyars of Mysore: Chikkadevaraja Wodeyar: Administrative system (Athara Kacheri) Development of language (Education and Literature)

15 Hours

UNIT- III

- A. Minor dynasties: Nayakas of Keladi, and Chitradurga- Revenue policy of Shivappa Nayaka.
- B. Hyderali and Tippu Sultan.
Tippu's Economic innovations.
- C. Commissioners rule in Karnataka:
Mark Cubbon and Bowring. Their Administration and development of Mysore and Bangalore.

20 Hours

UNIT- IV

- A. Krishnaraja Wodeyar IV:
Dewans of Mysore: Sheshadri Iyyer, Vishweshwarayya, Mirja Ismail.
- B. Impact of West – Nationalism
Freedom movement in Karnataka
Contemporary Issues: Back ward classes movement.
- C. Unification of Karnataka.

20 Hours

UNIT- V Maps

- A. Vijayanagara empire under Krishnadevaraya
- B. Locate the Religious centers in Karnataka
- C. Places of Historical importance.

05 Hours

1. Talikote
2. Hampi
3. Bijapur
4. Bidar
5. Gulberga
6. Raichur
7. Chitradurga
8. Mudgal
9. Ikkeri
10. Bidanur
11. Bankapur
12. Budikote
13. Devanahalli
13. Manglore
14. Mysore
15. Bangalore
16. Bhadravati
17. Esuru
18. Belagavi
19. Vidurashwatha.
20. Belgaum

Books for Reference.

1. History of Karnataka : Desai P.B
2. Karnataka through the Ages : R.R Diwakar and others
3. History of South India : K.A. Nilakantha Shastri.
4. Early History of Deccan : Yazdani. E
5. History and Cultural of Karnataka : Basavaraj. K.R
6. Concise History of Karnataka : Suryanath Kamath
7. History of Karnataka : H. V. Shreenivasmurthy.
8. Karnatakada Itihasa : Suryanath kamat
9. Karnatakada Itihasa : K. Sadashiva
10. ಕರ್ನಾಟಕ ಇತಿಹಾಸ ಮತ್ತು ಸಂಸ್ಕೃತಿ : ಡಾ. ಬಸವರಾಜ ಅಂಗಡಿ

B.A Second Semester

2. Journalism & Mass Communication(Optional)

Paper : Fundamentals of Communication

Teaching : Theory 5 hours per week total 60 hrs

Examination Theory 80 marks 3 hrs duration 20 IA

1. Significance of communication process- elements of communication, Intra, Interpersonal, Group and Mass communication (12) hrs.
2. Basic Models of communication Shannon and Weaver, Berlo, Lass well and Schramm - Communication theories, psychological, sociological theories and Media Effects (12) hrs
3. Mass Media and their role-New communication media , Internet and Data bases- Electronic publications (12) hrs
4. Role of Communication in development-Application of modern communication technologies for development purposes (12) hrs.
5. Evolution of photography-Use of photographs by newspapers and magazine- Development cinema in India-Cinema as entertainment medium-Current status of Indian film industry (12) hrs.

Reference Books:

- | | |
|---|-----------------------------|
| 1. Mass Communication and Journalism in India | - Kevel J. kumar |
| 2. The media in your life | - Folkerts and S lay |
| 3. Mass Communication theory | - S.J. Baran and D.K. Davis |
| 4. Communication for Development | - S.Melkote |
| 5. Mass Communication Theory | - Baran and Davis |
| 6. Mass Communication Theory | - Dennis McQuail |
| 7. Adhunika Samuha Madyamagalu | - B.S. Chandrashekar |
| 8. Samvahana Madhyamagalu mattu Kannada | - T.C. Poornima |

Four Assignments have to submitted for the award of IA marks (10)

1. A review of an Internet site
2. Review of a Cinema
3. An assessment of news photographs published in a daily
4. Submission of a photo feature on any topic with 6-8 photographs.

B.A Second Semester

3. Folk literature (Optional)

ಬಿ. ಎ. ಭಾಗ 1- 2ನೇ ಸೆಮಿಸ್ಪರ್ಶ ಪತ್ರಿಕೆ-2

ಅ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯದ ಗದ್ದೆ ಪ್ರಕಾರಗಳು	ಅಂತರ್ಗಳು 40
ಬ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯದ ಗದ್ದೆ ಕೃತಿ ಅಧ್ಯಯನ	ಅಂತರ್ಗಳು 40
ಕ) ಅಂತರಿಕ ವೋಲ್ಯುಮಾವನ	ಅಂತರ್ಗಳು 20
ಆ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯದ ಗದ್ದೆ ಪ್ರಕಾರಗಳು	
ಫಟಕ 1 ಜನಪದ ಕಥೆ, ಸ್ವರೂಪ, ಲಕ್ಷಣ ಮತ್ತು ಪ್ರಕಾರಗಳು	
ಫಟಕ 2 ಗಾದೆ, ಸ್ವರೂಪ ಲಕ್ಷಣ ಪ್ರಕಾರಗಳು	
ಫಟಕ 3 ಒಗಟು, ಸ್ವರೂಪ, ಲಕ್ಷಣ ಪ್ರಕಾರಗಳು	
ಫಟಕ 4 ಒಡಚು, ಸ್ವರೂಪ ಲಕ್ಷಣ ಪ್ರಕಾರಗಳು	
ಫಟಕ 5 ಒಡಮು, ಸ್ವರೂಪ ಲಕ್ಷಣ ಪ್ರಕಾರಗಳು	
ಬ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯದ ಗದ್ದೆ ಕೃತಿ ಅಧ್ಯಯನ	
ಫಟಕ 1 ಜನಪದ ಕಥೆಗಳು	- 02
ಫಟಕ 2 ಜನಪದ ಗಾದೆಗಳು	- 20
ಫಟಕ 3 ಜನಪದ ಒಗಟುಗಳು	- 20
ಫಟಕ 4 ಒಡಮುಗಳು	- 10
ಫಟಕ 5 ಒಡಚುಗಳು	- 10
ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು	
1) ಜಾನಪದ ಸ್ವರೂಪ ಮತ್ತು ಸಾಹಿತ್ಯ : ಹೊ. ಡಿ. ಲಿಂಗಯ್ಯ ಡಾ. ಕೆ. ಆರ್. ಸಂಧ್ಯಾರೆಣ್ಣಿ	
2) ಜನಪದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳು : ಸಾಹಿತ್ಯ ಅಕಾಡೆಮಿ ಬೆಂಗಳೂರು	
3) ಜಾನಪದ ಅಧ್ಯಯನ : ಡಾ. ದೇ ಜವರೀಗೌಡ ಚೇತನಾ ಬುಕ್ಸೋಸ್ ಮೈಸೂರು	
4) ಆಯ್ದು ಜನಪದ ಒಗಟುಗಳು : ಸಂ. ಡಾ. ಸೋಮಶೇವಿರ ಇಮ್ರಾಮಾರ ಚೇತನ ಪ್ರಕಾಶನ ಧಾರವಾಡ	
5) ಉತ್ತರ ಕನಾಟಕದ ಗಾದೆಗಳು : ಸಂ. ಡಾ. ಬಿ. ಬಿ. ಹೆಂಡಿ. ಡಾ. ಎಂ. ಎಸ್. ಲತ್ತೆ. ಸಮಾಜ ಮಸ್ತಕಾಲಯ ಧಾರವಾಡ	
6) ಆಯ್ದು ಗಾದೆಗಳು ಹಾಗೂ ಒಗಟುಗಳು : ಡಾ. ವೀರಣ್ಣ. ಎಸ್. ದಂಡೆ. ಮೂಡಲ ಪ್ರಕಾಶನ ಕಲ್ಪಗಿರ್	
7) ಕನ್ನಡ ಜಾನಪದ ಪ್ರಜ್ಞೆ : ಡಾ. ವೀರಣ್ಣ. ದಂಡೆ	
1) ಕಥೆ ಮು 99-150 2) ಗಾದೆ ಮು 1773) ಒಗಟು ಮು 188	
8) ಜಾನಪದ ಸೌರಭ : ಡಾ. ಬಿ. ಎಸ್. ಸ್ವಾಮಿ	
ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ	
ಪ್ರಶ್ನೆ-1 ಪ್ರೀಯಂದ ರೂಪದ ಪ್ರಶ್ನೆ (ಲೇಖನವನ್ನು ಆಧರಿಸಿ)	12
ಪ್ರಶ್ನೆ-2 ಪ್ರಬಂದ ರೂಪದ ಪ್ರಶ್ನೆ (ಲೇಖನವನ್ನು ಆಧರಿಸಿ)	12
ಪ್ರಶ್ನೆ-3 ಪ್ರಬಂದ ರೂಪದ ಪ್ರಶ್ನೆ (ಗದ್ದೆ ಕೃತಿಯನ್ನು ಆಧರಿಸಿ)	12
ಪ್ರಶ್ನೆ-4 ಪ್ರಬಂದ ರೂಪದ ಪ್ರಶ್ನೆ (ಗದ್ದೆ ಕೃತಿಯನ್ನು ಆಧರಿಸಿ)	12
ಪ್ರಶ್ನೆ-5 ಟಿಪ್ಪಣಿಗಳು (ಬೇಕಾದ ಮೂರಕ್ಕೆ) (ಇದು ಟಿಪ್ಪಣಿಗಳನ್ನು ಕೊಟ್ಟಿ ಮೂರು ಬರೆಯಬೇಕು)	15
ಪ್ರಶ್ನೆ-6 ವಸ್ತು ನಿಷ್ಠ ಪ್ರಶ್ನೆಗಳು (ಒಂದು ಅಂಕದ ಹದಿನೇಳು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಬೇಕು)	17
ಸಂಪಾದಕರು : ಹೊ. ಎಸ್. ಕೆ. ಕಳಕೊಣಿವರ. ಸಂಗನಬಸವೇಶ್ವರ ಕಲಾ ಮತ್ತು ಕೆ. ಸಿ. ಪಿ. ವಿಜಾನ್ ಬಿಜಾಮಾರ ಹೊ : 9449138068	ಮಹಾವಿದ್ಯಾಲಯ
ಹೊ.ಆರ್. ವಿ. ಪಾಟೀಲ. ಅಂಜಮನ್ ಕಲಾ ವಿಜಾನ್ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ ಬಿಜಾಮಾರ ಹೊ : 9964992545	

B.A Second Semester

4. Prakrit (Optional)

Teaching Hours : 5 Hours per week

B. A. Part I Second Semester Optional - Praakrit			
Teaching hours	-	5 hours per week	
Exam marks	-	80+20=100 of 3 hours Duration	
Text 1) नलकहा (up to दमयन्ती स्वयंवरः)	-	30 Marks	
2) मृच्छकटिम् -VIII Act only	-	40 Marks	
c) Grammer (use of cases) Faminain Gender only	-	10 Marks	
d) Internal marks	-	20 Marks	
e) Assignment, class records skill - development	-		
Total		100 Marks	

B. A. Part - I. Optional - Praakrit

Question Paper Pattern

Second Semester

I.	New types questions / Select the correct answer	10 Marks
II.	A) Translate and explain from नलकहा (any two passages out of three) B) Translate & explain from मृच्छ कटिकम् (any two out of three)	10Marks 10 Marks
III.	Explain with reference to context (any four out of seven)	16 Marks
IV.	Essay type from Nala Kaha (with internal choice)	09 Marks
V.	essay type from मृच्छ कटिकम् VIII (with internal choice)	10 Marks
VI.	Short notes any three out of five from both	15 Marks
Total		80 Marks

GROUP - III

**DRAFTED SYLLABUS FOR All UG Courses
II SEMESTER**

ENVIRONMENTAL STUDIES AND HUMAN RIGHTS (Compulsory Paper)

Teaching hours: 4 hours per week

Section A: ENVIRONMENTAL STUDIES

UNIT-1: NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope, Importance and Awareness
Basics of our solar system
Earth is called blue planet
Public awareness using an environmental calendar of activities

UNIT-2: NATURAL RESOURCES

Meaning
Types of natural resources
Protection
Conservation methods

UNIT-3: ECOSYSTEM

Introduction
Types and components of ecosystem
Structure and function of following ecosystem
a. Forest ecosystem
b. Grassland ecosystem
c. Desert ecosystem
d. Aquatic ecosystem

UNIT-4: BIODIVERSITY AND ITS CONSERVATION

Definition
Levels of biodiversity
Biodiversity at global and national level
Western Ghats as biodiversity hotspot of biodiversity
Threats of biodiversity
Red data book.

UNIT-5: ENVIRONMENTAL ISSUES

Air pollution and its control
Water pollution and its control
Noise pollution and its control
Thermal pollution and its control
Green house effect and global warming
Ozone depletion in the stratosphere
Acid rain, Nuclear winter.
Rules to regulate environmental pollution.

UNIT-6 : ENVIRONMENTAL PROTECTION ACT

Power of central government to take measure to protect and improve environment- 1986 act
Wildlife protection act – 1972
Forest conservation act- 1980
Authorities who sanction grants for conservation of environment

UNIT-7: HUMAN POPULATION AND THE ENVIRONMENT

Population explosion, family welfare programme
Environment and human health.
Value education- HIV/AIDS
Women and child welfare

FIELD WORK

Visit to nearby industrial area to check the impact on environment.

Section B: Human Rights

(Compulsory Paper) for BA II sem and B.Sc II sem. Courses (Total Marks= 40)

Chapter -I	Concept and Development of Human Rights	07 Hours
a)	Meaning Scope and Development of Human Rights	
b)	United Nations and Human Rights – OHCHR (Office of the United Nations High Commissioner for Human Rights)	
c)	Universal Declaration of Human Rights. UDHR 1948, International Covenant on Civil and Political rights. ICCPR 1996 and International Covenant on Economic social and Cultural Rights. (ICESCR) 1966	
Chapter -II	Human Rights in India	07 Hours
a)	Protection of Human Rights Act, 1993	
b)	Third Generation Human Rights (Group Rights) and Fourth Generation Human Rights. (Right to Development and Environmental Rights.)	
c)	Judicial Activism and Human Rights.	
d)	Convention on the Elimination of All forms of Discrimination against Women.	
e)	Convention on the Rights of the Child	
Chapter -III	Enforcement of Human Rights	06 Hours
a)	National Human Rights Commission, State Human Rights Commission powers and functions.	
b)	Media and NGO's	
c)	Human Rights Education, Terrorism and Violation of Human Rights.	
d)	States Role in Preservation and Protection of Human Rights.	

REFERENCES:

1. K.P. Saksena "Human Rights" 1996 New Delhi.
2. Dr. S. Mangalmurthy a "Human Rights " Chetan Book House Mysore2004.
3. Krishnamurthy S. "Human Rights and Police Administration" B. R. Publishing Corporation, Bangalore.
4. B.P. Singh "Human Rights in India" Deep & Deep Publication New Delhi.
5. D.D. Basu, "Human Rights in Constitutional Law" prentice hall.
6. S.O. Agarwal, "Human Rights" Central law Agency, Allahabad.
7. V.A. Anand "Human Rights" Allahabad Law Agency, Faridabad.
8. Dr. M. Jayakar Bhandari, Vasantkumar, Raghava Naik "Environmental Studies and Human Rights"
9. Gokulesh Sharma, Human Rights.
10. Arjun Dev, "Human Rights" Publication 1996
11. Human Rights- A Source Book

Note: The Final Examination is on Multiple Choice Base



RANI CHANNAMMA UNIVERSITY, BELAGAVI

WEL-COME

**TO THE COURSE STRUCTRE AND SYLLABUS OF UNDERGRADUATE
PROGRAMMES – B.A**

IV Semester

w.e.f.

Academic Year 2017-18 and Onwards

BACHELOR ARTS (BA)

GROUP -1 (LANGUAGES)

1. English Basic :

**Detailed Syllabus for BA / BSW / BA in CCJ
(With effect from 2017-18 onwards)
Semester – IV: Basic English
Teaching Hours: 5 Hours per week**

Text: English Teacher – novel by R. K. Narayan

Grammar and Composition

- 1) Correction of errors (focus on the use of articles, prepositions, numbers, subject verb agreement, question tags, Pronouns, adjectives, adverbs, homophones, homonyms)
- 2) Direct and Indirect Speech
- 3) Active Voice and Passive Voice
- 4) Essay Writing on Current topics

Pattern of Question Paper (80 Marks paper of three hours and 20 Marks for I.A)

1) Objective type questions	10X1= 10
2) Comprehension questions (Answer in a sentence or two)	5X2=10
3) Essay type question on Novel (One out of Two)	10
4) Essay type question on Novel (One out of Two)	10
5) Short notes on Novel (Two out of Four)	2X5=10
1) 6) Correction of errors – Compulsory one question from each of the above mentioned topics under Correction of errors should be asked	10
7) A) Direct and Indirect Speech	5X1=05
B) Active Voice and Passive Voice	5X1=05
8) Essay Writing on current topics issue based	10

Detailed Syllabus for BA / BSW / BA in CCJ
(With effect from 2017-18 onwards)
Semester – IV: Additional English
Teaching Hours: 5 Hours per week

Text: Wings of Fire – APJ Abdul Kalam

Grammar and Composition

- 1) Misspell words (Pairs of Words)
- 2) Organising a written composition
- 3) Expansion of outlines into a story
- 4) Letters to News paper editors

Pattern of Question Paper
(80 Marks paper of three hours and 20 Marks for I.A)

1) Objective type questions	10X1= 10
2) Comprehension Questions (Answer in a sentence or two)	5X2= 10
3) Essay type Question (One out of two)	10
4) Essay type question (One out of two)	10
5) Short notes (Two out of Four)	2X5= 10
6) A) Misspell words (Choosing Correct Spelt word)	5X1= 05
B) Organising a Written composition	5X1= 05
7) Expansion of outlines into a story	10
8) Letters to News paper editors	10
	80

2. Kannada Basic

With effect from 2017-18

**ಬಿ.ಎ. 4 ನೇ ಸೆಮೆಸ್ಟರ್‌ನ ಕನ್ನಡ ಪಠಕ್ರಮವನ್ನು
ನಂತರ ಬಿಡಲಾಗುವುದು**

3. Marathi Basic

Semester IV

**Basic Marathi
With effect from 2017-18**

Course: Literary form: Lalit Gadya

Text: Negal: Vilas Manohar (Part - 1)

Grantali, Mumbai

4. Hindi Basic

IVth Semester

With effect from 2017-18

- 1) Examination : a) One Paper carrying 80 Marks and 3 hours of Duration.
b) Internal Assessment Marks 20
- 2) Teaching : 5 hours per week
- 3) Course : 1) Collection of Prose
2) Translation – From Kannada/English in to Hindi
- 4) Distribution of Marks

I	Objective type of Questions 10/14	10 Marks
II	Annotations from Prose 2/4	10 Marks
III	General questions based on Prose 2/4	30 Marks
IV	Short Notes on Prose 3/5	15 Marks
V	Translation	15 Marks
	Total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Text Books- Prose

- 1) **ग य व वधा** पठन के लए (अमृतराय से फणी वरनाथ रेणु तक) Marks: 65

संपादक

डॉ. जयनारायण तवार डॉ. रामसुधार संह
संजय बुक स्टर, वारणास

- 2) Translation (अनुवाद) Marks: 15

Reference Books

1. ह द ग य : व यास और वकास – डॉ. राम व प चतुवद
2. अनुवाद व न : भोलानाथ तवार
3. च तनक ण : महादेवी वमा
4. अनुवाद क या, तकनीक और सम याएँ : ओनारायण समीर
5. ह द का ग य सा ह य : रामचं तवार
6. सा ह य सुमन : बालकृष्ण भ
7. आधुनक ह द सा ह य : व वध आयाम : रमिम हो ।
8. ग य के तमान : व वनाथ साठ तवार

5. Praakrit Basic

Syllabus for B.A. /BSW

B. A. Part -II. Fourth Semester Basic Praakrit		
Teaching hours	-	5 hours per week
Exam marks	-	80+20=100 of 3 hours Duration
Text a) कंसवहो Canto - I	-	40 Marks
	शाकुञ्जलम् Canto - I	- 40 Marks
b)	Internal test	- 10 Marks
	Assignment, Class records Skill, development	- 10 Marks
	Internal Assessment Total	- 20 Marks
Total		100 Marks

Question Paper Pattern Fourth Semester

I.	Match the following or select the right answer (Ten only)	10 Marks
II.	Translate & Explain (any three verses out of five)	18 Marks
III.	Explain with reference to context (any four out of six)	16 Marks
IV.	Essay type questions (any one out of two)	16 Marks
V.	a) Short notes (any three out of five)	15 Marks
	b) Grammer (Praakrit forms)	05 Marks
Total		80 Marks

6. Sanskrit Basic

IV Semester
Samskrit Basic (MIL)
With effect from 2017-18

Teaching Hours : 5 Hours per week

Examination Marks : One paper carrying 100 Marks (80+20) of 3 hours duration

Text

1. मेघदूतम् of Kalidasa
Ed. Dr. C. S. Naikar. Medha Publishers Kalyan Nagar Dharwad, 2010
 2. भजगोविन्दस्त्रोत्रकाव्यं of Shankaracharyaji
समाजपुस्तकालय धारवाड, चिदम्बराश्रम बीदर
 - a) उत्तरमेघ (Verse from 63 to 111) 50 Marks
 - b) भजगोविन्दस्त्रोत्रकाव्यं of Shankaracharyaji 20 Marks
 - c) Grammar (Swara – Sandhis and Samasas : Tatpurusha & Dvandava) 10 Marks
 - d) Internal Assessment 20 Marks
- Total** 100 Marks

B. A. II: Fourth Semester Samskrit Basic Question Pattern:

- I. Multiple choice questions from उत्तरमेघ & History of भजगोविन्दस्त्रोत्रकाव्यं (Any ten out of twelve) 10 Marks
- II. Translation and explanation of Prose / Verse from उत्तरमेघ - (Any three out of five) 15 Marks
- III. Explain the key sentences from उत्तरमेघ (Any three out of five) 12 Marks
- IV. Essay type Question on उत्तरमेघ (With internal choice)
 - (a) Short notes from उत्तरमेघ (Any two out of four) 8 Marks
- V. Essay type question on उत्तरमेघ (with internal choice) 8 Marks
भजगोविन्दस्त्रोत्रकाव्यं (with internal choice)
 - (b) Short notes from भजगोविन्दस्त्रोत्रकाव्यं (with internal choice) 7 Marks
- VI. Grammar – Swara – Sandhis and Samasas : Tatpurusha and Dvandva 10 Marks

7. Arabic Basic:

SYLLABUS OF ARABIC SUBJECT

IV Semester

Arabic Basic

With effect from 2017-18

Paper : Prose, Poetry and History of Arabic Literature

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al-Qiratul Wadhiha Part-II (Prose)

By: Waheeduz.zama Al-Kiranvi. Pub.By:Maktaba Husainia
Deoband (U.P)

Following Lessons.

- (1) Sayul Bareed. (2) AsSaifu. (3) Almataru. (4) AtTilmeezun Najihu
- (5) Nuzhatun Saarratun. (6) Jismul Insaani. (6) Az Zibul khaaib.
- (7) Ad Dajajatu was-salabu.

2. Qaseeda-e-Burdah (Poetry)

By: Imam Boosary Pub.By:Azeem Book Depo Deoband (U.P)

Chapter no. 4

3. Mukhtasar Tareekh-e- Adabiyat-e-Arabi

By: Dr.syed Abul Fazl
Pub.By:Deccan Traders Book Seller
& Publisher 23-2-378, Moghalpura, Hyderabad.

Chapter No.III 3rd & 4th period (daur)

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Suratal Lail.

The question paper should be broadly based on the following pattern.

1)	Multiple choice from first and second text	10x1	= 10
2)	Summary from first text with choice	2x7½	= 15
3)	R.C. from first text with choice	3x5	= 15
4)	Appreciation of verses from second text 2 out of 3	2x7½	= 15
5)	Question from third text with choice	2x7½	= 15
6)	Question on Sura	1x10	= 10

			80

8. Persian Basic:

Syllabus for B.A. /BSW IV Semester

4th Semester Persian
Scheme of teaching (5 hours per week)
Classical poetry/Modern Prose
Prescribed textbook
Shehkar-E-Farsi.
Following prose portion only.
Baharistan-E-Jami.

Textbook

Shahkar-E-Farsi by Hafez Abdul Alim Khan
Pub by:-Ram Narayanlal Bani mahdho2
katra road Allahabad(U.P)
Prescribed text book
Nisab-E-Farsi.
Following portion only
“Gazaliyat”.

Textbook

Nisab-E-Farsi by Dr.Aaftab Akhtar Razvi & Prof M.M. Jalali
Pub by:-Shahnaz publication Shamatganj Barlly(U.P)

Scheme of Examination

Q1.Multiple choice questions	1*10=10
Q2.Essay type question from the text with choice	1*15=15
Q3.Question on R.C from the text	3*05=15
Q4.Translation & Explanation from the text	3*05=15
Q5.Appreciation of verses from the text	3*05=15
Q6.Short notes with choice	2*05=10

9. Urdu Basic:

IV SEMESTER URDU-BASIC (MIL) With effect from 2017-18

Paper IV: Prose, Poetry & Sketch

Scheme of teaching: Duration 16 Weeks – 5 Hours/ Week

Prescribed Text Books:

I. MAYAR-E-ADAB

(Detailed text book)

Edited by: Prof Surayya Hussain
Published by: Educational Book
House, Aligarh

The following portions only:

PROSE - written by:

1. Hasan Nizami
2. Abul Kalam Azaad
3. Farhatulla Baig
4. Abdul Haq
5. Aal Ahmed Suroor

POETRY

GAZALS – written by:

1. Aatish
2. Faani
3. Firaaq
4. Faiz

Qasida by Ghalib

POEMS by:

1. Sardar Jafri
2. Khurshidul-Islam (second poem)

II. HAMARE ZAKIR SAHAB

By: Rasheed Ahmed Siddiqui
Pub by: Educational Book
House, Aligarh

SCHEME OF EXAMINATION (III & IV SEMESTER)

Total Marks – 100 marks (Theory- 80 + Internal Assessment- 20)

- a) Each paper of 100 marks shall carry 20 marks Internal Assessment, 4+10 shall for I.A Test and remaining 3+3 shall be for home assignment and attendance respectively
- b) In each paper 2 tests shall be conducted for the award of I.A marks. First test of one hour duration for maximum 20 marks reduced to 4 marks shall be conducted in 8th week. Second test in 12th week of respective semester of 80 marks and of 3 hours duration then reduced to ten marks.

The question paper shall be broadly based on the following pattern (III & IV semester)

Q. No. 1: Multiple choice questions from both the texts

(10 out of 10) $10 \times 1 = 10$

Detailed Text

Q. No. 2: Essay/Critical Question on Prose

(1 out of 2) $1 \times 15 = 15$

Q. No. 3: Reference to Context

(4 out of 6) $4 \times 2.5 = 10$

Q. No. 4: Appreciation of verses

(4 out of 6) $4 \times 2.5 = 10$

Q. No. 5: Summary/Critical Appreciation of a poem/ Qasida/Marsiya

(1 out of 3)

$1 \times 10 = 10$

Non-Detailed Text

Q. No. 6: Essay/Critical type question on authors Art/form (Novelette) with choice $1 \times 15 = 15$

Q. No.7: Short note on characters (Novelette)

(2 out of 4) $2 \times 5 = 10$

GROUP – II

GROUPED COMBINATION OF SUBJECTS

ARTS					
Sl. No.	A	B	C	D	E
1.	Applied Statistics	Computer Application	Arabic	Agri. Marketing	History
2.	Elements of Mathematics and Statistics	Psychology	Geography	Criminology and Forensic Science	Journalism & Mass Communication
3.	Kannada	Persian	Hindi	Economics of Rural Development	Folk literature
4.	Marathi	Political Science	Philosophy	Economics	Prakrit
5.	Statistics	Sanskrit	Sociology	Education	
6.	Urdu	Home-Science	Social Work	Music	-
7.	English			-	-

Note:

1. A candidate is not permitted to select more than one subject from one group (not more than three in total), subject to the availability of staff and facilities in his/her college.
2. Principals/Candidates are strictly advised to follow the approved regulations in respect of U.G Semester Courses, in addition to the above conditions.

GROUP- A

B.A. – FOURTH SEMESTER

1. APPLIED STATISTICS (OPTIONAL)

With effect from 2017-18

B.A. IV Semester Applied Statistics Paper- Statistical Inference

Unit and unit title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Sampling Distribution	2	1	00	09
II Estimation	2	2	1	24
III Testing of Hypothesis	2	1	2	29
IV Chi-Square Distribution	3	2	1	26
V t-test and F-test	3	2	2	36
Total questions	12	08	06	124

BA IV Semester Applied Statistics (optional) **Statistical inference**

Unit - I Sampling distribution

Definition of population, parameter, sample, statistic, sampling distribution of a statistic along with examples. Definition of standard error. Standard error of mean, standard deviation, proportion, difference of means and difference of proportions. Uses of standard error. Simple problems. 05 Hours

Unit -II Estimation

Explanation of the terms - estimation, point estimation and interval estimation. Meaning of confidence interval, confidence limits and confidence co-efficient with examples. Construction of 95% and 99% confidence interval for mean, difference of means, proportion and difference of proportions for large samples

only. Numerical problems on the construction of 95% and 99% confidence limits for mean, difference of means, proportion and difference of proportions.
15 Hours.

Unit - III Testing of Hypothesis .

Explanation of terms – Statistical hypothesis, Null hypothesis, Alternative hypothesis, Level of significance, critical region, size of the test, power of the test with examples. Definition of type -I and type -II errors. Large sample tests – Test of significance of population mean, test of significance of equality of means of two populations, test of significance of population proportion and test of significance of equality of proportions of two populations.

15

Hours.

Unit - IV Chi-Square Distribution.

Introduction to Chi-square distribution, definition of chi-square variate. Properties of chi- square distribution. Applications of Chi-square distribution . Chi-square test of goodness of fit. Problems on Chi-square test of Goodness of fit. Chi-square test of independence of attributes. Problems on Chi- square test of independence attributes.

10

Hours.

Unit -V t- test and F- test

Definition of t- statistic, assumptions of t-test, properties of t- distribution and applications of t-test . Study of t-test for testing population mean, equality of means and paired t-test and their applications. Definition of F-statistic, assumptions of F-test and properties of F-distribution. F-test for equality of variances and its applications.

15 Hours.

References and Text book :

1. S.G.Gani – A new introductory Statistics and Computer.
2. S.C.Gupta and V. K. Kapoor – Fundamentals of mathematical Statistics
3. S.C.Gupta – Fundamentals of Statistics
4. S.P.Gupta – Statistical methods
5. B.L.Agarwal – Programmed Statistics
6. Saha and Mukharji – Quantitative Methods
7. Raj mohan – Statistics vol-II
8. D.C.Sancheti and V.K.Kapoor – Statistics

BA- FOURTH SEMESTER

3. Elements of Mathematics and Statistics (Optional) IVth Sem

PAPER: ELEMENTS OF MATHEMATICS AND STATISTICS-IV

Duration of Examination: 3 hrs. Max. Marks: 80

Unit I:

Calculus – 1 : Simple inequalities. The concepts of limit and continuity of a function. The concept of derivatives. Rule for finding derivative. Derivatives of exponential and logarithmic functions. Differentials.

(20 Hrs)

Unit II:

Calculus – 2 : Increasing and decreasing functions. Convexity of curves. Maxima and minima of functions of one variable. First and second order conditions. Points of inflexion. Optimization problems and elements of linear programming.

(10 Hrs)

Unit III:

Sampling theory : Censuses and sampling surveys. NSS and population censuses.

(8 Hrs)

Unit IV:

Sampling techniques : Simple random, stratified. Systematic methods of sampling.

(10 Hrs)

Unit V:

Demography : Vital statistics, calculation of mortality and fertility rates, concept of life table and uses.

(12 Hrs)

Reference and Text Books:

1. Modern College Algebra : D.C.Pavate, Macmillan and Co.
2. Gupta S.P. : Statistical Methods.
3. Gupta C.B. (1978) – An Introduction to Statistical Methods. S/c Vaikas Pub. House.
4. Gani S.G. : Applied Statistics.
5. Sankhya Shastra (Text Books for B.A. Part – I) K.U.D.
6. Goon Gupta & Das Gupta – Fundamentals Statistics Vol.-I & II
7. Gupta & Kapur – Fundamentals of Applied Statistics.

1. Kannada (Optional)

With effect from 2017-18

ನಂತರ ಬಿಡಲಾಗುವದು,

2. Marathi (Optional)

Semester IV
Optional Marathi
With effect from 2017-18

Course: Natya Kala: Prayog Vichar

Topics:

1. Natak
2. Yekankika
3. Path Natya
4. Yek Patri: Mukabhinaya, Monolog, Natya Chata
5. Abhinaya, Katha Kathan, Natya Vachan

3. Statistics (Optional)

STATISTICS (OPTIONAL)
FOURTH SEMESTER: THEORY PAPER
Teaching Hours: 5 Hours per week
STTH-4: ANOVA, DESIGNS AND NON PARAMETRIC TESTS 60 Hours.

Objective:

1. To provide a strong theoretical foundation in testing more than two population means.
2. Making use of these techniques in Designs of experiments.

Unit 1: Analysis of Variance:

Meaning and assumptions. Analysis of variance (fixed effects model) - Analysis of one-way, two-way classified data-expectation of mean sum of squares, ANOVA tables. Case of multiple but equal number of observations per cell in two-way classification (with interaction). 3 – way classification

12 Hours

Unit 2: Design of Experiments:

Principles of randomization, replication and local control. Completely randomized, randomized block and Latin square designs-layout, models, least squares estimates of parameters, hypothesis, test procedures and ANOVA tables. Efficiency of design. Missing plot technique for RBD and LSD-Estimation of single missing observation.

15 Hours

Unit 3: Factorial Experiments:

2_2 and 2_3 factorial Designs. Main effects and interactions, their best estimates and orthogonal contrasts. Yates methods of computing factorial effects . Total, partial confounding in a 2_3 experiments with RDB layout.

13 Hours

Unit 4 .Order Statistics and Non parametric tests

Definition of Order statistics , Derivation of probability density function and distribution

function of maximum and minimum order statistics. Need for non-parametric tests. Advantages and dis-advantages of non-parametric methods over parametric methods. Assumptions in nonparametric methods. Sign test for quantiles, Sign test based on paired observations, Wilcoxon signed rank test for one sample and paired samples. Comparison of the sign-test and Wilcoxon signed-rank test, Wald-Wolfowitz run test, Median test and Mann-Whitney-Wilcoxon-test for two sample problems, Run test for randomness, Test for independence based on Spearman's rank correlation coefficient.

15 Hours

Unit: 5. C- Programming:

Introduction to C: C-character set, Constants, variables and expressions. Basic structure of a Cprogram. Operators-preprocessors, directives- Library functions.

05 Hours

FOURTH SEMESTER:

STPR-4: PRACTICAL PAPER.

(Following exercises are practiced using MS Excel or some other compatible software like SPSS, Mini tab, SAS, etc)

1. ANOVA for one way classified data.
2. ANOVA for two way classified data: Single observation per cell
3. ANOVA for two way classified data: multiple but equal number of observations per cell (assuming interaction)
4. Analysis of CRD, RBD and LSD and efficiency.
5. Missing plot technique for RBD and LSD with single observation missing.
6. Analysis of 2_2 factorial experiment
7. Analysis of 2_3 factorial experiments.
8. C- Programme

Books for study:

1. Hogg .R.V.and Craig.A.T(1978):Introduction to Mathematical Statistics.-4/e Macmillan .
2. Goon AM, Gupta M.K., Das Gupta.B.(1991): Fundamentals of Statistics Vol-I World Press Kolkatta.
3. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons' publications.
4. Mood.A.M.,Graybill.F A. and Boes D.C.(1974): Introduction to the Theory of Statistics. McGrawHill.
5. Mukyopadhyay.P.(1996) .Mathematical Statistics.-Kolkotta Publishing House.
6. Compter concepts and C – programming Techniques.

Books for Reference:

1. Rohatgi.V.K. and A.K.Md.Ehsanes Saleh (2002):An introduction to probability theory and Mathematical Statistics. John Wiley.
2. Murry R.Speigel (1982): Theory & Problems of Statistics, Schaum's publishing Series.
3. P.G.Hoel (1971): Introduction to Mathematical Statistics, Asia publishing house.
4. Dudewicz EJ and Mishra S.N (1980): Modern Mathematical Statistics-John Wiley.
5. Kale B.K(1999):A First Course on Parametric Inference,Narosa.

4. Urdu (Optional)

B.A IV SEMESTER URDU OPTIONAL **With effect from 2017-18**

Paper IV: Taraqi pasand tehreek aur urdu nazm & Fiction

Scheme of teaching: Duration 16 weeks, 5 hours/week

Prescribed Text Books:

I. TALKHIYAAN

By: Sahir Ludhiyaanavi
Pub By: Naaz Publication,
New Delhi

The following poems only:

1. Nazr-e-College
2. Kisiko Udaas Dekh Kar
3. Gurez
4. Taj mahal
5. Aaj
6. Ye Lahu Kiska Hai
7. Shikast-e-Zindan

GAZALS

1. Apna dil pesh karo
2. Nazar se dil mein samaye
3. Parbaton ke pedon par
4. Bhule se mohabbat kar baithe
5. Nagma-O-shair ki sougat
6. Tadbir se bigadi hui taqdir banale

II. URDU KE TERA AFSANE

By: Athar Parvez

Pub By: Educational Book House,
Aligarh

The following stories only:

1. Maha Lakshmi Ka Pul
2. Anandi
3. Toba Tek Singh
4. Chouthi Ka Joda
5. Aakhri Koshish
6. Aakhri Aadmi

SCHEME OF EXAMINATION (III & IV SEMESTER)

Total Marks – 100 marks (Theory- 80 + Internal Assessment- 20)

- a) Each paper of 100 marks shall carry 20 marks Internal Assessment, 4+10 shall be for I.A Test and remaining 3+3 shall be for home assignment and attendance respectively
- b) In each paper 2 tests shall be conducted for the award of I.A marks. First test of one hour duration for maximum 20 marks reduced to 4 marks shall be conducted in 8th week. Second test in 12th week of respective semester of 80 marks and of 3 hours duration then reduced to ten marks.

The question paper shall be broadly based on the following pattern (IV semester)

Q. No. 1: Multiple choice questions from both the texts
(10 out of 10) $10 \times 1 = 10$

I Text

Q. No. 2: One Critical Question on poet's art/style & poetry with choice $1 \times 15 = 15$

Q. No. 3: Summary/Critical appreciation of a poem
(1 out of 3) $1 \times 15 = 15$

Q. No. 4: Appreciation of verses from Ghazals
(4 out of 6) $4 \times 2.5 = 10$

II Text

Q. No. 5: Essay type question on Form (Afsana/Aagaz O Irtiqa)
With choice $1 \times 10 = 10$

Q. No. 6: Summary/critical appreciation of story $1 \times 10 = 10$

Q. No. 7: Short Notes question on characters
(2 out of 4) $2 \times 5 = 10$

B.A FOURTH SEMESTER

5. English (Optional)

Detailed Syllabus for BA (With effect from 2017-18 onwards) Semester – IV: Optional English

English Literature (20th Century) and Representative Text

Teaching Hours: 5 Hours per week

Section – A: History of English Literature (20th Century Literature) 30 Marks

1. Introduction to 20th Century English Literature
2. 20th Century Drama – Poetic Drama & Irish Literary Movement
3. 20th Century Poetry – Georgian Poetry & War Poetry
4. 20th Century Novel – Stream of Consciousness Novel & Women Novelists

Section – B: Selected Short Stories 30 Marks

1. A Hanging - George Orwell
2. Adventures of the Empty House – A. C. Doyle
3. The Conjuror's Revenge – Stephen Leacock
4. The Fishing-Boat Picture- Alan Sillitoe
5. A Cup of Tea - Katherine Mansfield
6. The Verger - Somerset Maugham

Section – C: General Linguistics (20 Marks)

1. Linguistics
2. Morphology
3. Phonology
4. Syntax
5. Semantics
6. Competence and Performance
7. Phrase and its classes

Suggested Reading

1. R. D. Trivedi. *A Compendious History of English Literature*
2. Edward Albert. *History of English Literature*
3. A. C. Ward. *The Twentieth Century Literature*
4. M. H. Abrahms. *A Glossary of Literary Terms*
5. John Lyons, Language and Linguistics
6. Crystal, David: What is Linguistics?
7. Dinneen, F.P. : An Introduction to General Linguistics
8. Krisnaswamy, N.: Linguistics for Language Teachers
9. Verma, S. K. and Krisnaswamy, N.: Modern Linguistics – An Introduction

Pattern of Question Paper
(80 Marks paper of three hours and 20 Marks for I.A.)

1) Objective type questions on History of English Literature	10X1=10
(Questions will be set on Authors, works, trends and concepts: Excluding the prescribed text book)	
2) Essay type question on History of English Literature (One out of Two)	10
3) Essay type question on History of English Literature (One out of Two)	10
4) Essay type question on Short Stories (One out of Two)	10
5) Essay type question on Short Stories (One out of Two)	10
6) Short Notes on Short Stories (Two out of Four)	2X5=10
7) Questions on General Linguistics A)	1X5=05
B) General Linguistics	1X5=05
8) Questions on General Linguistics A)	1X5=05
B) General Linguistics	1X5=05
	80

GROUP- B

B.A FOURTH SEMESTER

1.Computer Application

With effect from 2014-15

BACA 4.1: PROGRAMMING in 'C'.

Total 50 Marks

Unit -I

Computer Programming:

Problem definition. Analysis, Basic Programming concepts - Algorithm, definition, notations, characteristics of algorithm, examples on Algorithms. Flowcharts: Definition, features, symbols, examples. Modular programming and structured programming. Coding running, debugging-types of errors(syntax,logical, runtime errors) **(10 Hrs)**

Unit -II

'C' PROGRAMMING

Introduction, Importance of 'C', Basic Structure of 'C' programs, character set, C Tokens, keywords, identifiers, variables, constants Data types. Operators: Arithmetic operators, Relational, Logical, Assignment operators, increment and decrement operators, conditional operators. Expression Statement: types of statements. Formatted & unformatted Input output statements, concept of header files, preprocessor directives. **(10 Hrs)**

Unit -III

Control Structures

Decision making with IF statement, simple IF statement, The IF-ELSE statement, nesting of IF- ELSE statements, The ELSE -IF ladder. The switch statement. Loop control statements: 'WHILE loop, do while loop, The FOR loop. Jump control statements: break, continue and go to. **(10 Hrs)**

Unit IV

Arrays:

Meaning and definition, declaration, Initialization. Types of arrays: One dimensional array, Two-dimensional arrays and their application. Strings: Meaning and definition, declaration, Initialization , String handling functions. **(10 Hrs)**

Unit V

User defined Functions

Function Prototypes, definition and calling. Return statement. Category of functions, recursion, Local and Global variables. Pointers: Pointer data type, declaration, initialization, accessing values using pointers. Structures: Declaration and Using structures. **(10 Hrs)**

TEXT BOOKS :

1. E Balguruswamy "Programming ANSI C" TATA McGraw-Hill
2. Rajaraman : "Programming in C", PHI (EEE)
3. Computer concepts and C Programming - P.B. Kottur.

REFERENCES:

1. Venkateshmurthy, Programming Technologies through C, Pearson Education, Asia
2. Kamthane, Programming with ANSI and Turbo C, Pearson Education, Asia

BACA 4.2 COMPUTER LAB (BASED ON BACA 4.1)**Sample Programs**

1. Program to find area and perimeter of circle
2. Program to convert Celsius temperature in to Fahrenheit
3. Program to find largest of three numbers
4. Program to find check whether the given number is even or odd
5. Program to find the character is vowel or not using switch statement
6. Program to generate a multiplication table
7. Program to print palindrome of given number
8. Program to find sum and average of n number
9. Program to find the sum of digits of given number
10. Program to reverse given string using built in function.
11. Program to find the length of a string without using the built-in function
12. Program to sort the array of number using bubble sort technique
13. Program to perform addition of two matrices
14. Program to find factorial of number using recursion
15. Program to swap two numbers using function

2. Psychology (Optional)

With effect from 2017-18

B.A. IVth SEMESTER PSYCHOLOGY Optional Paper-4.1 DEVELOPMENTAL PSYCHOLOGY-II

Objectives : The course is aimed at providing basic knowledge in Psychology in relation to Human development.

Unit : I Puberty **10 hours**

Characteristics, Criteria, Causes and problems in puberty. Physical changes during puberty and their effects on behavior. Reactions to changes in puberty.

Unit : II Adolescence **10 hours**

Characteristics of adolescence, Emotional, social and moral development, Adolescent problems: Self-identity, Interest.

Unit : III Adulthood **10 hours**

Characteristics, Vocational choice, vocational adjustment, Marital adjustment and adjustment to the parenthood.

Unit : IV Middle Age **10 hours**

Characteristics, Physical and mental decline, Middle age revolt, Changing careers, occupational stress, Preparation for retirement.

Unit : V Old Age **10 hours**

Characteristics, Adjustment to physical & mental changes, Interests, Family relationship, Adjustment to loss of spouse. Using leisure time. Adjustment to retirement.

References :

1. Hurlock E.B- Developmental psychology-A Life span approach McGraw-Hill (latest edn).
2. Papalia D.E. Sally Wendkos olds-Human development : McGraw Hill (Latest edition)
3. Santrock J.W-Life-Span development : New York, McGraw Hill.
4. ÈAlgÁd | - «PÁ,À ªÀÄÆÉÆÃeÁÖ£À; ²æÃ¤Á,À ¥ÀæPÁ±À£À ªÉÄÈ,ÀÆgÀ.
5. Hoffman L, S Paris, E Hall & R Schell, (1988) “Developmental Psychology today.
6. Psychology Today”, McGraw ; Hill Inc.

Practical (Any Five)

1. Size weight illusion.
2. Study habits.
3. Emotional Maturity Scale.
4. Personal values questionnaire

5. Temperament inventory.
6. Security-Insecurity inventory
7. Achievement Test.
8. Marital Adjustment inventory
9. Old age adjustment inventory.
10. Youth problem Inventory

Statistics : Measures of variability : Standard Deviation.

Any five experiments may be selected from the above list with at least one experiment from each unit.

Practical Batches : 10 Students per batch.

Examination : 8 Students per batch.

Mark : 40 Marks for examination +10 marks for journal records
as an internal assessment.

40 Marks for exam :	Plan and Procedure	10
	Conducting one experiments	10
	Results and discussion	05
	Viva	10
	Statistics	05
	Total	40

MODEL QUESTION PAPER
B.A. IVth Semester (Psychology Optional)
DEVELOPMENTAL PSYCHOLOGY-II
Time : 3 hours Max Marks: 80

Section-I

Answer any five of the following questions in three or four

Sentences each:

$5 \times 3 = 15$

Q.No.

1. What is puberty?
2. State the physical changes in puberty.
3. State the problem in Adolescence.
4. State the areas of adjustment during adulthood.
5. What is middle age?
6. What is empty nest syndrome?
7. Name different characteristics of old age.

Section-II

Answer any five of the following questions in 10 to 15 Sentences each :

$5 \times 5 = 25$

8. Explain the characteristics of puberty.
9. Explain the criteria to identify the puberty.
10. Explain moral development in adolescence.
11. Explain the changes in interest during adolescence.
12. Explain the importance of family adjustment during adulthood.

13. Explain work related stress during middle age.
14. Explain adjustment to the retirement during old age.

Section-III

Answer any four of the following questions in two to three pages each:

$$4 \times 10 = 40$$

15. What is puberty? Explain physical changes during puberty.
16. describe the characteristics of Adolescence.
17. Explain the characteristics of adulthood.
18. Explain physical and mental decline during middle age.
19. Explain the adjustment to physical and mental changes during old age.
20. Explain the major physical changes in old age

3. Persian

Persian Fourth Semester

Teaching Hours: 5 Hours per Week

Prescribed text book.

1. Selected Portion only

Prose-Tarikhe-Adbiyat.

Text book

Sukhan-e-Naw by Dr.Gulam Sarwar.

Pub By:-Educational book house Aligarh.

Prescribed text book

2. Poetry Selected portion only

Masnuiyat.

Textbook

Shair-E-Bastan by Dr.Anwarul Hussain.

Maktab-E-Na-Emiya sadar bazaar Mathunath Bhajan .

Dist Azimghad(U.P)

Scheme of Examination

1. Total marks-100 Theory -80 marks Internal test Assessment 17 and attendance 3 marks=20.

2. In each paper two tests shall be conducted for the award of Internal Assessment marks, and each of one hour duration for a maximum of 20 marks reduced to 17 later. First test shall be conducted in 8th week and 2nd test in 12th week of respective semester. The Average marks obtained in the two tests for 17 marks shall be taken as final Internal Assessment Marks test component.

Scheme of Examination

Q1.Multiple choice questions	1*10=10
Q2.Essay type questions from the text	3*05=15
Q3.Questions on R.C from the text	3*05=15
Q4.Translation & Explanation from the text	3*05=15
Q5.Summary of the Passage/Poem from the text with choice	1*15=15
Q6.Short notes with choice (On the history of Persian Literature)	2*05=10

4. Political Science (Optional)

B.A. Semester – IV
With effect from 2017-18

Karnataka Government & Politics'
80 Marks 5 hrs per week

Chapter- 1-Unification Movement

- a) Origin and Evolution of unification movement in Karnataka Literary,Cultural and Institutional dimensions of movement
- b) Geo-Politics of Karnataka-Physical setting-location, size and administrative divisions,natural vegetation,mineral resources and Human resources

12 hours

Chapter-2-State Government

- Executive : Governor, Chief Minister and Council of Ministry
- Legislature: Composition, power and functions of Legislative Assembly and Legislative Council Utility of the Second chamber
- Judiciary : Composition, power and functions of State High Court, Karnataka Lokayukta powers and functions,

15 hours

Chapter-3-Party System

a)Political Parties of Karnataka- Indian National Congress, BhartiyaJanata Party, Janata Dal, (Secular) b)Coalition Politics in Karnataka

10 hours

Chapter-4-Local self-Government

a)Panchayati raj system in Karnataka, b)Democratic Decentralisation- urban and local governments 73rd and 74th constitutional amendments.

10 hours

Chapter-5-Major Issues in Karnataka Politics

**a)Border Disputes-Karnataka/Maharastra
b)Water disputes-Cauveri, and Mahadayi (Kalasa/Banduri)**

**c)Backward class movement and Caste politics in Karnataka
d) E-Governance in Karnataka-Bhoomi-Digital Land Records and Sakal
e) Regional Disparity**

15 hours

Books Reference

1. S.R. Maheshwari Comparative Government and Politics, Lakshmi Narain Agarwal, Agra, 2004
2. S. N. Ray Modern Comparative Politics: Approaches Methods and Issues, Prentice Hall of India, New Delhi, 2004
3. Gabriel Almond, Comparative Politics Today : A World G.B. Powell, Jr., View, Pearson Publication, New K. Strom, Delhi, 2004 R.J. Dalton
4. Herman Finer The Theory of Practice of Modern Government, Surjeet Publications, Delhi, 1977
5. Manoj Kumar Comparative Politics and Political Analysis, Anmol Publications, New Delhi, 2004
6. S.R. Maheshwari Comparative Government and Politics, Lakshmi Narain Agarwal, Agra, 2004
7. N. Jayapalan Modern Governments and Constitutions, Atlantic Publisher and Distributors, New Delhi, 2002

8. ଏ.ଓ. ଏନ୍. ପାଟୀର ତୁଳାନାଥ୍କ ନରକାର୍ & ରାଜକୀୟ ପ୍ରେସ୍‌ର ତାଳୀକୋଟି
9. ଏନ୍. ବି. ପାଟୀର ତୁଳାନାଥ୍କ ନରକାର୍ & ରାଜକୀୟ ଅଧ୍ୟାତ୍ମ ପ୍ରେସ୍‌ର ବିଜାମୁର
10. ଜୀ. ବି. ଶେଲପଂଠର ମୁଖ୍ୟ ଏଜ୍ଞ. କଲ୍ଯାଣତୁଳାନାଥ୍କ & ରାଜକୀୟ

5. Sanskrit (Optional)

**B. A. Part – II : Fourth Semester
(Optional) Samskrit
With effect from 2017-18**

Teaching Hours : 5 Hours per week

Examination Marks One paper carrying 100 Marks (80+20) of 3 hours duration

Text

1.	ଵୈୟାକରଣ ସିଦ୍ଧାନ୍ତକୌମୁଦୀ of Bhattoji Dikshit ସଂଜ୍ଞା and କାରକପ୍ରକରଣ only Ed. Dr. V. K. Hampoholi Samaj Pustakaalay Dharawad.	40 Marks
2.	ସଂସ୍କୃତସାହିତ୍ୟ – ଇତିହାସ	40 Marks
a.	ପଞ୍ଚମହାକାବ୍ୟାନି (କୁମାରସମ୍ଭଵମ, ରଘୁଵଂଶମ, କିରାତାର୍ଜୁନୀୟମ, ନୈଷଧୀୟଚରିତମ, ଶିଶୁପାଲବଧମ	
b.	ଗଦ୍ୟକାବ୍ୟାନି of ସୁବନ୍ଧୁ, ଦଣ୍ଡି, ବାଣଭଟ୍ଟ.	
c.	ନୀତିକାବ୍ୟାନି – ହିତୋପଦେଶ, ପଞ୍ଚନ୍ତମ	
d.	ନାଟକାନି of ବିଶାଖଦତ୍ତ, ଶୂଦ୍ରକ, ଭବଭୂତି: ଭଟ୍ଟନାରାୟଣ, ଶ୍ରୀହର୍ଷ:	
•	ସଂଶୂଳିତ ସାହିତ୍ୟ ପରିଜଳ୍ୟ. Ed. Dr. M. N. Joshi, Roopa Prakashan, Dharawad. 2002	
e.	Internal Test	20 Marks
		Total
		100 Marks

QUESTION PAPER PATTERN:

Fourth Semester Samkrit Optional

I	Multiple choice questions from ଵୈୟାକରଣ ସିଦ୍ଧାନ୍ତକୌମୁଦୀ & ସଂସ୍କୃତସାହିତ୍ୟ – ଇତିହାସ (any Ten out of Twelve)	10 Marks
II	Explain ସଂଜ୍ଞା s (any two out of Four)	8 Marks

III	a) Explain सूत्राः of संज्ञा (any two out of Four)	6 Marks
	b) Explain सूत्राः of कारक (any two out of Four)	9 Marks
IV	a) Explain सूत्राः of कारक (any two out of Four)	6 Marks
	b) Correction of Sentences (Three out of Six)	6 Marks
V	a) Write short notes on संस्कृतसाहित्य – इतिहास (any four out of Four)	20 Marks
	b) Essay type question with internal choice	15 Marks

GROUP- C

B.A. Fourth Semester

2. Arabic (Optional)

SYLLABUS OF ARABIC SUBJECT

B.A. Fourth Semester

Arabic Optional

With effect from 2017-18

Paper : Prose, Poetry and History of Arabic Literature.

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al Qiraatur Raashida part II (Prose)

By: Abul Hasan Ali Nadvi

Pub.By: Nadvatul Ulama Lucknow (u.p)

Following Lessons

- (1) Kisratum minal Khubzi. (2)Eyaadatul mareezi (3) Al keemiyau
- (4) yaomun Saaifun (5)An Nazafatu (6)Kun Ahadas sab-ati (i)
- (7) Kun Ahadas sab-ati (ii)

2 Qaseeda-e-Burda (Poetry)

By:Imam Boosary

Pub.By:Azeem Book Depo Deoband (u.p)

Chapter No.7.

3. Tareekh Adab-e-Arabi

By: Dr.syed tufail Ahmad madani .

Pub.By:Deccan Traders Book Sellers & Publishers 23-2-378,
Moghalpura, Hyderabad.

Chapter No.II.

Islami Shora

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Suratul Gaashiyah

The question paper should be broadly based on the following pattern.

1)	Multiple choice from first & second text	1x10	=	10
2)	Summary from firs text with choice	2x7½	=	15
3)	R.C. from first and second text with choice	3x5	=	15
4)	Appreciation of verses from second text 2 out of 3	2x7½s	=	15
5)	Question from third text with choice	2x7½	=	15
6)	Question on Sura	1x10	=	$\frac{10}{80}$

6. Geography (Optional)

With effect from 2016-17 onwards

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY

SEMESTER – IV

THEORY PAPER-IV

POPULATION GEOGRAPHY

Objectives: The objectives of this course are to understand the spatial and structural dimensions of population and emerging issues. The course is further aimed at familiarizing the students with global and regional level problems and equips them for comprehending the Indian situation.

Course structure : One Theory and One Practical

Teaching Theory : 05 hours per week

Practical : 04 hours per week.

Examination : One Theory paper of 80 Marks and 20 Marks for internal assessment (IA)

One Practical of 40 Marks and 10 Marks for internal assessment (IA) (out of 10
IA marks 7 marks for practical record and journal and 3 marks for attendance).

Units No.	Topic	Teaching Hours
I	Population Geography: Nature, Scope and Significance of Population Geography, Population Geography as Specialized Branch, Growth, distribution and density of population in India, Factors affecting the distribution of population.	12
II	Composition and Structure of Population: Age structure, Literacy, Sex ratio, Life expectancy, Working population and Occupational structure of population and Dependency ratio.	08
III	Human resources, optimum, over and under population, Population Pressure- causes and consequences Population Theories : Malthusian and Karl Mark's theory, Demographic Transitions and its stages.	20
IV	Population Change: Meaning and determinants of Fertility, Mortality and their consequences. Migration; definition, types, causes and consequences of migration	06
V	Population policy in India, Population problems and remedial measures.	04
	Total	60 hours

Reference:

- 1 Clarke John: Population Geography
- 2 Threewartha: A Geography of Population World Pattern
- 3 Hussain M: Human Geography
- 4 Chandna: Population Geography
- 5 Siddu and Sawant: Population Geography
- 6 Garnier B.J: Geography of population
- 7 Ghosh B.N: Fundamentals of population Geography

B. A. /B. Sc. SYLLABUS IN GEOGRAPHY
SEMESTER – IV
PRACTICAL PAPER - IV
CARTOGRAPHIC REPRESENTATION OF GEOGRAPHICAL DATA

Units	Topic	Teaching Hours
I	Relevance of Representation of Population, Statistical & Geographical Data	03
II	Graphical representation of Data: Bar Graphs: Single, Double, Multiple, Compound, Band Graph and their Interpretation. Line Graphs: Single, Double, Multiple Line Graphs, Climograph, Hythergraph, Ergo Graph, Pyramid Graph and their Interpretation.	15
III	Diagrammatic representation of data: Pie Diagram, Block Pile, Sphere Diagram, Wind Rose and their Interpretation	06
IV	Maps: Dot Maps, Choropleth, Isopleth Maps and their Interpretation	06
V	Located Map Diagrams: Pie, Proportional Circles, Spheres & Block Diagrams (Note: By selecting suitable data at talukas in the district/districts in the state has to be represented by selecting these diagrams on the map.)	10
	Viva	
	Total	40 hours

(Note: For each practical exercise, the staff in charge has to provide the suitable data, outline maps and graphs to the students in regular practical classes)

Reference:

1. R. L. Singh: Elements of Practical Geography
2. Gopal Singh: Practical Geography
3. Dr. Ranganat: Practical Geography (Kannada Version)
4. Singh and Kanoj: Practical Geography
5. R. P. Misra and Ramesh: Fundamental of Cartography
6. M. F. Karennavar & S. S. Nanjannavar: Practical Geography
7. M .F. Karennavar & S. S. Nanjannavar: Practical Geography (Kannada Version)
8. Pijushkanti Saha & Partha Basu: Advanced Practical Geography

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B. A. / B. Sc. IV Semester (CBCS)
PATTERN/MODEL OF THEORY QUESTION PAPER
Paper-IV: POPULATION GEOGRAPHY

Time: 3 Hours

Max.

Marks: 80

Instructions: 1. Attempt all sections

2. Wherever necessary draw diagrams and maps.

SECTION-A

(2 x 10 = 20 marks)

- Note:** 1) Answer any Ten questions.
 2) Answer should not exceed 50 words
 3) Each question carries two marks.

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

SECTION-B

(5x 6= 30 marks)

- Note:** 1) Answer any Six questions.
 2) Answer should not exceed 200 words
 3) Each question carries five marks.

13	
14	
15	
16	
17	
18	
19	
20	

SECTION-C

(10 x 3 = 30 marks)

- Note:** 1) Answer any Three questions.
 2) Answer should not exceed 500 words
 3) Each question carries Ten marks.

21	
22	
23	
24	
25	
26	

ooOoo

B. A. / B. Sc. IV Semester (CBCS)
PATTERN/MODEL OF PRACTICAL QUESTION PAPER

Practical Paper- IV:
Cartographic Representation of Geographic Data

Center No :

Max. Marks: 40

Seat No :

Date:.....

Time : **3 Hours**

Instructions:

1. Attempt all questions.
2. This question paper should be attached with the main answer book.
3. Examiner should prepare the question paper covering each unit of the syllabus.

Q. No. 1	For framing the questions, Examiner should refer unit no 2. a) Representation of given data by bar/line graph b) Representation of given data by Climograph /Hythergraph /Pyramid Graph /Ergo Graph	8 marks
Q. No. 2	For framing the questions, Examiner should refer unit no 3. Representation of given data by Pie Diagram /Block Pile /Sphere Diagram/ Wind Rose	5 marks
Q. No. 3	For framing the questions, Examiner should refer unit no 4. Representation of given data by Dot Map /Choropleth / Isopleth Map	10 marks
Q. No. 4	For framing the questions, Examiner should refer unit no 5. Representation of given data by Proportional Circle/ Pie/Spheres/Block Diagrams on the given map	12 marks
Q. No. 5	Viva	5 marks
Total		40 marks

ooOoo

7. Hindi (Optional)

B.A IVth Semester

Optional: Hindi

With effect from 2017-18

1) Examination : a) One Paper carrying 80 Marks and 3 hours of Duration.

b) Internal Assessment Marks 20

2) Teaching : 5 hours per week

3) Course : 1) Collection of One Act Plays

2) Grammar

4) Distribution of Marks

I	Objective type Questions 10/14	10 Marks
II	Annotations from One Act Plays 3/5	15 Marks
III	General Questions based on One Act Plays 2/4	20 Marks
IV	Short Notes on One Act Plays 2/4	10 Marks
V	Grammar based on General Questions 5/8	25 Marks
	Total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Text Books-

1) **One Act Plays** Marks : 55

एकांक संकलन : संपादक - डॉ मंजर पाठ

प न के लए (उप नाथ “अ क” से व ण भाकर तक)

राजकमल काशन

१-बी नेताजी सुभाष माग, द रयांगंज

नई द ल - ११०००२

2) **Grammar :** (याकरण) : संधि, समास, वा य तथा कारक Marks :25

Reference Books

- 1) एकांक कार व ण भाकर : डॉ संजय चोपडे
- 2) समकाल न एकांक : संवेदना एवं श प - डॉ रंजना वद
- 3) एकांक कार उप नाथ अ क : डॉ पडित ब ने
- 4) ह द एकांक और एकांक कार : डॉ उमा सुद
- 5) एकांक नाटक : डॉ आर. जाधव

- ६) सुगम ह द याकरण : १. वंशीधर तथा धमपाल शा १
- ७) रचना रभि : परमानंद गु त
- ८) ह द याकरण : ज कशोर साद संह
- ९) याकरण द प : रामदेव एम.ए

4. Sociology (Optional)

B. A. SOCIOLOGY SYLLABUS

B. A. Fourth Semester

With effect from 2016-17

STUDY OF WESTERN SOCIOLOGICAL THOUGHT

Objectives of the Paper:

- Make the students to understand the basic theories of Western Sociological Thought.
 - Make the students to understand the grand theories of Social Evolution.
 - To make the students to understand the methodology of Social Sciences.
-

Unit- I Auguste Comte 12 Hours

1. Positivism and Law of three Stages
2. Hierarchy of Sciences
3. Social Statics and Social Dynamics

Unit- II Herbert Spencer 12 Hours

1. Theory of Evolution- Social Darwinism
2. Organic Analogy
3. Types of Society

Unit- III Max Weber **12 Hours**

1. Power and Authority
2. Weber's views on Religion and Society
3. Bureaucracy

Unit- IV Emile Durkheim **12 Hours**

1. Methodology of Social Sciences
2. Division of Labour
3. Theory of Suicide

Unit- V Other Thinkers **12 Hours**

1. **Karl Marx** : Class Struggle
 2. **Lewis A. Coser** : Conflict and Social Change
 3. **Robert K. Merton** : Social Structure and Anomie
-

References:

1. Aron Raymond (1982): Main Currents in Sociological Thought. (2 Volumes), Harmondsworth, Middlesex, Penguin Books.
2. Barnes, H. E. (1959): Introduction to the History of Sociology. Chicago: The University of Chicago Press.
3. Borgardus, E. A.: The History of Social Thought
4. Coser Lewis, A. (2001): Masters of Sociological Thought. (2 Volumes), Rawat Publishers, New Delhi
5. Fletcher Ronald (1994): The Making of Sociology (2 Volumes), Rawat Publication, Jaipur.
6. Francis Abraham and John Henry Morgan (1985): Sociological Thought. MacMillan, India Ltd., New Delhi
7. George Ritzer (Ed.): The Blackwell Companion to Major Social Theories. Blackwell Publishers, Great Britain.

8. Guy Rocher (1990): A General Introduction to Sociology- A theoretical Perspective, Academic Publishers, Calcutta.
9. Haralambos Michael (1997): Sociology- Themes and Perspectives. Oxford University Press, Delhi
10. Morrison, Ken. (1985): Marx, Durkheim, Weber- Formation of Modern Social Thought. London Stage Publishers.
11. Ritzer George (1996): Sociological Theory. Tata McGraw Hill, New Delhi
12. Shankar Rao, C.N. (2001): Study of Social Thought. Jai Bharat, Mangalore.
13. Timasheff Nicolas and George Theodorson (1976): Sociological Theory (4th Ed.), Random House New York.
14. Zeltin Irving (1998): Rethinking Sociology: A Critique of Contemporary Theory. Rawat Publication, Jaipur.

5. Social Work(Optional)

SEMESTER – IV
With effect from 2017-18

Paper Code: 4.3

Paper Title: SOCIAL PROBLEMS AND SOCIAL DEVELOPMENT

Objectives:

- a) Understanding of different Social Problem.
- b) Develop ability to analysis the Social Problem.
- c) Understand the concept of Development.

Course Content:

UNIT I

Concept of Social Problem: Meaning and Definition of Social Problems. Classification of Social Problems; Causes and Consequences of Social Problems; Social Work approach in the prevention, control and management of Social Problems.

UNIT II

Extent, Causes, and Social Work Interventions for Female Foeticide, Child Labour, Juvenile Delinquency, Alcoholism, Drug Abuse, Beggary, Commercial Sex, Dowry, Corruption, Crime and Terrorism.

UNIT III

Concept of Social Development: Meaning and Definition; Approaches to Social Development – Sectoral Development, Area Development, Social Assistance, Social Insurance, Social Defence, and Integrated Approach; Social Exclusion and Inclusive Development.

UNIT IV:

Social Policy and Planning: Meaning, Definition and Characteristics of Social Policy; Models of Social Policy: Residual Welfare Model, Industrial Achievement-Performance Model, and Institutional Redistributive Model; Meaning and Definition of Social Planning; People's Participation in Social Planning.

UNIT V:

Thrust Areas of Social Development: Rural Development, Urban Development, Tribal Development, Education, Health and Nutrition, and Environment and Ecology.

References:

Ahuja, Ram. 1992. *Social Problems in India*. Jaipur: Rawat Publications.

Becker, H.S. 1996. *Social Problems: A Modern Approach*. New York: John Wiley and Sons.

- D'Souza, Ashok. A. 2015. *Social Development through Social Work*. Bangalore: Niruta Publications.
- Dantwala, M.L. 1973. *Poverty in India: Then and Now*. Delhi: Macmillan Company of India.
- Fisher, H.J(Ed). 1971. *Problems of Urbanization*. Bombay: Leslie Sawhny Programme of Training and Democracy.
- Gangrade, K.D. 1973. *Social Legislation in India*, Vol. I and II. Delhi: Concept Publishing Company.
- Gore, M.S. 1973. *Some Aspects of Social Development*. Bombay: Tata Institute of Social Sciences.
- Government of India: *Five Year Plan Documents*, New Delhi.
- Habibur Rahman, M. 2001. *Social Development*. New Delhi: Northern Book Centre.
- Jacob, K.K. 1980. *Social Development Perspectives*. Udaipur: Himanshu Publications.
- Madan, G.R. 2002. *Indian Social Problems* – Vol.I Seventh Edition. New Delhi: Allied Publishers Pvt. Ltd.
- Thomas, Gracious (ed.). 2010. *Social Work Intervention with Individuals and Groups (Vol. II)*. New Delhi: School of Social Work, IGNOU.
- World Bank (OUP): *World Development Reports*, (Annual).

Paper Code: 4.4

Paper Title: SOCIAL WORK PRACTICUM - IV

Objectives:

- To develop capacity for observation and analyzing social realities.
- To develop an understanding of needs, problems and programmes for different target groups.
- To develop an understanding of the role of a social worker in different settings.
- To develop skills in observation, interview, recording, group discussions and leadership.
- To develop skills in report writing and use of supervision.

Course Content:

This paper comprises:

- Placement in school / agency setting.
- Conducting at least two Social Case Works.
- Interaction with social work practitioners.
- Structured Experiences Laboratory to help students understand and practice various skills required for effective practice of Fieldwork Practicum.

Note: Each student is expected to spend ten hours per week in the Field / Agency and the Faculty Supervisor is expected to spend about eight hours per week for this paper by conducting Orientation Classes, arranging for Orientation Visits / Fieldwork Placement, conducting Structured Experience Laboratory classes, Field Visits for Supervision and Guidance, Individual Conferences and Group Conferences on a weekly basis, and Correction of Fieldwork Reports. Thus, the workload for this paper for each of the Faculty Supervisor may be considered equivalent to one full theory paper.

References:

- Kohli, A.S. 2004. *Field Instruction and Social Work: Issues, Challenges and Response*. Delhi: Kanishka.
- Lawani, B.T. 2009. *Social Work Education and Field Instructions*. Agra: Current Publications.
- Mathew, G. *Supervision in Social Work*. Mumbai: TISS.
- Roy, S. 2012. *Fieldwork in Social Work*. Jaipur: Rawat Publications.
- Sajid, S.M. 1999. *Fieldwork Manual*. New Delhi: Department of Social Work, Jamia Millia Islamia.
- Singh, R.R. (ed.) 1985. *Fieldwork in Social Work Education: A Perspective for Human Service Profession*. New Delhi: Concept Publishing.
- Subedhar, I.S. 2001. *Fieldwork Training in Social Work*. New Delhi: Rawat.
- University Grants Commission. 1978. *Review of Social Work Education in India: Retrospect and Prospect*. New Delhi: UGC.

GROUP- D

B.A Fourth Semester

1. Agricultural Marketing (Optional)

PAPER- IV - VALUE CHAIN IN AGRICULTURAL MARKETING

Teaching 5hrs per week

Marks: 100 (80 theory+20 Internal Assessments)

Objectives: To develop different strategies for enhancement of quality in agricultural products.

Unit-I Processing:

Meaning and need, types of processing, place Time form processing. Advantages of processing- problems of processing and its measures.

10hrs

Unit-II Grading, Standardization & Labeling:

Meaning , types, Advantages of grading & labeling. AGMARK- producers' Difficulties in grading- consumer's perception. Criteria for Grade standards, inspection & quality control.

13hrs

Unit-III Storage & Warehousing:

Meaning & need, importance of storage. Losses in storage. Warehousing: meaning & functions of warehousing, types of warehousing, working of central warehousing corporation, state warehousing corporation. Causes of the slow progress of warehousing in India and Suggestions for improvement.

15hrs

Unit-IV Transportation:

Role of transportation in agricultural Marketing. Advantages of transportation. Functions of Transportation, factors affecting the cost of transportation Suggestion for improvement.

12hrs

Unit- V Agricultural Finance:

Meaning, nature, scope & need for Agricultural finance- sources of agricultural Finance, Advantages of agricultural finance. Government Policy towards agricultural finance.

10hrs

PRACTICALS (4hrs per week)

40 Marks-External

10 Marks-Internal

Total -50 Marks

- Visit to APMC to study eye sight grading
- Demonstration of estimation of quality Characteristics
- Of oilseeds, groundnut and sunflower
- Demonstration of estimation of quality characteristics of Vegetables.
- Demonstration of estimation of quality characteristics of fruits
- Demonstration of estimation of quality characteristics of instant food.
- Visit to Ghee & Honey grading laboratory
- Visit to local warehouses
- A study of lending operations of the local bank with reference to agriculture.

Books for Reference:

- Agricultural Marketing in India By Acharya and N.L.Agarwal.
- Principles and Practices of Marketing By C.B.Memoria and R.L.Joshi
- Agricultural Marketing By H.R.Krishnagouda
- Marketing of Agricultural Produce in India By A.P.Gupta
- Modern Marketing by K.D.Basva
- Modern Marketing by C.B.Memoria.

Journals and Magazines:

- Indian Journal of Marketing
- Indian Journal of Agricultural Marketing
- Yojana
- Kurakcharya

Websits:

- www.agricoop.nic.in (Ministry of agriculture and cooperation.Govt. of India)
- www.mofpi.nic.in (Ministry of Food Processing industries.Govt. of India)
- www.krishimaratavahini.kar.nic.in (Dept of Agril.Mkt, Govt of Karnataka)
- www.agmarknet.nic.in (Agril.Mkt Research & Information Network)
- www.fao.org (Food and Agril. Organization)
- www.ksamb.gov.in (karnatak State Agril.Mkt Board)

B.A FOURTH SEMESTER

2. Criminology and Forensic Science (Optional) With effect from 2017-18

PAPER 4A: POLICE SCIENCE AND ADMINISTRATION

Max.Marks: 80+20=100

Teaching 5 Hrs/Week

Course Contents:

UNIT I:

A brief history of police in England, USA and India from ancient, medieval to present day: beginning and proliferation; police commissions of 1860, 1902, 1979 and their recommendations.

Police and Community Relations; Community Policing; Public Participation; Human Rights and Police public relations

UNIT II:

Indian Police Act 1861, and Karnataka Police Act 1963: (a) organizational structure as it is today at state, range, district, sub-division, police station and village levels; civil police, ancillary units (Armed Reserve, CID, Cavalry, SRP, Wireless units, Fingerprint units); Central police establishments: CBI, CIB, BSF, CISF, CRPF, NSG, Black Cats, ITBP, RAW; (b) powers of the police under the Police Acts and under the Criminal Procedure Code and Local and Special Laws; (c) IPS and the Constitutional provisions relating to police, criminals and punishments.

Police Recruitment and Training: (i) IPS level; (ii) Dy S.P. level; (iii) Sub-Inspector level; (iv) Constable level; different training needs and programmes; various expert committee recommendations (Gore Committee, Third Police Commission, Padmanabhaiah Committee, Vohra Committee);

UNIT III:

At the Police Station: (a) Law and Order duties as crime prevention measures: traffic management, crowd control, VIP visits, beats and patrol, surveillance: electronic and manual; (b) Crime investigation wing, station guards, writers; Important basic records: Crime Register, General Diary, Village Crime Register, Gun License Register, Arms Deposit Register, Modus operandi register, History Sheeters' register, Dossier Criminals, Rogues Gallery; FIR Index, Arrest card, Bail bond, NCR Register, Search register, Summons and Warrants Register, Ex-convict register.

UNIT IV:

Detection and investigation of crimes: (a) Crime scene investigation methods; (b) collection of physical clues and evidence from the crime scene, dispatch of clues and bodies for further expert examination; (c) apprehending suspects and accused as per Cr.P.C.

UNIT V:

Interrogation methods and their variations in respect of (i) accused and suspect, (ii) witnesses; (iii) surviving victims, complainants, and their relatives; collecting eye

witness accounts; recording dying declarations, and expert opinion and scrutiny of charge sheeting the accused; adducing evidence and producing witnesses and attending trial in the court.

Books for References

1. Guruprasad D.V : *Bharatada indinina police vayvasthe*
2. Umadevi.B : Arrest, Detection and Criminal Justice System
3. Mishra, Prakash : Law Enforcement and Human Rights
4. Shah, Giriraj : Encyclopaedia of Crime, Police and Judicial System Vol-1 to Vol-7.
5. Dr.Ashoka : *Police Adalitha*
6. T.Ramanujam : Prevention and Detection of Crime
7. Shanker Sen : Indian Police Today.
8. Venugopal Rao : Police Administration

PAPER 4 B

PRACTICAL

Max.Marks: 40+10=50

4 Hrs/Week

- I. **Recording of First Information Report and Charge Sheet.**
- II. **Investigation simulated scene of crime (Murder, Theft, Rape and Accident cases)**
- III. **Visit to Modus Operandi Bureau**
- IV. **Visit to Police Dog Squad**
- V. **Visit to District Armed Reserve Police**
- VI. **Visit to any Industrial Establishments/any Institution to study its Security Management**

B.A Fourth Semester

3. Economics of Rural Development(Optional)

IV Sem

Paper- ISSUES OF RURAL DEVELOPMENT

Teaching 5hrs per week

Marks: 100 (80 theory+20 Internal Assessments)

Objective: to study various issues of Rural Devpt.

Unit-I Rural Infrastructure:

Meaning, importance of rural infrastructure. Rural transportation- Its importance & problems . Communication- Types & its importance. Rural Electrification. Education & health. Housing & Sanitation.

13hrs

Unit-II Rural Banking & Finance:

Functions & working of the Co-operative credit society. Land Development Bank. Regional Rural Banks (RRB). NABARD.

10hrs.

Unit-III Rural Market:

Agricultural Marketing- meaning & need Of agricultural marketing. Defects of agricultural Marketing. Co-operative Markets- meaning, objectives, Features, structure & functions. Regulated Market- Meaning, features. Merits & shortcomings of regulated Market.

15hrs

Unit-IV Agriculture Labour:

Definition & characteristics of Agriculture labour. Growth of agriculture labour. Causes of the poor economic conditions of agricultural Labour. Measures to improve them.

12hrs

Unit-V Rural Population:

Role of population in rural devpt. Causes of the growth of the population. Population Explosion in India. Remedial measures to check the Growth of population.

10hrs.

Books for Reference:

- Rural Development by Vasant Desai
- Rural Development in India by B.R. Krishnegowda
- Indian Economics by A.N.Agarwal
- Indian Economy by K.P.M.Sundram & Rudra Datt

- Rural Economy of India by A.N.Agarwal & Kundanlal

Journals and Magazines

- Yojana
- Kurukshetra
- Journal of Rural Development
- Journal of Rural & community Development
- Journal of Agricultural,Extension & RI.Devpt.
- The International Journal for Rural Development.

Websites:

- www.panchayat.nic.in
- www.agricoop.nic.in Ministry of Agriculture
- www.rural.nic.in Ministry of Rural Devept.
- www.ssi.nic.in Ministry of Small scale industries
- www.mospi.nic.in Ministry of Statistics & programme implementation.
- www.dhi.nic.in Ministry of Heavy industry & public enterprises.
- www.planningcommission.nic.in
- <http://rdpr.kar.nic.in> Govt.of Karnataka, Rural Devpt.& puchayat raj
- <http://des.kar.nic.in> Govt. of Karnataka, Directorate of Economics & Statistics.
- <http://sahakara.kar.gov.in> .Govt of Karnataka, Dept of co-operation
- <http://emptrg.karn.nic.in> Govt.of Karnataka, Directorate of employment & training.

4. Economics (Optional) – IV Sem

Subject: INTERNATIONAL ECONOMICS

(Teaching Hrs. 5 per week)

Objectives:

1. To clarify the concepts of internal and international trade.
2. To understand foreign exchange and exchange control.
3. To know the working of International Economic organizations.

Unit-I. International Trade:

Meaning, Internal and International Trade. Gains from International Trade

Theories of International trade-Classical and Modern Theories of International trade.

Terms of trade, Factors affecting terms of trade.

10 hours.

Unit-II Trade Policy:

Free v/s Protection Trade policy; arguments for and against. Trade barriers- Tariffs and Quotas.

10 hours.

Unit-III Balance of Payment:

Meaning of BOT and BOP- Causes for disequilibrium- Methods of correcting disequilibrium in the Balance of Payment.

A model of Balance of Payment. 10 hours

Unit-IV Foreign Exchange and Exchange Control:

Foreign exchange –Meaning and concepts- Rate of exchange, Fixed and Flexible Exchange rates. Purchasing power parity theory. Exchange control- Meaning, Objectives and methods of exchange control. 10 hours

Unit-V International Economic Organizations:

Structure, Functions and Performance of International Monetary Fund (IMF) International Bank for Reconstruction and Development (IBRD) and World Trade organization (WTO).

10 hours

Reference Books:

1. M.L.Jingan : International Economics.
2. M.L. Seth : i) International Economics
ii) Money, Banking and International Trade
3. K.R.Gupta : International Economics.
4. R.R.Paul : Monetary Economics.

B.A Fourth Semester

5. Education (Optional)

With effect from 2017-18

ADVANCED EDUCATIONAL PSYCHOLOGY

Teaching 05 hours per week

Total 60 hours

OBJECTIVES: -

Upon Completion of the course, the students will be able to:-

1. recognize the significance of the learning and factors affecting learning in shaping individuals personality
 2. understand the meaning and developmental factors affecting personality
 3. understand the principles, scope and need of guidance and counseling in schools
 4. understand the behavior of individual in a group
 5. develop the ability to compare different types of intelligent tests

Unit I- Human Learning

- 1.1 Learning - Meaning, Definitions, Nature and Process
 - 1.2 Types of Learning
 - 1.3 Theories of Learning - Trial and Error Learning (Thorndike), Conditioned learning (Pavlov and Skinner), Insight learning (Kohler)
 - 1.4 Factors influencing learning – Motivation, Attention, Interest, Fatigue
 - 1.5 Transfer of learning - Meaning, Types and Methods to increase transfer of learning

12 Hrs

Unit II- Human Personality

- ## 2.1 Personality – Meaning and definitions

2.2 Factors influencing on personality development

- 2.3 Theories of Personality - Body type theories (**Kreishmer**, Sheldon),
 Psycho-analytic theories (Freud, Jung)
 2.4 Personality adjustment – Meaning and characteristics
 2.5 The role of home, School and teachers in the personality adjustment

12Hrs

Unit III- Guidance and Counseling

- 3.1 Guidance - Meaning, nature and need
 3.2 Aims, Principles and Services of Guidance
 3.3 Types of Guidance - Educational, Vocational and Personal Guidance
 3.4 Counseling - Meaning, objectives, types and characteristics of a good counselor
 3.5 Differences between Guidance and Counseling

12 Hrs

Unit IV- Human Intelligence and Creativity

- 4.1 Intelligence - Meaning, definitions, growth, distribution, concept of IQ
 4.2 Intelligence Tests - Meaning, uses, types (Individual and group)
 4.3 Emotional Intelligence - Meaning, components, importance
 4.4 Creativity - Meaning, Characteristics, factors influencing creativity
 4.5 Relationship between intelligence and creativity, measures to enhance creativity

12 Hrs

Unit V- Group Dynamics

- 5.1 Group Dynamics - Meaning, characteristics and Importance
 5.2 Types of group - Primary, Secondary and out group
 5.3 Behavior of individual in a group
 5.4 Role of Sympathy, Suggestion and Imitation in a Group
 5.5 Group Morale and Leadership - meaning of group morale and leadership, characteristics of leadership, types of leadership – Democratic and Autocratic, teacher leadership and students responses.

12 Hrs

ASSESSMENT

Internal	Internal Marks	External Marks
Two Tests (4+10)	14 Marks	Theory Examination
Assignment/Seminar/Project/	03 Marks	

Field work/ NSS/ NCC (3)		80 Marks
Attendance (3)	03Arks	

Assignments: (any one)

1. Preparing the comparative chart of different types of learning in terms of principles, salient features and assumptions
2. Preparing a comparative chart of different types of Guidance Services
3. Conduct a brief Survey on Role of Sympathy, Suggestion and Imitation in a Group
4. Preparing a comparative chart of different types of Intelligence tests
5. Any other assignment suggested by the teacher relevant to the topics

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- ✚ Bigge, M.L. and Hunt, M.P. (1980) Psychological Foundations of Education: An Introduction to Human Motivation, Development and Learning, (3rd Ed), New York: Harpan and Row Publishers.
- ✚ Blair. G.H., Jones, R.S. and Simpson, R.H. (1975) Educational Psychology, (4th Ed), New York: Macmillan Publishing Co.Inc.
- ✚ Chaube S.P. (1997) Educational Psychology, Agra: Laxmi Narain Agarwal.
- ✚ Educational Psychology – B.Kuppaswamy
- ✚ Educational Psychology – C.E.Skinner
- ✚ Advanced Educational Psychology – Dr.H.M.Kashinath
- ✚ Advanced Educational Psychology – S.S.Chauhan
- ✚ Perspectives of Educational Psychology – Dr.V.A.Benakanal
- ✚ ಮೊ.ಎಸ್.ಬಿ.ದಳವಾಯಿ(2012) ಶಕ್ತಿದ ಮನೋವೈಚಾರ್ಣಿಕ ಆಧಾರಗಳು, ವಿದ್ಯಾವಿಧಿ

ಪ್ರಕಾಶನ,ಗದಗ

-  ಡಾ॥ ಕಾಶೀನಾಥ, ಡಾ॥ ತಿಳವಾರ, ಡಾ॥ ಅಜಾತಸ್ಯಾಮಿ, ಡಾ॥ ಕೃಲಾಸಲಿಂಗಂ(1989) ಬೋಧನೆ, ಕಲಿಕೆ ಪ್ರಕ್ರಿಯೆಯಲ್ಲಿ ಮನೋವಿಜ್ಞಾನ, ಯುವಜನ ಸಾಹಿತ್ಯ ಅಧ್ಯಯನ ವೇದಿಕೆ,ಇಂಕಲ್.
-  ಡಾ॥ ಕೊಂಗವಾಡ ಎನ್.ಬಿ(2009) ಶೈಕ್ಷಣಿಕ ಮನೋವಿಜ್ಞಾನ, ವಿದ್ಯಾನಿರ್ಧಿ ಪ್ರಕಾಶನ,ಗದಗ
-  ಡಾ॥ ಎಚ್.ಪ್ರಿ.ವಾಮದೇವಪ್ಪ(2009) ಶೈಕ್ಷಣಿಕ ಮನೋವಿಜ್ಞಾನ, ಶ್ರೀಯಸ್ ಪಬ್ಲಿಕೇಶನ್ಸ್, ದಾವಣಗೆರೆ
-  ಹೆಚ್.ದಳವಾಯಿ ಎಸ್.ಬಿ(2011) ಮಾನವ ವಿಕಾಸದ ಅರಿವು, ವಿದ್ಯಾನಿರ್ಧಿ ಪ್ರಕಾಶನ,ಗದಗ
-  ಜಿ. ರಾಜು (2009) ಶೈಕ್ಷಣಿಕ ಮನೋವಿಜ್ಞಾನ, ವಿದ್ಯಾನಿರ್ಧಿ ಪ್ರಕಾಶನ,ಗದಗ
-  ಹನುಮಂತರೆಡ್ಡಿ ಜಿ.(2006) ಮನೋವೈಜ್ಞಾನಿಕ ದೃಷ್ಟಿಯಲ್ಲಿ ಶಿಕ್ಷಣ. ಲಕ್ಷ್ಮೀ ಪಬ್ಲಿಕೇಶನ್ಸ್, ಮೈಸೂರು
-  ಎಚ್.ಎಂ.ಚಂದ್ರಾಚಾರ(2014) ಸಮಗ್ರ ಶೈಕ್ಷಣಿಕ ಮನೋವಿಜ್ಞಾನ,ಅಶ್ವಿನಿ ಪ್ರಕಾಶನ,ರಾಕೆಬೆನ್‌ಲ್ಯಾರ್

Question Paper Pattern:

Total 80 Marks

- | | |
|--|------------------------|
| Q.I. Answer any 10 out of 12 questions in two to three sentences each | (10x2=20 marks) |
| Q.II. Answer any 5 out of 7 questions in about one page each | (5x5=25 marks) |
| Q.III. Answer any 2 out of 3 questions in about two pages each | (2x10=20 marks) |
| Q.IV. Answer any 1 out of 2 questions in about three pages | (1x15=15 marks) |

B.A Fourth Semester

1. Hindustani Music (Optional)

With effect from 2017-18
ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚಕ)

ಬಿ. ಎ. IV ಸೆಮಿಸ್ಟರ್

ಕಲಿಕೆ ಮತ್ತು ಪರೀಕ್ಷೆ ವಿಧಾನ

ಕಲಿಕಾ ಅವಧಿಗಳು: ಶಾಸ್ತ್ರ ವಿಭಾಗ ಪ್ರತಿ ವಾರಕ್ಕೆ : 2 ಗಂಟೆಗಳು
ಪ್ರಾಯೋಗಿಕ ಪ್ರತಿವಾರಕ್ಕೆ 6 ಗಂಟೆಗಳು
ರಿಯಾಜ್ ಪ್ರತಿವಾರಕ್ಕೆ : 1 ಗಂಟೆ
(ಬೋಧನಾ ಅವಧಿ ಹೊರತು ಪಡಿಸಿ.)

ಪರೀಕ್ಷೆ ವಿಧಾನ:

ಶಾಸ್ತ್ರ ವಿಭಾಗ: 40 ಅಂಕಗಳ ಒಂದು ಪತ್ರಿಕೆ 2 ಗಂಟೆಗಳ ಅವಧಿ (ಪರೀಕ್ಷೆ 40 + ಅಂತರಿಕ 10 = 50)
ಪ್ರಾಯೋಗಿಕ: 80 ಅಂಕಗಳ ಪ್ರಾಯೋಗಿಕ ಪತ್ರಿಕೆ ಪ್ರತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ 15 ನಿಮಿಷ ಅವಧಿಯ
ಪ್ರಯೋಗಿಕ ಪರೀಕ್ಷೆ

ಅಂತರಿಕ ಮೌಲ್ಯಮಾಪನ ಅಂಶ: 1) ಪ್ರಾಯೋಗಿಕ - 20 (ಪ್ರಾಯೋಗಿಕ ಪರೀಕ್ಷೆ 80 + ಅಂತರಿಕ 20 = 100)

IV ಸೆಮಿಸ್ಟರ ಒಟ್ಟು ಅಂಕಗಳು 150 ಅಂಕಗಳು

- ❖ ಪ್ರಾಯೋಗಿಕ ತರಗತಿಯಲ್ಲಿ ಗರಿಷ್ಟ 5 ವಿದ್ಯಾರ್ಥಿಗಳು ಒಂದು ತರಗತಿಗೆ ಕಡ್ಡಾಯವಾಗಿದ್ದು, ಮರುಷ ಮತ್ತು ಮಹಿಳಾ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಪ್ರತ್ಯೇಕ ಬ್ಯಾಚಗಳನ್ನು ಮಾಡಬೇಕು.
- ❖ ಪ್ರಾಯೋಗಿಕ ಹಾಗೂ ಶಾಸ್ತ್ರ ವಿಭಾಗಗಳಲ್ಲಿ ತೇಗೆಡೆಯಾಗುವುದು ಕಡ್ಡಾಯವಾಗಿದೆ.
- ❖ ಪ್ರತಿವಾರಕ್ಕೆ 1 ತಾಸಿನ ರಿಯಾಜ ತರಗತಿಯು ಎಲ್ಲ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಕಡ್ಡಾಯವಾಗಿದ್ದು, ತಬಲಾ ಸಾಫಿದಾರರೊಂದಿಗೆ ತರಗತಿ ನಡೆಯುವುದು.

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚಕ)

ಬಿ. ಎ. IV ಸೆಮಿಸ್ಟರ್

ಸಂಗೀತಶಾಸ್ತ್ರ (ಧೇರಿ)

ಗರಿಷ್ಟ ಅಂಕಗಳು: 40

- 1) ಮೋಗಲರ ಕಾಲದ ಸಂಗೀತದ ಬೆಳವಣಿಗೆ
- 2) ಕನಾಟಕಿ ಹಾಗೂ ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತದ ತೌಲನಿಕ ಅಧ್ಯಯನ.
- 3) ರಾಗದ ದಶಲಕ್ಷಣಗಳು
- 4) ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತಕ್ಕೆ ಕನಾಟಕದ ಕೊಡುಗೆ.
- 5) ನಿಬಂಧಗಳು:
 1. ಸಂಗೀತದಲ್ಲಿ ಸಾಧನೆಯ ಮಹತ್ವ
 2. ಆಕಾಶವಾಣಿ ಹಾಗೂ ಸಂಗೀತ
 3. ಸಂಗೀತದಲ್ಲಿ ತಾಲ ಲಯದ ಮಹತ್ವ.
- 6) ಸಂಗೀತ ಗ್ರಂಥಗಳ ಪರಿಚಯ:

1. ಸಂಗೀತ ರಥ್ಯಾಕರ
 2. ರಾಗವಿಭೋಧ
 3. ಗೀತಗೋವಿಂದ
- 7) ಸಿತಾರ ವಾದ್ಯದ ಫರಾಣೆಗಳು.
- ಸೇನಿಯಾ, ಇಡಾವಾ, ಲಬಿನೋ, ಇಮುದಾದ್, ಧಾರವಾಡ

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಖಚಿತ)

ಬಿ. ಎ. IV ಸೆಮಿಸ್ಟರ್

ಪ್ರಾಯೋಗಿಕ
ಗಾಯನ

ಗರಿಷ್ಠ ಅಂಕಗಳು: 80

- 1) ರಾಗ: 1) ಬಾಗೇಶ್ವರಿ 2) ಬಿಭಾಸ ಈ ರಾಗದಲ್ಲಿ ಬಡಾಖ್ಯಾಲ ಮತ್ತು ಒಂದು ಭೋಟಾಖ್ಯಾಲನ್ನು 4 ಆಲಾಪ 4 ತಾನಗಳೊಂದಿಗೆ ಹಾಡುವುದು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 2) ರಾಗ:
ಕಾಢಿ
ಮೇಲ್ಬ್ರಾಹಿಸಿದ ರಾಗದಲ್ಲಿ ಭೋಟಾಖ್ಯಾಲಗಳನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ತಾನಗಳೊಂದಿಗೆ ಹಾಡಲು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 3) ಲಘು ಸಂಗೀತ ಯಾವುದೇ ಒಂದು ರಾಗದಲ್ಲಿ ಒಂದು ತರಾನಾ ಹಾಡಲು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯಲು ಕಲೆಯಬೇಕು.
- 4) ತಾಲಗಳು:
ಧಮಾರ, ಪಂಚಾಬಿ, ಖೇಮಟಾ
ಮೇಲ್ಬ್ರಾಹಿಸಿದ ತಾಲಗಳನ್ನು ಕೈಯಲ್ಲಿ ಹಾಕಿ ತಾಲಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಖಚಿತ)

ಸಿತಾರ

- 1) ರಾಗ: ಬಾಗೇಶ್ವರಿ, ಬಿಭಾಸ ರಾಗಗಳಲ್ಲಿ ಒಂದು ಮಸೀತೋಖಾನಿಗತ್ ಮತ್ತು ಒಂದು ರಜಾಖಾನಿಗತ್ ನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸಿತಾರದಲ್ಲಿ ನುಡಿಸಿ ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 2) ಬೃಂದಾವನಿ ಸಾರಂಗ ರಾಗದಲ್ಲಿ ಒಂದು ಮಸೀತೋಖಾನಿಗತ್ ಮತ್ತು ರಜಾಖಾನಿಗತ್ ನ್ನು 4 ಆಲಾಪ ಮತ್ತು 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸಿತಾರದಲ್ಲಿ ನುಡಿಸುವುದು ಮತ್ತು ಸ್ವರಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.
- 3) ವೈಷ್ಣವಜನತೋ ತೇನೆ ಕಹಿಯೆಜೆ ಈ ಹಾಡನ್ನು ಸಿತಾರದಲ್ಲಿ ನುಡಿಸುವುದು.
- 4) ತಾಲಗಳು:
ಧಮಾರ, ಪಂಚಾಬಿ, ಖೇಮಟಾ
ಮೇಲ್ಬ್ರಾಹಿಸಿದ ತಾಲಗಳನ್ನು ಕೈಯಲ್ಲಿ ಹಾಕಿ ತಾಲ ಲಿಪಿಯಲ್ಲಿ ಬರೆಯುವುದು.

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚೆಕ)

ತಬಲಾ

-
- 1) ಏಕತಾಲದಲ್ಲಿ ಸ್ವತಂತ್ರವಾದನ ನುಡಿಸಬೇಕು.
 - 2) ತಿಲವಾಡ ತಾಲದಲ್ಲಿ ಸ್ವತಂತ್ರವಾದನ ನುಡಿಸಬೇಕು.
 - 3) ವಿಲಂಬಿತ ತೀನತಾಲವನ್ನು ನುಡಿಸಬೇಕು.
 - 4) ತಿಲವಾಡ ತಾಲದ ಲೆಹರಾ ತಿಳಿದಿರಬೇಕು.

ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತ (ಬಚ್ಚೆಕ)

ಬಿ. IV ಸೆಮಿಸ್ಟರ್
ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ

ಗರಿಷ್ಠ ಅಂಕಗಳು: 40

ಅವಧಿ: 2 ಗಂಟೆಗೆ

- ಸೂಚನೆ: 1) ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ.
2) ಮೊದಲನೇಯ ಪ್ರಶ್ನೆ ಕಡ್ಡಾಯವಾಗಿದೆ.
3) ಎಲ್ಲ ಪ್ರಶ್ನೆಗಳಿಗೆ ಸಮಾನ ಅಂಕಗಳು.

-
- 1) ಕೆಳಗೆ ಕಾಣಿಸಿದ ಬೇಕಾದ ಒಂದು ರಾಗದ ಬಡಾ ಶ್ವಾಲ ಅಥವಾ ಘೋಟಾ ಶ್ವಾಲನ್ನು 4 ಅಲಾಪ, 4 ತಾನಗಳೊಂದಿಗೆ ಅಥವಾ ಒಂದು ಮಸಿತಿಖಾನಿ ಗತ್ತೊ ಅಥವಾ ರಚಾಖಾನಿ ಗತ್ತನ್ನು 4 ಅಲಾಪ ಹಾಗೂ 4 ಪಲ್ಲಾಗಳೊಂದಿಗೆ ಸ್ವರ ಲಿಪಿ ಪದ್ದತಿಯಲ್ಲಿ ಬರೆಯಿರಿ.

a. ಭಾಗೇಶ್ವರೀ

b. ಕಾಫಿ

ಅಥವಾ

ತಿಲವಾಡ ತಾಲದ ಸ್ವತಂತ್ರ ವಾದನವನ್ನು ತಾಲಲಿಪಿ ಪದ್ದತಿಯಲ್ಲಿ ಬರೆಯಿರಿ.

- 2) ಮೊಗಲರ ಕಾಲದ ಸಂಗೀತದ ಬೆಳವಣಿಗೆ ಕುರಿತು ಬರೆಯಿರಿ.
- 3) ಹಿಂದುಸ್ತಾನಿ ಸಂಗೀತಕ್ಕೆ ಕನಾಟಕದ ಶೋಡುಗೆಯನ್ನು ವಿವರಿಸಿರಿ.
- 4) ಸಿತಾರ ವಾದ್ಯದ ಈ ಕೆಳಗಿನ ಘರಾಣೆಗಳನ್ನು ವಿವರಿಸಿರಿ.
 - a. ಸೇನಿಯಾ
 - b. ಇಟಾವಾ
 - c. ಲಾಖ್ನೋ
 - d. ಇಮದಾದ್
 - e. ಧಾರವಾಡ

5) କେଳିନ ସଂଗୀତ ଗ୍ରଂଥଗଳ କୁରିତୁ ବରେଣ୍ଟିର. (ବେଳୋଦ 2)

- a. ରାଗ ବିଭେଦ
- b. ସଂଗୀତ ରତ୍ନକର
- c. ଗୀତ ଗୋପିନ୍ଦ

GROUP – E

B.A Fourth Semester

1. HISTORY (Optional)

History & Archaeology

B.A. IV Semester

History of India from -1526 AD to 1707

One Paper carrying 80 marks and 3 hours duration.

(Teaching hours :5 hours per week - 16 weeks x 5 = 80 hours)

UNIT : I

19 Hrs

- A. Political conditions of India on the eve of Babars Invision.
- B. The Mughal Empire- Babar and Humayun.
- C. The Sur Dyanasty – Shershah sur- His administration.

UNIT : II

20 Hrs

- A. Akbar- His conquests, Rajaput and Religious Policies.
- B. Administration under Akbar.
- C. Jahangir : his achievements- Nurjahan.

UNIT : III

15 Hrs

- A. Shahajahan: The Golden age of art & architecture.
- B. Aurangzeb : His Religious, Rajaput and Deccan Policies.
- C. Causes for the Decline of Mughal empire.

UNIT : IV

20 Hrs

- A. The Contributions of Mughals- With reference to Administration Socio- Economic condition, religion, Art and Architecture.
- B. Bhakti movement : Kabir, Gurunanak, Meerabai &

- Shaik Mohinuddin Chisti.
- C. Rise of Marathas – Shivaji- His military achievements and administration.

UNIT : V	06 Hrs
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- Map Topics (one question compulsory)
- A. Mughal empire under Akbar.
- B. Maratha Kingdom under Shivaji

Books for Reference

- 1) History of Medieval India by: L.P. Sharma
- 2) History of Medieval India by: V.D. Mahajan
- 3) Advanced Study in the History of Medieval India- Vol.II & III
J. L. Mehta
- 4) Medieval Indian History-A L Srivastav
- 5) ମଧ୍ୟୟୁଗେନ ଭାରତଦ ଇତିହାସ : ବି.ପି. ହୋଗାର
- 6) ମଧ୍ୟୟୁଗେନ ଭାରତଦ ଇତିହାସ : ଡା: କେ. ସଦାଶିଵ
- 7) ମୋଗଲର କାଳଦ ଭାରତ : ଡି.ଏ. ଜୋନ୍ସ୍
- 8) ମଧ୍ୟୟୁଗେନ ଭାରତଦ ଇତିହାସ : ଡା॥ କେ, ଜଗଦୀଶ

2. Journalism & Mass Communication (Optional)

BA – IV Semester

Paper No. 4 Editing and Production

Teaching –Theory 5 hours per week Total 60 hrs.

Examination Theory 80 marks 3 hrs duration 20 IA

1. Editorial section of a newspaper-Need for editing –Techniques of editing a newspaper-Newspaper jargons. (12 hrs)
2. Function of Editor, News Editor, Chief-Sub Editor and qualities of a Sub Editor. (12 hrs)
3. Headline writing techniques – Types of headlines-Newspaper design and layout-Editing pictures – using of infographics. (12hrs)

4. Contents of editorial page-Art of writing editorials (12hrs)
5. Application of computers for composing and pagination-Use of prominent software packages-Newspaper printing methods.

Reference Books:

1. The art of edition-Baskette & Scissors
2. Elements of Modern journalism-S.R. Sharma
3. News Reporting and Editing-K.M. Shrivatsava
4. Journalistic Handbook – M.V. Kamath
5. Vritti Patrikodyama M.V. Kamath
6. Talebaraha-Visweswara Bhat
7. Internet Patrikodyama-Sridhara Dixit

Four Assignment s to be submitted for the award of IA marks (10)

1. Selection of ten best headlines in a daily with justification
2. Content analysis of the editorial page of a daily
3. Selection and presentation of best feature published in a magazine
4. Selection of the best-designed page of a daily with justification.

3. Folk literature (Optional)

ಬಿ. ಎ.-4 ನೇ ಸೆಮಿಸ್ಪರ್ ಪತ್ರಿಕೆ-4 2012-13 ಮತ್ತು ನಂತರ
ಸಂಕ್ಷಿಪ್ತ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ

ಚೋಧನಾ ಅವಧಿ: ವಾರಕ್ಕೆ 5 ಗಂಟೆಗಳು

ಅ) ಸಂಕ್ಷಿಪ್ತ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ	80
ಬ) ಅಂತರಿಕ ಮೌಲ್ಯಮಾಪನ	20

ಫಳಕ-1 ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಾಚೀನತೆ ಮತ್ತು ಕವಿರಾಜ ಮಾರ್ಗ

ಚಂಪೂ ಕಾವ್ಯ ಪ್ರಕಾರ ಸ್ವರೂಪ ಮತ್ತು ಲಕ್ಷಣ (ಲಗಮ ವಿಕಾಸ)

ಪ್ರಮುಖ ಚಂಪೂ ಕವಿಗಳು : ಪಂಪ, ರನ್ನ, 1ನೇ ನಾಗವಮ್ರ, ನಯಸೇನ, ಜನ್ನ, ಷಡಕ್ಕರದೇವ

ಫಳಕ-2 ವಚನ ಸಾಹಿತ್ಯದ ಸ್ವರೂಪ ಮತ್ತು ವೈಶಿಷ್ಟ್ಯಗಳು

ಪ್ರಮುಖ ವಚನಕಾರರು : ಜೇಡರದಾಸಿಮಯ್ಯ, ಅಲ್ಲಮಪ್ರಭು, ಬಸವಣ್ಣ, ಅಕ್ಷಮಹಾದೇವ, ಅಂಬಿಗರ ಚೌಡಯ್ಯ

ಫಳಕ-3 ರಗಳ ಸಾಹಿತ್ಯದ ಸ್ವರೂಪ : ಹರಿಹರ

- ಷಟ್ಟದಿ ಸಾಹಿತ್ಯದ ಸ್ವರೂಪ ಮತ್ತು ವೈಶಿಷ್ಟ್ಯ
ಪ್ರಮುಖ ಷಟ್ಟದಿ ಕವಿಗಳು : ರಾಫ್‌ವಾಂಕ, ಕುಮಾರವ್ಯಾಸ, ಚಾಮರಸ, ಲಕ್ಷ್ಮೀಶ
ಫಾಟಕ-4 ಕೇರನ ಸಾಹಿತ್ಯ : ಕೇರನ ಸಾಹಿತ್ಯ ಶ್ರೀಪದಿ, ಸ್ವರೂಪ ಮತ್ತು ವೈಶಿಷ್ಟ್ಯ
ಪ್ರಮುಖ ಹರಿದಾಸರು : ಮರಂದರದಾಸ, ಕನಕದಾಸ
ಸ್ವರ ವಚನಗಳು : ನಿಜಗುಣಶಿವಯೋಗಿ, ಮುಪ್ಪಿನ ಷಡ್ಕಾರಿ, ಶಿಶುನಾಳ ಶರೀಫ, ಕಡಕೋಳ ಮದಿವಾಳಪ್ಪ
ಸಾಂಗತ್ಯ ಸಾಹಿತ್ಯ : ರತ್ನಾಕರವರ್ಣ
ಫಾಟಕ-5 ಹೊಸಗನ್ನಡ ಸಾಹಿತ್ಯ : ಬೇಂದ್ರೆ, ಕೆ. ಎಸ್.ನರಸಿಂಹಸ್ವಾಮಿ, ಚಂದ್ರಶೇಖರ ಕಂಬಾರ,
ಜಿ. ಪಿ. ರಾಜರತ್ನಂ, ಮದುರಚನ್ನ, ಶಿಂಧಿ ಲಿಂಗಣ್ಣ

ಅಧ್ಯಯನ ಸಲಹೆ ಮಾಡಿದ ಗ್ರಂಥಗಳು

- 1) ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ರಂ ಶ್ರೀ ಮುಗಳಿ, ಗೀತಾ ಬುಕ್ ಹೌಸ್ ಮೈಸೂರು 1998
- 2) ಸಾಮಾನ್ಯರಿಗೆ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ -10 ಸಂಪುಟಗಳು (ಸಂ) ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ ಬೆಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾಲಯ ಬೆಂಗಳೂರು 1975
- 3) ಜನಪ್ರಿಯ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ತ. ಸು. ಶಾಮರಾಯ, ತ.ವೆಂ. ಸ್ವಾರಕ ಗ್ರಂಥಮಾಲೆ, ಮೈಸೂರು 1964
- 4) ಹೊಸಗನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ, ಎಲ್. ಎಸ್. ಶೇಷಗಿರಿರಾವ್, ಅಂಕಿತ ಮಸ್ತಕ, ಬೆಂಗಳೂರು 1999

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ

ಪ್ರಶ್ನೆ-1 ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ (ಸಾಹಿತ್ಯದ ಪ್ರಾಚೀನತೆ, ಚಂಪು ಕುರಿತು)	12
ಪ್ರಶ್ನೆ-2 ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ (ವಚನ ಸಾಹಿತ್ಯ ಕುರಿತು)	12
ಪ್ರಶ್ನೆ-3 ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ (ರಗಳೆ, ಷಟ್ಟದಿ ಕುರಿತು)	12
ಪ್ರಶ್ನೆ-4 ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ (ಕೇರನ, ಸಾಂಗತ್ಯ, ಶ್ರೀಪದಿ ಹೊ.ಗ.ಸಾಹಿತ್ಯ ಕುರಿತು)	12
ಪ್ರಶ್ನೆ-5 ಮೂರಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ (ಒಂದು ಕೊಡುವುದು)	15
ಪ್ರಶ್ನೆ-6 ವಸ್ತು ನಿಷ್ಠೆ ಪ್ರಶ್ನೆಗಳು (ಒಂದು ಅಂಕದ ಹದಿನೇಳು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಬೇಕು)	17

4. Prakrit(Optional): IV Sem

B. A. Part II Fourth Semester Optional - Praakrit		
Teaching hours	-	5 hours per week
Exam marks	-	80+20=100 of 3 hours Duration
Text 1) रत्नावली नाटक – Act IV only	-	30 Marks
2) कर्पूरमंजरी - Act III & IV only	-	40 Marks
3) Grammer (Prakrit forms]	-	10 Marks
c) Internal Assessment	-	20 Marks
1) Internal test -10	-	
e) Assignment, class records skill - development -10	-	
Total		100 Marks

B. A. Part - II Optional - Praakrit

Question Paper Pattern Fourth Semester

I.	Match the following 1. Five from रत्नावलीनाटकं – IV Arts 2. Five from कर्पूरमंजरी – III& IV Arts	05 Marks 05 Marks
II.	Translate & Explain 1. Prose from रत्नावलीनाटकं – any 1 out of 2 2. Verses from कर्पूरमंजरी – any 2 out of 3	07 Marks 12 Marks
III.	Explain with reference to context (any three out of five)	15 Marks
IV.	Essay type questions (with internal choice)	16Marks
V.	Short notes any three from Six	15 Marks
VI.	Grammer (Praakrit Froms)	05 Marks
Total		80 Marks

RANI CHANNAMMA UNIVERSITY, BELAGAVI

BA, BSW and B.Sc IV Semester Computer Applications (Compulsory) (Under Group-1'IT (Fourth Semester))

Teaching hour per week: 04

Max. Marks: 80

1. Introduction to Computers: Introduction, types of computer, components of computer, CPU, motherboard, primary storage devices: ROM, RAM secondary storage: floppy, hard disk and their types; CDROM, pen drive, Input & output devices: keyboard, mouse, scanner, display units, printers (dot matrix, Inkjet & laser), multimedia components, liquid crystal display (LCD) projector, modems and network interfacing card.

8 Hrs

2. Windows Operating system: Introduction, loading and starting windows, concept of plug and play, active desktop environment, control panel, adding new programs and hardware, menus, folders, shortcuts, display properties, system tools, multimedia programs, editing pictures using paint.

8 Hrs

3. MS-Word: Introduction to MS-office, installing and removing word, running programs and managing files, opening, creating and saving documents, templates, navigating and selecting, editing and sorting, checking spelling and grammar, formatting, importing graphics and pictures, tables, long documents, sharing, data with other users, security, creating and working with web pages, mail merge, editing equations, printing.

8 Hrs

4. MS EXCEL: Introduction, creating, opening and saving files, working with workbooks and worksheets, spreadsheets, entering and selecting data, editing and formatting worksheets, mathematical functions, statistical functions, trigonometric functions, date and time functions, text functions, financial functions, lookup and reference functions, creation of charts and graphs, automated tasks, macros, switching from other applications, printing.

8 Hrs

5. MS-PowerPoint: Introduction, auto-content wizard, design templates, adding and formatting text, making notes and handouts, adding clip arts, drawings and other objects, equations, tables and charts, controlling the slide show, animations, printing presentations and slides.

6 Hrs

6. MS-Access: Introduction, databases, data structures, creating tables, importing and linking tables, working with data, working with queries, formatting forms and reports, writing expressions, working with macros, modules and events, replication, data access objects, data access methods and properties.

6 Hrs

7. Internet: Introduction, LAN and WAN, dial-up and broadband networking, internet protocols, TCP/IP protocol, Microsoft internet explorer, Netscape navigator, properties and customization, jworld wide web, HTML, creation of web page using templates, search engines, chatting, e-mail.

Hr

References:

1. ITL ESL, Fundamental of Information Technology, Pearson Education.
2. Peter Norton, Introduction to computers, 4th edition, Tata McGraw Hill
3. Sagman, MS Office 2000 for windows, Pearson Education.
4. Microsoft-MS-Office 2007 step by step
5. Microsoft-MS-Word 2007 step by step
6. Microsoft-MS-Excel 2007 step by step
7. Microsoft-MS-Power Point 2007 step by step
8. Microsoft-MS-Access 2007 step by step

Scheme of instruction and examination of Computer Applications Compulsory Paper at BA/B.Sc Semester

Sem.No.	Title of the Paper	Theory Hours	Theory Marks	I.A marks	Exam Hrs	Total marks
IV	Computer Applications(Compulsory paper)	4 Hrs	80	20	3 Hrs	100



ರಾಜೀ ಚನ್ನಮೈ ವಿಶ್ವವಿದ್ಯಾಲಯ
ಶಾಸ್ತ್ರೀಯ ಕನ್ನಡ ಭಾಷಾ ಅಧ್ಯಯನ ಸಂಸ್ಥೆ

ಬಿ. ಎ., ಬಿ.ಎಸ್.ಡಿ.ಬಿ.ಎಸ್. ಹಾಗೂ ಸಿ.ಸಿ.ಜಿ ಆರನೆಯ ಸೇವಿಸ್ಟ್‌ರಾನ ಕನ್ನಡ ಬೇಸಿಕ್ (ಆಪಶ್ಯಕ) ಪತ್ರಕ್‌
 ವಾರಕ್ಕೆ ಇದು ಗಂಟೆಗಳ ಪಾಠ, ಒಟ್ಟು ನೂರು ಅಂಕಗಳು
 (ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦, ಧಿಯರ ಪತ್ರಿಕೆಗೆ ೮೦ ಅಂಕಗಳು)
ಪದ್ಯಭಾಗ

೧. ದಯಾಮೂಲ ಧರ್ಮಂ (ಯಶೋಧರ ಚರಿತೆ) – ಜನ್ಮ
೨. ಕೃಷಿವಿಹಿನನ ದೇಶವದು ದುರ್ದೇಶ (ಕನಾಟಕ ಭಾರತ ಕಥಾಮಂಜರಿ) – ಕುಮಾರವ್ಯಾಸ
೩. ಕೈಯಲ್ಲಿ ಜೊತೆಯ ಹಿಡಿದು ಕತ್ತಲೆಯೆನಲೇಕೆ ? (ವಚನ) – ಮೋಳಿಗೆ ಮಹಾದೇವಿ
೪. ಜ್ಞಾನ – ದಾನ (ತ್ರಿಪದಿ) – ಸರ್ವಜ್ಞ
೫. ಇನ್ನೆಂದು ಬೆಳಗು ನಿಮಗೆ (ಕವಿತೆ) – ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
೬. ಕೆಂಪಾದವೋ (ಕವಿತೆ) – ರಂಗರಾಜ ವನದುರ್ಗ
೭. ಪ್ರಣಾಳಿಕೆ – ರಮ್ಮಾನ್ ದಗ್ರಾ
೮. ಶರಣಯ್ಯ ಶರಣ - ಕೆ. ರಾಮಯ್ಯ
೯. ನೆಲದೆಯೆ ಗೂಡು – ಮಲ್ಲಿಕಾ ಘಂಟಿ
೧೦. ನನ್ನ ಆಸ್ತಿ – ನನ್ನ ಜೀವನ – ಚಾಂದಿನಿ

ಗದ್ಯಭಾಗ

೧೧. ನಾಲ್ಕರು ಹುಡುಗಿಯರು ಮತ್ತು ಒಬ್ಬರಾಜ (ಕಥೆ) – ಜನಪದ
೧೨. ಜಗತ್ತಿಗೆ ಬುದ್ಧನ ಸಂದೇಶ (ಲಾಪನ್ಯಾಸ) – ಸ್ವಾಮಿ ವಿವೇಕಾನಂದ
೧೩. ಎಡೆಗಳ ಹೆಸರುಗಳು (ಸಂಶೋಧನೆ) – ಶಂಭಾ ಜೋತಿ
೧೪. ಅಂಬೇಢ್‌ರ್ ದಲಿತ ದ್ವಾನಿ (ಅಂಕಣ) – ಬರಗೂರು ರಾಮಚಂದ್ರಪ್ಪ
೧೫. ಅವ್ವ (ಕಥೆ) – ಗೀತಾ ನಾಗಭೂಷಣ
೧೬. ಚಲನಚಿತ್ರಗಳಲ್ಲಿ ಹೆಣ್ಣು (ವೈಚಾರಿಕ) – ವಿನಯಾ ಪ್ರಸಾದ
೧೭. ಅಲೆಮಾರಿಯ ಅಂತರಂಗ (ಆತ್ಮಕಥನ) – ಕುಪ್ಪೆ ನಾಗರಾಜ



ರಾಣಿ ಚನ್ನಮ್ಮೆ ವಿಶ್ವವಿದ್ಯಾಲಯ
ವಿದ್ಯಾಸಂಗಮ, ಬೆಳಗಾವಿ-ಶಿರೀಗಳು
ಶಾಸ್ತ್ರೀಯ ಕನ್ನಡ ಭಾಷಾ ಅಧ್ಯಯನ ಸಂಸ್ಥೆ

ಬಿ ಎ ಆರನೆಯ ಸೇಮಿಸ್ಟರ್ ಬಹುಕ ಕನ್ನಡ ಪ್ರಫ್ರಮ ಪತ್ರಿಕೆ

೧. ಆರನೆಯ ಸೇಮಿಸ್ಟರ್ ಪ್ರಫ್ರಮ ಪತ್ರಿಕೆಯಲ್ಲಿ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಕರ ಮತ್ತು ಪರಿಕರಗಳನ್ನು ಕುರಿತು ಸ್ಫೂರ್ತಿಯಾಗಿ ಪರಿಚಯಿಸುವುದು.
೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳಾಗಿರುತ್ತದೆ. ವಾರಕ್ಕೆ ೧೫ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂತರಿಕ್ಷ ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂತರಿಕ್ಷ (ಹಾಜರಾತಿಗೆ ೧೫, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೯, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೯, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ೧೫ ಅಂತರಿಕ್ಷ) ಹಾಗೂ ಧಿಯರ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂತರಿಕ್ಷ.

ಪರ್ಯಾಕ್ರಮ

೧. ಸಂಸ್ಕೃತಿ
 - ಎ. ಸಂಸ್ಕೃತಿ :ಹಾಗೆಂದರೆನು? (ಲೇಖನ) ರಹಮತ್ ತರಿಕೆರೆ
 - ಬಿ. ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ನಮ್ಮ ಹೆಮ್ಮೆ (ಲೇಖನ) : ಡಾ. ಎಂ. ಚಿದಾನಂದ ಮೂರ್ತಿ
೨. ಸಂಶೋಧನೆ
 - ಎ. ಸಂಶೋಧನೆ : ಅಧ್ಯ, ಸ್ವರೂಪ, ವಿನ್ಯಾಸ ಮತ್ತು ಪ್ರಕಾರಗಳು : (ಲೇಖನ) ಡಾ. ಸಂಗಮೇಶ ಸವದತ್ತಿಮತ.
 - ಬಿ. ಪಂಪನ ಧರ್ಮಸುರ : ಕ್ಷೇತ್ರಕಾರ್ಯ (ಲೇಖನ) : ಡಾ. ಎಂ. ಎಂ. ಕಲಬುಗ್ರಿ
೩. ವಿಮರ್ಶೆ
 - ಎ. ವಿಮರ್ಶೆಯ ದಾರಿ (ಲೇಖನ) : ಡಾ. ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
 - ಬಿ. ತತ್ವಪದಕಾರರ ತಾತ್ತ್ವಿಕತೆಯ ಸ್ವರೂಪ (ಲೇಖನ) : ಡಾ. ಎಸ್. ನಟರಾಜ ಬೂದಾಳು.
೪. ಸಂಪನಕನ
 - ಎ. ಸಂಪನಕ : ಅಧ್ಯ, ವ್ಯಾಪ್ತಿ (ಲೇಖನ) : ಡಾ. ಡಿ. ವಿ. ಪರಮಶಿವಮೂರ್ತಿ.
 - ಬಿ. ಪತ್ರಿಕೆಯ ಮುದ್ರಣ ಸಾಮಾಜಿಕ್ಯರು (ಲೇಖನ) : ಶ್ರೀಮತಿ. ಧರಣೆದೇವ ಮಾಲಗತ್ತಿ.
೫. ಆಕರಶಾಸ್ತ್ರ
 - ಎ. ಶಾಸನ ಎಂದರೆನು ? ಅದರ ಪ್ರಕಾರಗಳು (ಲೇಖನ) : ಡಾ. ಹು. ಕಾ. ಜಯದೇವ.
 - ಬಿ. ಹಣ್ಣಪ್ರತಿಗಳ ಅಧ್ಯ, ಪ್ರಕಾರ, ರಚನೆಯ ಸಾಮಗ್ರಿಗಳು (ಲೇಖನ) : ಡಾ. ಕೆ. ರವಿಂದ್ರನಾಥ.

ಪರಮಾರ್ಥನ ಗ್ರಂಥಗಳು

೧. ಕನಾಂಟಕ ಸಂಸ್ಕೃತಿ ಸಮೀಕ್ಷೆ : ಡಾ ಎಚ್. ಶಿವೇರುದ್ರಪ್ಪಾರ್ಮಿ.
೨. ಕನಾಂಟಕದ ಪರಂಪರೆ ಭಾಗ-೧ ಹಾಗೂ ಭಾಗ-೨ ಕನ್ನಡ ಮತ್ತು ಸಂಸ್ಕೃತಿ ಇಲಾಖೆ ಪ್ರಕಟನೆ



ರಾಣಿ ಚನ್ನಮ್ಮೆ ವಿಶ್ವವಿದ್ಯಾಲಯ
ವಿದ್ಯಾಸಂಗಮ, ಬೆಳಗಾವಿ-ಬೆಳಗಾಮ
ಶಾಸ್ತ್ರೀಯ ಕನ್ನಡ ಭಾಷಾ ಅಧ್ಯಯನ ಸಂಸ್ಥೆ

ಬಿ ಎ ಆರನೆಯ ಸೇಮಿಸ್ಟರ್ ಬಚ್ಚಕ ಕನ್ನಡ ದ್ವಿತೀಯ ಪತ್ರಿಕೆ

೧. ಆರನೆಯ ಸೇಮಿಸ್ಟರ್ ದ್ವಿತೀಯ ಪತ್ರಿಕೆಯಲ್ಲಿ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಕೆಲವು ಪ್ರಮುಖ ಕೃತಿಗಳನ್ನು ಓದಿಸುವ ಉದ್ದೇಶವನ್ನು ಹೊಂದಲಾಗಿದೆ.
೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳಾಗಿರುತ್ತದೆ. ವಾರಕ್ಕೆ ೦೫ ಗಂಟೆಗಳ ಹೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಹೊದಲ ಕೆರು ಪರೀಕ್ಷೆಗೆ ೦೬, ಎರಡನೆಯ ಕೆರು ಪರೀಕ್ಷೆಗೆ ೦೬, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ರಮಕ್ಕೆ ೦೪ ಅಂಕಗಳು) ಹಾಗೂ ಧಿಯರ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

ಪಠ್ಯಕ್ರಮ

೧. ಕನ್ನಡದ ಪ್ರಮುಖ ಪಠ್ಯಗಳು (೯೦ ಅಂಕಗಳು) ೯೦ ಗಂಟೆಗಳ ಪಾಠ
೨. ಚಂದ್ರಗಿರಿಯ ತೀರದಲ್ಲಿ – ಸಾರಾ ಅಭಿಬಂಧ (ಕಾದಂಬರಿ) (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)
೩. ಶಿವರಾತ್ರಿ – ಡಾ ಚಂದ್ರಶೇಖರ ಕಂಬಾರ (ನಾಟಕ) (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)
೪. ಪಂಪಾಯಾತ್ರೆ – ವಿ ಸೀತಾರಾಮಯ್ಯ (ಪ್ರಾಣ ಕಥನ) (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)
೫. ಸರೋವರದ ಸಿರಿಗನ್ನಡಿಯಲ್ಲಿ – ಕುವೆಂಪು (ವಿಮರ್ಶೆ) (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)

RANI CHANNAMMA UNIVERSITY

BELAGAVI



COURSE STRUCTURE AND SYLLABUS

FOR

B.Com

(II SEMESTER)

w.e.f. Academic Year 2015 - 16 & Onwards

Rani Channamma University, Belagavi

Department of Post Graduate Studies and Research in Commerce

Proposed B.Com Course Structure of I & II Semester

w. e. f. Academic year 2015-16

Paper/No	Title of the Paper	Weekly Teaching Hours	Exam Duration	Maximum marks		
				Internal Assessment	Semester End Examination Marks	Total
FIRST SEMESTER						
1.1	English	5	3	20	80	100
1.2	Modern Indian Languages (English/Kannada/Hindi/Persian/ Marathi/Urdu/Sanskrit/Arabic)	5	3	20	80	100
1.3	Financial Accounting – I	4	3	20	80	100
1.4	Business Economics – I /Entrepreneurship Development (Vocational)1A	4	3	20	80	100
1.5	Business Environment / Business Mathematics-I/Tax procedure & Practice- (Vocational)P2A	4	3	20	80	100
1.6	Secretarial Practice	4	3	20	80	100
1.7	Indian Constitution	4	3	20	80	100
Non – Commerce Students						
1.8	Special Accounts – I	4	3	20	80	100
1.9	Special Commerce – I	4	3	20	80	100
SECOND SEMESTER						
2.1	English	5	3	20	80	100
2.2	Modern Indian Languages (English/ Kannada/Hindi/Persian Marathi/Urdu/Sanskrit/Arabic)	5	3	20	80	100
2.3	Financial Accounting – II	4	3	20	80	100
2.4	Business Economics – II/Entrepreneurship Development (Vocational) P 1B	4	3	20	80	100
2.5	Marketing Management / Business Mathematics-II/ Tax procedure & Practice- (Vocational)P 2B	4	3	20	80	100
2.6	Accounting Theory	4	3	20	80	100
2.7	Computer Applications in Business – I	4+2	3	20	80	100
Non – Commerce Students						
2.8	Special Accounts – II	4	3	20	80	100
2.9	Special Commerce – II	4	3	20	80	100

Detailed Syllabus for BCOM / BBA (With effect from 2016-17 onwards)

Semester – II: Basic English

Teaching Hours: 5 per week

I. Text: Prose

- 1) Milka Singh: The Flying Sikh – Sonia Sanwalka
- 2) A Talk on Advertisement – Herman Wouk
- 3) Luncheon – Somerset Maugham
- 4) Knowledge and Wisdom – Bertrand Russell
- 5) A Heart Breaking Recount of Dr. APJ Abdul Kalam's Last Moments – Srijan Pal Singh

Poetry

- 1) Philomela – Matthew Arnold
- 2) Fidelity – William Wordsworth
- 3) The Diameter of the Bomb – Yehuda Amichai
- 4) I am not that Woman – Kishwar Naheed
- 5) Freedom – Jayanta Mahapatra

II. Grammar and Communicative Skills

A) Correction of Sentences (focus on the use of articles, prepositions, numbers, subject verb agreement, question tags, Pronouns, adjectives, adverbs, homophones, homonyms)

B) Framing Wh- questions

C) Composition

- a) Short Speech Skills - Global Warming, Water Scarcity, Pollution, Terrorism, Anti-social activities, Startups, Plantation, bio-diversity, rain harvesting, women education, Clean Mission India, Impact of strikes, Alcoholism, First day in college, Mother's day, Yoga day, Environment day and Science day. (about 100 -150 words)
- b) Preparing an Advertisement - Notebook, Pen, Soap, Smart Phone, TV, Computer, Shoes, etc.
- c) Resume/Curriculum Vitae writing

Pattern of Question Paper

(80 Marks paper of three hours and 20 Marks for I.A.)

(Text: 50 Marks, Grammar: 15 Marks and Composition: 15 Marks)

1) Objective type questions (5 from Prose and 5 from Poetry)	10X1= 10
2) Reference to Context (One from Prose and One from Poetry out of four)	2X05=10
3) Essay type question on Prose (one out of two)	1X10 =10
4) Essay type question on Poetry (one out of two)	1X10=10
5) Short Notes (One from Prose and One from Poetry out of four)	2X05=10
6) A) Correction of Errors Compulsory one question from each of the above mentioned topics under Correction of errors should be asked	10X1=10
B) Framing Wh- questions	5X01=05
7) A) Short Speeches	1X05=05
B) Preparing an Advertisement	1X05=05
C) Resume/CV Writing	1X05=05

**Detailed Syllabus for BCOM / BBA
(With effect from 2016-17 onwards)**

**Semester – II: Additional English
Teaching Hours: 5 Hours per week**

I. Text: The Story of My Life – Helen Keller
(Rupa Publications- Classics Library edition)

II. Grammar and Composition

- 1) Relative Clauses
- 2) Conditionals and ‘wish’
- 3) Use of words as Two different forms of Speech
- 4) Emails: Job Application Letters
- 5) Letters of Complaint to the concerned authority

Pattern of Question Paper

(80 Marks paper of three hours and 20 Marks for I.A.)
(Text: 50 Marks and Grammar and Composition: 30 Marks)

1) Objective type questions on the novel	10X1= 10
2) Reference to Context (two out of four)	2X05=10
3) Essay type question (one out of two)	1X10 =10
4) Essay type question (one out of two)	1X10=10
5) Short Notes (two out of four)	2X05=10
6) A) Relative Clauses	5X1=05
B) Conditionals and ‘wish’	5X1=05
7) Use of words in a sentence as two different forms of Speech	5X2 = 10
7) A) Email Job Application Letters	1X05=05
B) Letters of Complaint to concerned authority	1X05=05

ಸಾಹಿತ್ಯ ಸ್ಪಂದನ-೨

ಬಿ.ಕಾಂ. ಎರಡನೆಯ ಸೇಮಿಸ್ಟ್ರ್ಯಾ

2016-17 onwards

ಅನುಬಂಧ – ೨

ಪದ್ಯ ಭಾಗ

- | | | |
|----|----------------------------------|------------------------|
| ೧. | ಯಾತಕೆ ಮಳೆ ಹೋದವೋ? | -ಜನಪದ |
| ೨. | ಬಳೆಗಾರ ಚೆನ್ನಯ್ಯ ಬಾಗಿಲಿಗೆ ಬಂದಿಹನು | -ಕೆ. ಎಸ್. ನರಸಿಂಹಸ್ವಾಮಿ |
| ೩. | ಮರತೇನಂದರ ಮರೆಯಲಿ ಹೆಂಗಾ | -ಚಂದ್ರಶೇಖರ ಕಂಬಾರ |
| ೪. | ಕನ್ನಡವ್ಯಾಯ ಹೊರಗು | -ವಿಷ್ಣು ನಾಯಕ |
| ೫. | ಅಂಬೇಢರ್ | -ಡಾ. ಸಿದ್ಧಲಿಂಗಯ್ಯ |
| ೬. | ಗಜಲ್; ತಿಳಿವು-ಹೊಳಹು | -ಡಾ. ಬಸವರಾಜ ಸಬರದ |
| ೭. | ಬತ್ತಲಾರದ ಕಣ್ಣೀರು | -ಡಾ. ಮಲ್ಲಿಕಾ ಘಂಟಿ |
| ೮. | ಬಡ ಭಾರತದ ಆಟ | -ರಮೇಶ ಗಬ್ಬಾರು |

ಗದ್ಯ ಭಾಗ

- | | | |
|-----|---------------------------|----------------------|
| ೯. | ಮೋಚಿ | -ಭಾರತೀಯಿಯ |
| ೧೦. | ಮೋಡಕಾ ಬಾಜಾರ | -ಎನ್ನೆ |
| ೧೧. | ಕನ್ನಡಾಧಿಮಾನದ ಕಟುವಾಸ್ತವ | -ಬರಗೂರು ರಾಮಚಂದ್ರಪ್ಪ |
| ೧೨. | ಸಂಪರ್ಹನ ಮತ್ತು ಪ್ರಾಮುಖ್ಯತೆ | -ಯಂಡಮೂರಿ ವೀರೇಂದ್ರನಾಥ |
| ೧೩. | ಅಕ್ಷರ ದೇವರು | -ಅಬ್ಬಾಸ ಮೇಲಿನಮನಿ |
| ೧೪. | ಶೂತಿನ ದುಡ್ಡ ಮತ್ತು ನೀರು | -ಡಾ. ಅರವಿಂದ ಮಾಲಗತ್ತಿ |
| ೧೫. | ಬುದ್ಧ ಗಂಟೆಯ ಸದ್ಗು | -ಮಹಾಂತೇಶ ನವಲಕಲ್ |
| ೧೬. | ಬಾಗಿಲಿಗೆ ಬಂದ ನವಿಲು | -ಕೃಪಾಕರ ಸೇನಾನಿ |

Syllabus of B.Com/BBA

II - Semester

Hindi Basic 2016-17 onwards

Teaching hours per week:	05 hours	Total Marks:	100 Marks
Examination:	03 hours	Theory:	80 Marks
		Internal Assessment:	20 Marks

Text Books:

- पद्ममंजरी – सं. डॉ. टी. निर्मला, डॉ. एस. मोहन, राजकमल प्रकाशन, नई दिल्ली (अध्ययन के लिए केवल आधुनिक कविताएँ)
- निबंध लेखन
- पारिभाषिक शब्दावली

Distribution of Marks

- पद्ममंजरी – 55 अंक
- निबंध लेखन – 15 अंक
- पारिभाषिक शब्दावली – 10 अंक

A	Objective Type Questions (10 out of 14)	10 Marks
B	Annotations from Text Book (3out of 5)	15 Marks
C	Essay Type of Questions from Text Book (2 out of 4)	20 Marks
D	Short Notes from Text Book (2out of 4)	10 Marks
E	General Essay (1out of 3)	15 Marks
F	पारिभाषिक शब्द	10 Marks
	Theory total	80 Marks
	Internal Assessment	20 Marks
	Total	100 Marks

Reference Books:

- महावीर प्रसाद द्विवेदी और हिंदी नवजागरण – रामविलास शर्मा
- प्रगतिवाद और समानान्तर साहित्य – रेखा अवस्थी
- छायावादोत्तर कवियों में समाजःसमीक्षा – अनिल
- आधुनिक साहित्य की प्रवृत्तियाँ – डॉ. नामवर सिंह
- हिंदी के आधुनिक प्रतिनिधि कवि – डॉ. द्वारकाप्रसाद सक्सेना
- निराला की साहित्य साधना – डॉ. रामविलास शर्मा
- निबंधों का खजाना – डॉ. आरती अग्निहोत्री
- हिंदी के श्रेष्ठ निबंध – पवित्र कुमार शर्मा

Syllabus of B.Com

II- Semester

Persian Basic

Teaching Hours: 5 Hours per Week

1. PRESCRIBED TEXT BOOK

Following portion only
Gulistan(Saadi).

Textbook

Shahkar-E-Farsi by Hafez Abdul Alim Khan
Pub by:-Ram Narayanlal Bani mahdho2
katra road Allahabad(U.P)

2. PRESCRIBED TEXT BOOK

Following portion only
Sher-E-Farsi-E-im-rose.

Textbook

Nisab-E-Farsi(PartII) by Dr.Aftaab Akhtar Razvi & Prof M.M. Jalali
Pub by:-Shahnaz publication Shamatganj Barlly(U.P)

Syllabus prescribed for B.Com is applicable to B.B.A.

Semester II

Basic Marathi 2016-17 onwards

Course: Literary form: Lalit Gadya

Text: Dabewala: Srinivas Pandit
(Translation: Supriya Vakil)

Mehata Publishing House, Pune

B.Com Second Semester

Urdu Basic (MIL) 2016-17 onwards

Paper –II : Prose, Poetry & Business correspondence

Scheme of teaching: 16 weeks 5 hours per week

Prescribed text books

Detailed text.

I.Nishat-e- Adab	Edited by.
(Prose & Poetry)	Majlis-e-Idarat Nasheman Publishers Second Stage R.M.L Nagar Shimoga-57720

Prose

(6to 10 Lessons)

Poetry:

1. Marsiya – Meer Hassan
Nazam – Chakbast, Suleman khatib, Jazabi
Gazals :
Shahere –yaar, Bashir badar, Rahi, Faraz, Kaifi Azmi, Jan Nisar Akhtar.

Non-Detailed Text: **by**

II Karobari Khat o khitabat	K. Mohd. Ahmed, Ibne Makhdoom
(6 to 10 Lessons)	Published by Karnataka Ishaat Ghar Bangalore.

Scheme of Examination (I & II Semester)

Total Marks – 100(Theory-80 Marks + Internal Assessment 20- Marks

- a) Each Paper of 100 Marks shall carry 20 Marks Internal Assessment out of 20 Marks , 4+10 shall be for semester test and remaining 3+3 shall be for H. Assignment & Attendance.
 - b) In each paper 2 test shall be conducted for the award of Internal Assessment Marks, first test of 1 hour duration for maximum of 20 marks reduced to 4, shall be conducted in 8th week . Second test in 12th week of respective semester of maximum 80 marks & of 3 hours duration then reduced to 10 marks.

The question paper should be broadly based on the following pattern. (I & II Semester)

1. Multiple Choice questions from Detailed and N.D text. 10 * 1 = 10
(10 out of 10)

Detailed text (Prose & Poetry)

- | | |
|---|--------------------|
| 2. Essay type question on Prose (1 out of 2) | $1 * 10 = 10$ |
| 3. Question on reference to the context
(4 out of 6) | $4 * 2^{1/2} = 10$ |
| 4. Summary of the Poem (1 out of 3) | $1 * 10 = 10$ |
| 5. Appreciation of verses from Gazals (4 out of 6) | $4 * 2^{1/2} = 10$ |

Non-Detailed text

6. Essay type question $2 * 10 = 20$
(2 out of 4)

7. Short Notes (2 out of 4) $1 * 10 = 10$

B. Com / BBA / BCA : Second Semester

Basic Samskrit 2016-17 onwards

Examination Marks One paper carrying 100 Marks (80+20) of 3 hours duration

Text :

Pacheen Bharatiya Vanijjaya Vignana

Bharat Book Depot & Prakashan, Shankar Plaza, P. B. Road,
Dharwad.

I.	Division of Marks for the Basic Paper	70 Marks
a.	Pracheen Bharatiya Vanijjaya Vijnana	10 Marks
b.	Grammer (Use of Cases) (Neuter Gender only)	
c.	Internal Assessment	20 Marks
i.	Internal Test – 14	
ii.	Assignment, Class record, Skill development – 06	
	Total	100 Marks

B. Com / BBA / BCA

Second Semester Basic Samskrit

(Pattern of the Question Paper)

I	Objective type questions from text (only ten)	10 Marks
II	Translation and explanation of the verses from the text (Any two out of three)	10 Marks
III	Sentences for Annotation from the text (Any four out of seven)	16 Marks
IV	Short notes — from the text	
	a. Any one out of two (with internal choice) Lessons 1-7 based on Vanijya Vijnana	5 Marks
	b. Any one out of two (with internal choice)	5 Marks
	c. from the 8th lesson — Dootaghatothkacham	
V	Essay type question from the text	12 Marks
	a. Any one out of two (with internal choice) from the lessons 1-7 based on Vanijya Vijnana	12 Marks
	b. Any one out of two (with internal choice) From the 8th lesson - Dootaghatothkacham	10 Marks
VI	Grammar (Neuter Gender noun Pronoun case forms)	10 Marks
	Total	80 Marks

Syllabus of B.Com

Second Semester

Arabic Basic 2016-17 onwards

Paper : Prose, Poetry and History of Arabic Literature

Scheme of teaching : 5 hours per week

Prescribed Text Books

1. Al-Qiratul Wadhiha Part-II (Prose)

Following Lessons.

- 1.Al Firashatu wazzahratu.
 - 2.Azziyaratu.
 3. Fis sooqi
 - 4.Al Mahattatu.
 5. Usratul amm.
 6. Dukaanul Fawakhi
- By:Waheeduz.zama Al-Kiranvi.Pub.By:Maktaba Husainia Deoband (U.P)

2. Mukhtaaraatul Adab (Poetry)

By: Zaidaan Badraan

Pub.By: Majlis-e- Isha atul uloom Jamia Nizamiya Hyderabad.59

Following Poems

- 1.AtTaa ir
2. AnNasheedul madrasi
3. Alkitabu
4. Unsheedatul Eid
- 5.Al Alamu.
6. Unshudatus Sabah.

3. Tareekh Adab-e-Arabi

Chapter No.I Teesri fasl

By: Dr.syed tufail Ahmad madaniPub.By:Deccan Traders Book Seller & Publisher 23-2-378, Moghalpura, Hyderabad. (A.P)

4. The Holy Quraan. Pub.By:Taj Company Mumbai

Sura-AnNaas.

The question paper should be broadly based on the following pattern.

1)	Multiple choice from first and second text	10x1	=	10
2)	Summary from first and second text with choice	2x7½	=	15
3)	R.C. from first and second text with choice	3x5	=	15
4)	Appreciation of verses from second text 3 out of 5	3x5	=	15
5)	Question from third text with choice	2x7½	=	15
6)	Question on Sura	1x10	=	10

2.3. FINANCIAL ACCOUNTING - II

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

OBJECTIVES:

1. To appraise the students about the application of accounting knowledge in special business activities.
2. To impart the skills of preparation of final accounts of organizations.
3. To develop the skills of recording of transactions relating to issue of, Consignment, branches, Hire purchase and Installments manually.

Unit	Topics	No of Periods
I	Consignment Accounts: Meaning of consignment and important terms used in consignment. Valuation of stock, normal loss, abnormal loss; problems relating to consignment in the books of consignor and consignee, cost-price method and invoice-price method – theory and practical problems.	10
II	Branch Accounts: Dependent Branches: Features - Books of accounts - Methods of accounting of dependent branches: Debtors System, Stock and debtors (Cost price & Invoice Price) theory and practical problems excluding independent Branch.	10
III	Hire Purchase Accounting: (excluding Repossession) Hire Purchase System: Features – Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - Default and Repossession -theory and practical problems.	10
IV	Partnership: The concept of limited liability partnership: Meaning – Objectives features – Merits in conversion of joint stock companies into Ltd. Liability partnership.	10
V	Human Resource Accounting- Introduction: Need of HRA, meaning of HRA, objectives of HRA, Advantages and limitations of HRA, valuation of HRA, Historical cost	10

	approach, Replacement cost approach, opportunity cost approach, standard cost approach, present value approach, recording and disclosure in financial statements, objections against HRA, HRA in India – Theory only.	
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SUGGESTED REFERENCE:

1. Tulsian: Financial Accounting - Pearson Education, New Delhi.
2. Ashok Sehgal and Deepak Sehgal -Advanced Accounting - Vol. - I, Taxmann Publications, New Delhi.
3. S. N. Maheshwari & S. K. Maheshwari: Advanced Accountancy - Vol. -I, Vikas Publications,
4. Shukla & Grewal: Advanced Accountancy - Vol. -I, S. Chand & Sons, New Delhi.
5. Dr. R. V. Diwan & Dr R.G Allagi: Financial Accounting – , Jaymala Publication.
6. Jain & Narang : Financial Accounting Kalyani Publishers New Delhi.
7. Advanced Accountancy: Arulanandam, Himalaya publishers
8. Introduction to Accountancy: T.S.Grewal, S.Chand and Co.
9. Financial Accounting: Ashok Banarjee, Excel
10. Advanced Accounting (Vol-I & II): D. Chandrabose, PHI

2.4– BUSINESS ECONOMICS – II

Lectures per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

1. To familiarize the students with basic economic tools and techniques and its application to business and managerial decision making.
2. To familiarize the students with the micro economic business environment including Consumer behavior, cost conditions and market structure etc.

Unit	Topics	No of Periods
I	Market structure - meaning- classifications of Markets, Features of Perfect Competition, Pricing under perfect competition – Time element in PC, Monopoly: Features, types, Price Discriminating – meaning & types, Pricing under discriminate monopoly.	10
II	Modern Pricing Models: Monopolistic competition – Features & price – output determination. Product Differentiation, selling costs and product variation, Oligopoly – features –price leadership, Pricing of new products – skimming and penetration pricing.	10
III	Factor Markets: Meaning, Distinction between product and factor markets, Marginal productivity , Theory of distribution, Wages - Real & Nominal wages – Wage differentials- Minimum wages – wages structure in Industry.	10
IV	Interest - Net – Gross Interest - Theories of Interests- Classical, Loanable Funds, Liquidity Preference theory – Profit Net & Gross Profits accounting and economic profits, Theories of profit – Risk & uncertainty, Innovation theory, How do Profits arise? how to limit profits	10
V	Economic tools for business managers: Break Even Analysis: computation, graphical analysis- Elements of Linear programming.	10

Note: Each unit to be dealt with suitable numerical problems and case studies from the real economic world wherever necessary.

SUGGESTED REFERENCE:

1. R.L Varshney & Maheshwari: Managerial Economics, Sultan Chand & sons. New .Delhi
2. Dwivedi D.N. : Managerial Economics, Vikas Publishing House, New .Delhi.
3. Mithani D.M: Managerial Economics, Himalya publishers, Mumbai
4. Lekhi R.K.: Business Economics, Kalyani Publishers, New .Delhi
5. Salvator Dominic: Managerial Economics, Oxford University Press.
6. Dr. A. B. Kalkundrikar& ABN Kulkarni : Managerial Economics, R. Chand& Co., New Delhi
7. P.N.Chopra : Managerial Economics, Kalyani Publishers, New Delhi.
8. Peterson & Lewis: Managerial Economics, PHI, New Delhi.
9. Mehta P. L: Managerial Economics, Sultan Chand & sons. New Delhi
10. Mankar V.G.: Business Economics, Macmillan, New Delhi.
11. Keat & young: Managerial Economics, Pearson education, India.

1.4 – B. ENTREPRENEURSHIP DEVELOPMENT (VOCATIONAL) P 1B

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

OBJECTIVES:

The purpose of this paper is to prepare a ground where the students view Entrepreneurship as a desirable and feasible career option.

Units	Topics	Hours
I	SSI Sector and its role in economic development. SSI sector and economic environment –role and contribution of SSI in domestic and international markets.	10
II	Planning for small Scale Enterprise-Meaning and importance Decisions for entrepreneurial tasks-procedures and formalities for starting SSI	10
III	Schemes and assistance of support agencies –SISIs, DIC, SFC, TOC, KVIC and Banks.	10
IV	Achievement Motivation and training –Knowing the self-importance of achievement motivation development of Nach and Achievement motivation action plan.	10
V	Preparing Preliminary Project report (PPR) Contents and importance of PPR –Preparation of PPR –Selection of feasible business opportunity expectations of Financial institutions.	10

SKILL DEVELOPMENT:

1. Interaction with entrepreneurs on production and marketing of products preparation of PPR.
2. Survey of market and preparation to market reports.

SUGGESTED REFERENCE:

1. Ziemmeser Scarlorough: Entrepreneurship Development & Small Enterprise management, PHI, New Delhi.
2. Renu Arora & S.K.Sood: Fundamentals of Entrepreneurship and Small Business Kalyani Publishers, New Delhi.
3. Shankaraiah : Entrepreneurship Development, Kalyani Publishers, New Delhi.
4. Greene: Entrepreneurship Ideas in action. Thomson Asia PTE Ltd., New Delhi.
5. Dr. G. K. warshney : Fundamentals of Entrepreneurship, Sahitya Bhavan, Agra.
6. S. S. Kanka : Entrepreneurship Development, Sultan Chand & Sons, New Delhi.

2.5. A - MARKETING MANAGEMENT

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

OBJECTIVES:

1. To acquaint students on marketing development and job opportunities
2. To teach them about marketing of consumer goods as well as Agricultural goods so that they understand the Problem faced by the consumers and farmers
3. To teach them about most widely used concepts like PLC Brand Loyalty MLM, Malls etc

Unit	Topics	No of Periods
I	Introduction to Marketing : Definition , Core marketing Concepts marketing functions, Customer relationship Marketing Management – Objectives and functions, Marketing Mix, Importance of Marketing, Job opportunities in the field of marketing.	10
II	Marketing Of Goods: Types of goods, marketing of manufactured consumer goods, Characteristics of market , Classification Of Consumer Goods , marketing of Agricultural Goods – Defects and Remedies	10
III	Buyer Behavior: Meaning, Buying motives, Buying Behavior Models, Stages in Buying behavior in process, women and children as consumers and their behavior Brand Loyalty – Meaning and types	10
IV	Marketing Mix I: New Product Development, Product life cycle, Pricing- Factors influencing pricing, Pricing Strategies	10
V	Marketing Mix II: Channels of distribution- Definition, significance of marketing channel decision, Types of channels of distribution, Factors affecting channel selection , shopping malls, MLM, Promotion of sales – meaning, Promotional methods Sales Promotion – Advertising – objectives, Advertisement copy , moral issues in advertising, sales promotion , AIDAS Formula.	10

SUGGESTED READINGS:

1. Marketing Management: Philip Kotler
2. Marketing Management: K Karunakaran
3. Marketing Management: Ramaswamy and NamaKumari
4. Marketing Management: J.C. Gandhi (Himalay Publication)
5. Marketing Management and Salesmanship : Sontakki and Deshpande
6. Modern Marketing: Sherlekar and others (Himalaya Publication)
7. Halasagi, Halasagi, S.G.Kulkarni & Mudabasappagol, Principles of Marketing, Basveshwar Publications.

2.5 – B. BUSINESS MATHEMATICS - II

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Objectives:

1. The methods based on business mathematics are used suitably according to the needs of social sciences they prove to be compact, consistent and powerful tools in the field of commerce

Unit	Topics	No of Periods
I	Determinants and Matrices: Evaluation of second and third order determinants. Properties of determinants with proof problems. Cramer's rule for solving simultaneous equation. Matrix Definition Examples Equality of Matrices. Types of Matrices. Operations on Matrices- Algebra of matrices, Minor and Co-factor of an element. Adjoint of matrix solution of simultaneous equations in two and three unknowns by Matrix method. Application problems to Commerce	10
II	Integral Calculus: Concept of Integration, Integration by method of substitution, parts and using partial fractions. Definite Integrals. Application of integration to business problems.	10
III	Theory of Equations: Linear equation, Quadratic equation, Solution of linear and quadratic equation. Discriminate of quadratic equation, nature of roots, and relationship between roots and coefficient formation of quadratic equation whose roots are given.	10
IV	Partial fractions: Proper and improper fractions. Reducing to partial fractions of non-repeated linear, repeated linear and non-repeated quadratic	10
V	Linear Programming: Definition of LPP, Objective function – constraints – non-negativity condition. Feasible region. Feasible solution. Basic solution. Optimal solution. Formulation of LLP. Solution of LPP by graphical method problems.	10

SUGGESTED REFERENCE:

1. Sancheti and Kapoor, Business Mathematics, Sultanchand and Sons New Delhi
2. G.K. Rangnath and T.V. Narsimhrao Basic Mathematics Volume II
3. N.K. Nag Business Mathematics Kalyani Publishers New Delhi
4. Zameeruddin Business Mathematics. Vikas Publishing House, New Delhi.
5. P.N.Arora and S Arora, Mathematics S. Chand & Company Ltd. New Delhi

1.5 – C. TAX PROCEDURE & PRACTICE (VOCATIONAL) P2B

Lecture per Week: 4 hours

100

Max Marks: 80 (End Sem.) + 20 (IA) =

Exam Duration: 3 Hours

OBJECTIVES:

1. To gain the knowledge of provisions related to deductions, rebates and relief.
2. To gain ability to compute income of individual, HUF and firm.

Units	Topics	Hours
I	Rebate of Tax (For the assessment year 2005-06 according to the latest amendment)	10
II	Deductions from Gross Total Income : 80CCC, 80D, 80DD 80DDB, 80E, 80G, 80L and 80U	10
III	Income from salary	10
IV	Assessment of Individuals	10
V	Assessment of Hindi Undivided family	10
VI	Assessment of Partnership Firm	10

SKILL DEVELOPMENT

- 1.Filling up of Form No.16
- 2.Filling up of Form No.14
- 3.Visit tax Practitioners office.

SUGGESTED REFERENCE:

1. Dinakar Pagare : Income-Tax Law & Practice, Sultan Chand & Sons New Delhi.
2. M. B. Kadkol : Income-Tax law & Practice, Renuka Prakashan, Hubli.
3. Gour & Narang : Income-Tax law & Practice Kalyani Publishers, New Delhi.
4. H. C. Mehrotra : Income-Tax law & Practice, Sahitya Bhavan, Agra

2.6 ACCOUNTING THEORY

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Objectives:

1. To understand the evolution of modern accounting theory
2. To understand the relation between accounting theory accounting policies
3. To understand what measurement is and its role in accounting

Units	Topics	No. of periods
I	Introduction To Accounting Theory: Meaning, Definitions, Features, objectives, Need, Nature, Role, Recent trends in Accounting Theory. Environment and its impact on Accounting - economic and socio-economic, legal and statutory environment, Professional Environment, Technological Environment, LPG environment.	10
II	Classification of Accounting theory – Positive Theory, Normative Theory, Structural, interpretational and behavioural theories; decision theory, measurement theory and information theory. Approaches (in brief): Pragmatic, Authoritarian, Deductive, Inductive, Ethical, Social, Economic & Eclectic.	10
III	Structure of Accounting theory - elements of the structure – Objectives, accounting postulates, concepts, principles and techniques & Accounting Standards. Accounting postulate: Entity, Going concern, monetary unit and accounting period postulate. Concepts -the proprietary theory, entity theory, residual equity theory, enterprise theory and fund theory.	10

IV	Accounting principles - meaning and nature of accounting principles; accounting principles v/s accounting policies; cost , realization , objectivity, Dual aspect, Matching and full disclosure principles. Modifying principles - materiality, consistency, conservatism, cost benefit, Timeliness, Industry practice and uniformity principles.	10
V	Accounting Standards: Need, Meaning, objectives, Importance, International Accounting Standards, IFRS, and GAAP, All Accounting Standards, Problems only on AS -2 (Inventory Valuation), AS -6 (Depreciation Accounting), AS – 10 (Accounting for fixed assets) AS -29 (Provisions, Contingent Liabilities & Assets).	10

Suggested Readings:

1. Porwal L. S.: Accounting Theory, TMH, New Delhi.
2. Lele & Jawaharlal: Accounting Standards, Sultan Chand & Sons, New Delhi
3. Elden S. Hendriksen: Accounting Principles, AITBS, New Delhi. ,
4. Robert N. Anthony & James Accounting Theory, Thomson Publications, Singapore.
5. Dr. R. V. Diwan , Prof A.A. Khijmatgar & Prin.V A Patil: Accounting Theory, Sumatheendra Prakashana. Hubli.

2.7. COMPUTER APPLICATIONS IN BUSINESS-I

Lecture per Week: 4 hours
Exam Duration: 3 Hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Objectives:

1. To impart basic knowledge about computer
2. To teach application of various packages to Business and Commerce

Unit	Topics	No of Periods
I	Introduction to computers: Definition, Characteristics and limitations of computers – Elements of Computers – Hardware – CPU – Primary and Secondary memory - Input and Output devices. Software and types of software, Applications of Computers in IT enabled services – BPO, KPO, Call Centers.	10
II	Modern Communications (Concepts only) : Communications - FAX, Voice mail and Information services, e-mail, Creation of e-mail ID, Group communication, Tele-conferencing, Video conferencing , File exchange ,Bandwidth , Modem , Basics of Networking , Network types LAN, MAN, WAN and network topology , Dial up access.	10
III	Operating System and Windows XP: Operating Systems: Meaning, Definition, Functions and Types of Operating Systems - Batch Processing, Multi Programming, Time Sharing, On-Line and Real Time Operating Systems. Booting Process, Disk Operating System, Computer Virus, Cryptography, and Windows Operating System - Desktop, Start menu, Control panel, and Windows accessories.	10
IV	MS WORD : Meaning and features of Word processing, Advantages and applications of word processing , Elements of MS Word application window, Toolbars, Creating , Saving and closing a document, Opening and editing a document , Moving and copying text, Text and Paragraph formatting, Format Painter, applying Bullets and Numbering , Find and Replace , Insertion of Objects, Date and Time, Headers , Footers and	10

	Page Breaks, Auto Correct, Spelling and Grammar checking, Graphics , Templates and Wizards, Mail Merge: Meaning, purpose and advantages , creating merged letters, mailing labels, envelops, Working with Tables.	
V	MS POWERPOINT: Features, Advantages and application of MS PowerPoint - parts of MS PowerPoint window-menus and tool bars-creating presentations through auto content wizard, Design templates and Blank presentation, slide show-saving opening and closing a presentation-inserting editing and deleting slides-types of slides- slide layouts, Slide views-formatting-Inserting of objects and charts in slides- Custom animation and Transition.	10
	<p>LAB WORK</p> <p>PRACTICALS: Window based Practical's MS WORD – Creating Applications commerce oriented. MS – POWERPOINT - Practical applications - creation of presentations (commerce oriented).</p> <p>Note: Journal preparation mandatory. Case study question from MS-Word</p>	

Suggested books / Websites:

1. Microsoft Office by Sanjay Saxena
2. www.microsoft.com/
3. Fundamentals of Computers, 4/E : Rajaram, PHI
4. en.wikipedia.org/wiki/word_processor
5. office.microsoft.com

2.8 SPECIAL ACCOUNTS PAPER - II

(Compulsory for Non - Commerce students Joining B.Com)

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. To make the students acquire the conceptual knowledge of accounting
2. To equip the students with the knowledge of accounting process and preparation of final accounts
3. To develop the skills of recording financial transactions and preparation of reports using computers.

Unit	Topics	No of Periods
I	Trial Balance: Meaning, features, Objectives. Preparation of Trial Balance from ledger balances & incorrect trial balance	10
II	Final Accounts: Meaning ,need, Trading account, Profit and Loss Account, Balance Sheet – without adjustments	10
III	Final accounts with adjustments	10
IV	Rectification of Errors: Meaning, Types of errors - One sided errors Two sided errors, suspense account. Rectification of errors.	10
V	Depreciation: Meaning, objectives, Types, Fixed percentage & Reducing balance method	10

Suggested Books:

1. Text Book of Accountancy – B S Raman
2. Principles of Accountancy – Tulsian
3. Introduction to Accountancy - T S Grewal
4. Accountancy – Dr. R. V. Diwan

2.9. SPECIAL COMMERCE Paper II

Lecture per Week: 4 hours

Max Marks: 80 (End Sem.) + 20 (IA) = 100

Exam Duration: 3 Hours

Objectives:

1. To familiarize the non- Commerce students with foreign trade and other functions such as transportation etc.
2. To let them know e Commerce, B2B, B2C, etc

Unit	Topics	No of Periods
I	Foreign Trade – steps, organizations to promote foreign trade	10
II	Transportation – types, importance	10
III	Storage and Warehousing – Types, significance	10
IV	Corporate retailing – shopping malls and their evaluation	10
V	E Commerce – importance and uses	10

Suggested Books:

1. Text book of Business Studies – as per PU syllabus

Gorop- E

1. History (Optional)

RANI CHANNAMMA UNIVERSITY, BELAGAVI

History and Archaeology

B.A. IVth Semester

History of India from Md. Ghazani to Shivaji

One paper carrying 80 Marks and three hours duration

(Teaching hours: 5 hours Per week – 16hoursX 5= 80 hours)

UNIT- I

15 Hours

A. Rise of Islam: Arab invasions- Md. Ghajani

B. Rajputs- Pritwiraj Chouhan.

C. Turkish conquest of North India: Md.Ghori and Qutub-ud-din Aibak

UNIT- II

20 Hours

Delhi Sultanate

A. Iltumish, Razia, Balban, Alauddin Khilji, Md.Bin Tugalak, Firoz Shah Tugalak

B. Administration, Theory of Kingship, Economy- Market Control and Agrarian policy, Trade and commerce.

C. Social Life: Nobility, Slaves, Castes, Customs, Literature, Art and Architecture.

UNIT-III

20 Hours

Mughal Empire

A. Babar: Humayun: SherShah his Administration

Akbar: Administration, Mansabdari, Jagirdari, Rajput policy

B. Jahangi, Shahjahan and Aurangazeb

, Role of Nurjahan, Golden age of Art and Architecture, Deccan policy of Aurangazeb

C. Economy, Agrarian policy and Zamindari, Trade and Commerce, Literature,

Art and Architecture.

UNIT- IV

20 Hours

A. Rise of Maratha: Shivaji- His State policy

B. Bhakti Movement: Ramananda, Kabir, Gurunanak, Meerabai

C. Sufi Movement: Shaikh Moin-ud-din-Chisti

UNIT- V Map Topics

05 Hours

Extent the empire of

A. Ala-ud-din-Khilji

B. Akbar

C. Shivaji

Books for Reference.

1. History of Dehli Sultanate : V.D. Mahajan
2. Advanced History of Medieval India : J.L Mehta, Vol 1
3. History of Medieval India : L.P.Sharma
4. Medieval Indian History : A. L Srivastavaa
5. ಅಂತರ್ವಾಸಿ ಮತ್ತು ಇಂದ್ರಾಜಿ : qA. Pಿ. dUಂಡಿ

6. અનુભૂતિની વિશ્વાસીતા કેવી રીતે આપી જાય છે?
7. અનુભૂતિની વિશ્વાસીતા કેવી રીતે આપી જાય છે? એવી વિશ્વાસીતા કેવી રીતે આપી જાય છે?
8. અનુભૂતિની વિશ્વાસીતા કેવી રીતે આપી જાય છે? એવી વિશ્વાસીતા કેવી રીતે આપી જાય છે?

PATTERN OF QUESTION PAPER

1. All Questions carry Equal Marks

2. Answer any Eight Questions

3. Ist Question is compulsory

Map

Places and Explanation of Historical importance

Remaining Questions are Essay Questions