GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)

NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)

SEMESTER-I COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	First Language (Telugu/Hindi/Sanskrit)	100	25	75	4	3
2	Second Language (English)	100	25	75	4	3
3	Foundation Course-1 (Human Values and Professional Ethics)	50	0	50	2	2
4	Foundation Course-2 (Environmental Studies)	50	0	50	2	2
5	Mathematics(paper-I)	100	25	75	5	3
6	Mathematics Practical-I	50	0	50	2	2
7	Physics(Paper-I)	100	25	75	4	3
8	Physics Practical-I	50	0	50	3	2
9	Computer Science(Paper-I)	100	25	75	4	3
10	Computer Science Practical-I	50	0	50	3	2
	TOTAL	750			33	25

Hours : 60 with effect from 2018-19 Admitted Batch

Credits : 3

Gayathri Vidya Parishad College for Degree and PG Courses (Autonomous)

Visakhapatnam

B.A/B.Com/B.Sc. డిగ్రీ మొదటి సంవత్సరము

సెమిస్టర్ -1, **తెలుగు**

సాహితీ సౌరభం
తెలుగు పాఠ్యపుస్తకం
మారుతీ పబ్లికేషన్స్
గుంటూరు

PROGRAMME OBJECTIVE :

1. తెలుగుభాష - సాహిత్యం అధ్యయనం వలన మానసిక వికాసం సాధించడం.
2. గురుభక్తి, సత్యనిష్ఠ, దానగుణ వైశిష్ట్యం, తెలుగుభాష గొప్పతనం గ్రహించడం
3. తెలుగుభాషా సాహిత్యాలలో విద్యార్థులకు నైపుణ్యాలు పాఠ్యాంశములవలన లభిస్తాయి.

	ప్రాచీన కవిత్వం	పాఠ్య ప్రధానోద్దేశము - Course Outcome
CO 1	1. గంగాశంతనుల కథ - నన్నయ	బ్రహ్మశాపం తరువాత గంగాదేవి ఆదర్శనారీ శిరోమణి కావడం, భీష్ముని వంటి భారతవీరునికి జన్మను ఇవ్వడం - ఇత్యాదులు గ్రహిస్తారు.
CO 2	2. ద్రౌపది పరిదేవనం - తిక్కన	తిక్కన తెలుగు మాటలలో పదును, వ్యంగ్యం, ధ్వని. ద్రౌపది పాత్ర చిత్రణంలో ప్రత్యేకత.
	ఆధునిక కవిత్వం	
CO 3	3. కన్యక-గురజాడ	పరస్త్రీ వ్యామోహం ఎంతటి రాజ్యమునకు నైనను పతనస్థితికి చేరుస్తుందని, కన్యక ఆత్మార్పణంలో రాజ్యం పాలించే రాజుకి గుణపాఠం చెప్పడం
	4. దేశ చరిత్రలు-శ్రీశ్రీ	చరిత్రలో సామాన్యుల జీవన గాధలను తెలుసు కోవడమే చరిత్ర అని మార్పు సిద్ధాంతం.
	కథానికలు	
CO 4	5.చింతలతోపు-పాపినేని శివశంకర్	గుంటూరు జిల్లాలో పొగాకు రైతుల కష్టనష్టాలు, దళారీ వ్యవస్థ ప్రభుత్వం, రాజకీయ వ్యవస్థ వైఫల్యం తెలుసుకుంటారు.
CO 5	6. సావుకూడు- బండి నారాయణస్వామి	రాయలసీమలో అనంతపురం జిల్లాలో కరువు కాటకాలకు దర్పణంగా నిలిచే కథ
	వ్యాకరణం	
CO 1	7.సంధులు సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వా దేశ, రుగాగమ, టుగాగమ, ఆమ్రేడిత, అత్వ, ఇత్వ సంధులు	అచ్చులతో అచ్చులు కలిస్తే ఏర్పడే మార్పులు, హల్లులతో హల్లులు కలిస్తే ఏర్పడే పరిణామాలు విద్యార్థులు గ్రహిస్తారు.
CO 1	8. సమాసాలు తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి	అర్థవంతములయిన పదాల కలయిక, సమాసము అని, సమాసములలో రకములు గ్రహిస్తారు.
CO 2	9. అక్షర దోషాలు దోషాలు సరిదిద్ది సాధు రూపాలు రాయాలి.	తెలుగు భాషను వ్రాసే సమయంలో అక్షరాల, పదాల సరి అయిన రూపాలు గ్రహించడం.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE &P.G.COURSES[A]
B.Com/B.Sc/BBA/BCA

HINDI SYLLABUS UNDER CBCS

FIRST SEMESTER HINDI

PAPER- I HINDI GADYA SANDESH (w.e.f.admitted batch 2015-2016)

Work Load:60 per semester 4hrs/week

credits:3

Courses objectives:

- संपर्कभाषाकेरूपमेंभारतकेविभिन्नक्षेत्रोंमेंइसकामहत्वपूर्णस्थानहैं।
- विदेशीविश्वविद्यालयोंमेंहिन्दीकोएकभारतीयभाषाकेरूपमेंपढाईजातीहैंऔरइसकोपढानेकेलिए भारतकेविभिन्नविश्वविद्यालयोंसेआचार्योंकोभेजाजाताहैं।
- स्नातककेलिएनिर्धारितपाठ्यक्रमविध्यार्थियोंकोस्नातकोत्तरस्तरपरआसेटऔरआरसेटदोनोंभरतीप रीक्षाओंकेलिएउपयोगीहै।
- स्नातकस्तरपरकार्यालयीसंबंधजोकार्यालयीनहिन्दीपाठ्यक्रमविभिन्नपदपरनौकरियोंकेलिएउपयो गीहैयथाहिन्दीअनुवादक,हिन्दीटंकक,हिन्दीअधिकारी,हिन्दीपत्राचारआदि|
- व्याकरणकीसभीपहलूओंपरविद्यार्थियोंकोविषदरूपअध्ययनकरायागयाहै।क्योंकिव्याकरणहीकि सीभाषाकीरीढहोतीहै।क्योंकिभाषाहीविचारविनमयकासाधनहै।

UNIT -1.[12hrs]

साहित्यकीमहत्ता [CO1]

साहित्यसमाजकादर्पणहै।जैसेशरीरकेलिएजितनाआवश्यकहोताहैमस्तिष्ककेलिएसाहित्यउतनाही।जिसतरह विकृतभोजनकरनेसेव्यक्तिबीमारहोकरबिगडजाताहैउसीतरहअच्छाभोजनकरनेपरमनुष्यस्वस्थहोकरअच्छेका मकरसकताहै।विज्ञानएवंसाहित्यकाघनिष्ठसंबंधहै।विज्ञानजीवनकोशक्तिशालीऔरवैभवपूर्णबनाताहैजीवनको सुंदरतथाआकर्षकबनाताहै।भारतमेंकिसीभाषाकोहमसीखनेकेलिएमातृभाषाकोनाभूलो।जिसदेशकासाहित्य जितनासुन्दरहोगाउसदेशकीसंस्कृतिउतनीहीउन्नतहोगी।

विद्यार्थियोंकोसंस्कृति,साहित्यऔरविज्ञानआदिविषयोंसेसंबंधअवगतकरायाजाताहैजोउनकेव्यक्तित्वनिर्माणमें

सहायकहोताहै।

UNIT-2.[12hrs]

सच्चीवीरता [CO2]

इसपाठसेलेखककहतेहैंकिरणक्षेत्रमेंजूझनेवालायोद्दाहीवीरनहींहोते,वरनकिसीपवित्रध्येय,आदर्शऔरकार्यकेलि

एसाधनकरनेवालेमहात्माऔरसाधुभीसच्चेवीरहोतेहैं।इसपाठकेद्वाराव्यक्तिस्वतंत्ररूपसेसमस्याओंमेंफसनेसेभी किसीप्रकारधैर्यसेलक्ष्यकोनाछोडकरलक्ष्यसिद्दकरनाचाहिएछात्रोंकोबताईगई।विद्यार्थियोंकोमानवमूल्योंकीसी खइसपाठकेमाद्यमसेदीगईहै।साथहीसच्चेवीरताकापरिचयदेकरउन्हेंसच्चेवीरबननेकाप्रेरणदीगईहै।

UNIT-3.[12hrs]

मित्रता [CO3]

"मित्रता " नईपीढीकेलिएप्रेरकनिबंधहैं।मनुष्य-

जीवनमेंमित्रताएकसुनहराअध्यायहै।विश्वासपात्रमित्रजीवनकीऔषधीहै,खजानाहै।आजकलमित्रताकेनामपरफू

हडपनहीअधिकप्रचलितहै।बुरीमित्रताकोपाकरकितनेहीयुवकपथभ्रष्टहोगये।
विद्यार्थियोंएककच्चीमिट्टीकीमूर्तिकेसमानहोतेहैं।उनकोजिसरूपमेंबनायाजायवहीरूपमेंडलजातेहैं।चाहेउन्हेंरा
क्षसबनायाजाययादेवता।इसलिएजीवनमेंसच्चेमित्रप्राप्तकरनाबहुतकठिनकामहै।
विद्यार्थीजीवनमेंयुवावस्थाविशेषकरस्नातकस्तरकेविद्यार्थियोंकेलिएमित्रतानिबंधबहुतहीप्रेरणादायकहै।

UNIT-4**(12 hrs]**
मुक्तिधन:[CO4]
"मुक्तिधन"एकआदर्शोन्मुखयथार्थवादीकहानीहैजोधार्मिकअसहिष्णुताकेइसयुगमेंअधिकप्रासंगिकहै।येकहानी

संप्रादायिकसंपूर्णतासेऊपरउठकरमानवव्यवहारकीउदारताकाचित्रणकरतीहै।लालादावुदयालकेव्यवहारोंमेंग
रीबमुसलमानरहमानकेउदारताकोदेखकरपरिवर्तनआजाताहै।मुसलमानहोकरभीअपनीदयनीयअवस्थामेंभी
गायकोकसाईकेहाथमेंनहींभेजनाकमपैसेदेनेवालेलालादावुदयालकोभेजेदेतेहै।

UNIT-5 :[12hrs]

गूदडसाई[CO5]

इसकहानीमें "जयशंकरप्रसाद" नेसमझायाकिभगवानसर्वांतर्यामीहै।"आत्मावतसर्वभूतानी"

विचारधाराकोसमझायाहै।इसकहानीकेद्वाराभगवानहरजगहबसतेहैऔरचरित्रहीकिसीकीमूलधनहोताहैजाति
याधनसेकोईमहाननबनताअपनाचरित्रयासंस्कारोंसेहीमहानबनताहै।
उसनेकहाथा:[CO5]

इसकहानीमेंउन्होंनेविशुद्दआदर्शप्रेम,त्याग,बलिदानतथासंयमपरविशेषबलदियाहै।छात्रोंमेंमानवीयभावनाओं

कोबढानाहीइसकहानीकाउद्देश्यहै।
इसकहानीकेमाद्यमसेविद्यार्थियोंकोयहप्रेरणादीगईहैकिप्रेमऔरबलिदानकाजीवनमेंअत्यंतमहत्वपूर्णस्थानदिया
गयाहै।प्राणजायपरवचननाजायइसीतथ्यकोसैनिकलहनासिंहकीमाद्यमसेकहानीकारनेसिद्दकरनेकाकोशिशकि
याहै।विद्यार्थियोंकोजीवनमेंप्रेमऔरबलिदानकीमहत्वकोसमझायाहै।
व्याकरण
लिंगCO1,वचनCO1,कालCO2,वाच्यCO2,वाक्योंकीशुद्धिCO3,शब्दप्रयोगCO3,कार्यालयीशब्द-

[पारिभाषिकशब्दवली-अंग्रेजीसेहिन्दी]CO3,विलोमशब्द[CO2],**पत्रलेखन**
:व्यक्तिगतऔरसरकारीपत्र[CO4]

व्याकरणपाठ्यक्रमकेअंतर्गतविद्यार्थियोंकोलिंग ,वचन ,काल

,वाच्यसंबंधीज्ञानअनेकउदाहरणकेमाध्यमसेदियागयाहै।भाषाकीसबसेछोटीइकाईअक्षरसबसेबडीइकाईवाक्यहै

।शुद्ववाक्यकीघटनकेलिएलिंग,वचन,काल,वाच्यआदिकाज्ञानहोनाआवश्यकहै।हरभाषाकाअपनाएकव्यवस्था

होतीहै।विशेषकरदक्षिणमें [आंध्रप्रदेश]

मेंहिन्दीसिखातेसमयउनपरमातृभाषातेलुगुकाप्रभावहोनादेखाजाताहै।इसलिएहिन्दीकोउसप्रभावसेमुक्तहोकर सिखानाएकशिक्षककाउत्तमदायित्वहैताकिवेभारतमेंकिसीभीप्रांतमेंजाकरअपनाकार्यसफलतापूर्वककरसके।

पत्रलेखन: कार्यालयीहिन्दीकेअंतर्गतविभिन्नतकनीकीशब्दावलीअंग्रेजीसेहिन्दी ,हिन्दीसेअंग्रेजीतथापत्रलेखन

,पत्रकेविभिन्नरूपोंकाअध्ययनकरायाजाताहै।कार्यालयीहिन्दीकेज्ञानसेएकऔरविद्यार्थियोंकोस्नातकोत्तरस्थान

परविभिन्नप्रतिस्पर्दाओंमेंभागलेनेसरकारीतथागैरसरकारीकार्यालयोंमेंनौकरीप्राप्तकरनेतथासरकारीउच्चस्थाप रहोनेवालेविभिन्नपरीक्षाओंमेंसफलताप्राप्तकरनेमेंअत्यंतउपयोगीहैं।

Courses Outcomes:

CO1.विद्यार्थियोंकोसंस्कृति,साहित्यऔरविज्ञानआदिविषयोंसेसंबंधअवगतकरायाजाताहैजोउनकेव्यक्तित्वनि

र्माणमेंसहायकहोताहै।

CO2.विद्यार्थियोंकोमानवमूल्योंकीसीखइसपाठकेमाध्यमसेदीगईहै।साथहीसच्चेवीरताकापरिचयदेकरउन्हेंसच्चे वीरबननेकाप्रेरणदीगईहै।

CO3.विद्यार्थियोंएककच्चीमिट्टीकीमूर्तिकेसमानहोतेहैं।उनकोजिसरूपमेंबनायाजायवहीरूपमेंडलजातेहैं।चाहेउ न्हेंराक्षसबनायाजाययादेवता।इसलिएजीवनमेंसच्चेमित्रप्राप्तकरनाबहुतकठिनकामहै।

CO4.इसकहानीकेमाध्यमसेविद्यार्थियोंकोधार्मिकसहिष्णुताकीसीखमिलतीहैजोदेशकेवर्तमानराजनीतिक,सा

माजिक,धार्मिकएवंसांस्कृतिकपरिस्थितियोंमेंप्रासंगिकहैं।

CO5.इसकहानीकेमाध्यमसेविद्यार्थियोंकोयहप्रेरणादीगईहैकिप्रेमऔरबलिदानकाजीवनमेंअत्यंतमहत्वपूर्णस्था नदियागयाहै।प्राणजायपरवचननाजायइसीतथ्यकोसैनिकलहनासिंहकीमाध्यमसेकहानीकारनेसिद्करनेकाको शिशकियाहै।विद्यार्थियोंकोजीवनमेंप्रेमऔरबलिदानकीमहत्वकोसमझायाहै।

REFERENCE BOOKS:

Sno	Authors Name	Title Of Book	Publishers Name
1.	V.L NarasimhamSivakoti And Dr.D.Lakshmi	Hindi Gadya Sandesh Semester -1	Loven Publishers
2.	MeenuKadhariya ‘Kapil’	Adunik Hindi Vyakaran Evam Rachana	V.Kumar Publications Pvt.Ltd.

3.	Bhatt Kamaleswar	Prayojanmulak Hindi	Children Book Bank.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G. COURSES(A)

DEPARTMENT OF *SAMSKṚTAM*

1st Year B.Sc./B.Com/B.B.A./B.C.A

Part - I (A) *SAMSKṚTAM* :: SEMESTER - I

(2015-16 admit batch onwards under CBCS Pattern)

PAPER – I :: *VIŚVABHĀRATĪ* -1 (POETRY, PROSE AND GRAMMAR)

Work Load:60 hrs per semester 4hrs/week credits:3 1. ***ABHIJŇĀNAM –CO1***

***Rāmāyaṇam – KişkindhāKānda* – 6th Canto 1- 27 *Śloka*-s**

(*Śloka*no.s 5,11,16,22 are only to be given for *Pratipadārtha tātparyalekhanam*)

2. ĀTITHYAM-CO2

(*Śloka*no.s 5,15,16, are only to be given for *Pratipadārtha tātparyalekhanam*)

***Bhāgavatam* – IX *Skandha* - 21st *Adhyāya* : 1 - 36 *Śloka*-s**

Unit – II **Modern Poetry:** ***1. UNNATIH-CO3***
From *BhāratīBhūşaṇam* by DrD.N.Dīkşit

2. *VIVIKTA PUŞPA KARANDAH-CO4*
By Dr.RāṇīSadāśivaMūrtī, Selected Stanzas – 14

Unit – III **Prose:** ***1.MŪRKHATĀ-CO-5***
(*MūrkhaBrāhmaṇaKathā*&*MūrkhaPanditaKathā*)
From *Aparīkşitakārakam*of*Pañćtantram* -3rd& 4thStories

Unit- IVGrammar: ***1. ŚABDĀH-CO-1***
Ajanta Śabdāh, Deva, Kavi, Bhānu, Dhātṛ, Pitṛ, Go, Ramā, Matī
2. DHĀTAVAH-CO-2
1st Conjugation – *Bhū, Gam, Shthā, Dṛśir, Labh, Mud*
2nd Conjugation – *As*
10th Conjugation – *Bhāş*

Unit – V **Grammar:** ***1. SANDHAYAH-CO-3***
SvaraSandhih :Sarvarṇadīrgha, Ayavāyāva, Guṇa, Vṛddhi, Yaṇādeśa.
Halsandhih :Śćutva, Sţutva, Anunāśika

2. SAMĀSĀH–CO-4
Dvandva, Tatpuruşa, Karmadhāraya, Dvigu.

Text book: *VIŚVABHĀRATĪ* -1 - Developed and approved by the Sanskrit subject experts committee, Published byLorven Publications, Hyderabad, 2015.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G. COURSES(A)
ENGLISH, PAPER- I, SEMESTER-I SYLLABUS
(w.e.f .2016-17 admitted batch)

TOTAL HOURS: 54 **CREDITS: 3**

Course Objectives-:

1. To make the students acquire required level of linguistic knowledge and skills to communicate effectively in English.
2. To make students think creatively and employ literary tools for better expression through poetry.
3. To make students use appropriate words and structures required for a situation.
4. To make students familiar with dialogue writing, reading and role play.
5. To make students improve vocabulary and grammatical ability.

CO 1 UNIT- I Prose **No. of hours: 12**

1. A.P. J. Abdul Kalam: The Knowledge Society
2. NgugiWaThiong'o: The Language of African Literature

CO 2 UNIT - II Poem **No. of hours: 12**

1. Robert Frost: The Road Not Taken
2. Nissim Ezekiel: Night of the Scorpion

CO 3 UNIT – III Short Story **No. of hours: 10**

1. Mulk Raj Anand : The Lost Child
2. Henry Lawson: The Loaded Dog

CO4 UNIT - IV One Act Play **No. of hours: 8**

William Shakespeare: The Merchant of Venice

CO 5 UNIT - V Grammar **No. of hours:**

121.Interrogative sentences
2. Question Tags
3.Syntax usage (make own sentences with the given words)
4.Articles
5.Prepositions
6.Tenses
7.Synonyms and Antonyms
8.Spelling

Course Outcomes-:

CO1: Enables students to read and comprehend literary pieces.
CO2: Enables students to write meaningfully on topics of interest or relevance.
CO 3:Enables students to understand the finer aspects of creative writing
CO4: Enable students to enhance their ability to write dialogues and exhibit intonation patterns.
CO 5: Enables students improve vocabulary and grammatical ability.

Text and Reference Books for Theory and Grammar (SEMESTER- I)

1. Step Up With English - Orient Black Swan
2. Wren and Martin

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES(A)
I Year B. Sc / B.Com / B.B.A/ Semester – I
HUMAN VALUES AND PROFESSIONAL ETHICS
(w.e.f admitted batch 2015-16)

2Hours/Week
Credits: 2

COURSE OBJECTIVES

1.Intended to develop a set of beliefs ,attitudes and habits that students should display concerning morality.
2.To help the students understand that skills and values ensures happiness and prosperity which are the core aspirations of all human beings.
3.To facilitate holistic development of the students towards the profession and the life.s

Unit-I: Introduction to Value Education **[CO-1]**

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Basic Guidelines for Value Education
4. Self Explanation as a means of Value Education
5. Happiness and Prosperity as parts of Value Education

Unit-II: Harmony in the Human Being **[CO-2]**

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body

3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body
5. Understanding the Activities in the Self and Activities in the Body

Unit-III: Harmony in the Family and Society and Harmony in the Nature [CO-3]

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour
4. Harmony in Nature : The Four orders in Nature
5. The Holistic Perception of harmony in Existence

Unit-IV: Social Ethics [CO-4]

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct
5. Human Rights violation and Social Disparities

Unit-V: Professional Ethics [CO-5]

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

COURSE OUTCOMES

CO1-In this unit the student learns about Need for value education and basic gudelines for value education.
CO 2- In this unit student understands Needs and activities in the self and in the body
CO3-In this unit the students learn comprehensive human goal and harmony in nature
CO4-In this unit students develop awareness about universal human order and ethical conduct.
CO5-In this unit students develop right understanding of professional ethics.

Reference Books:

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009

7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)
I Year B. Sc / B.Com / B.B.A/ Semester – I
ENVIRONMENTAL STUDIES
(w.e.f admitted batch 2015-16)

2Hours/Week
Credits: 2

COURSE OBJECTIVES:

1. To acquire knowledge about the origin and functioning of the Nature.
2. To understand the concept, structure and function of different ecosystems.
3. To know about different types of pollutions, their effects and control measures.
4. To develop sense of responsibility and concern for the welfare of the environment.

Unit-I: Natural Resources [CO-1]

The Multidisciplinary nature of Environmental Studies. Definition, scope and importance. Need for public awareness. Renewable and non-renewable resources: Natural resources and associated problems

- Forest recourses: Use and over-exploitation, deforestation, case studies.

Timber extraction, mining, dams and their effects on forests and tribal people

- Water resources: use and over – utilization of surface and ground water, floods, drought, conflicts over water, dams- benefits and problems
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies
- Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer- pesticide problems, water

logging, salinity, case studies

- Energy resources Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies
- Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification
    a. Role of an individual in conservation of natural resources
    b. Equitable use of resources for sustainable lifestyles

Unit-II: Ecosystems, Biodiversity and its conservation [CO-2]

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids
- Introduction, types, characteristic features, structure and function of the following ecosystem:- Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
- Introduction – Definition genetic, species and ecosystem diversity
- Biogeographically classification of India
- Value of biodiversity: Consumptive use, productive use, social, ethical aestheticand option values
- Biodiversity at global, National and local levels
- India as a mega – diversity nation
- Hot-spots of biodiversity
- Threats to biodiversity habits loss, poaching of wildlife, man wildlifeconflicts
- Endangered and endemic species of India
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity

Unit-III: Environmental Pollution [CO-3]

- Definition
- Causes, effects and control measures of :-
    a. Air pollution
    b. Water pollution
    c. Soil pollution
    d. Marine pollution
    e. Noise pollution
    f. Thermal pollution
    g. Nuclear pollution
- Solid waste management: Causes, effects and control measures of urban and industrial wastes
- Role of individual in prevention of pollution
- Disaster management: floods, earthquake, cyclone and landslides

Unit-IV: Social Issues and the Environment [CO-4]

- From Unsustainable to Sustainable development
- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns Case studies
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies

- Wasteland reclamation, Consumerism and waste products
- Environment protection Act
- Air (Prevention and control of Pollution) Act
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act, Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness

Unit-V: Human Population and the Environment [CO-5]

Population growth, variation among nations

- Population explosion- Family welfare Programme
- Environment and human health
- Human Rights
- Value Education
- HIV/AIDS
- Women and Child Welfare
- Role of Information Technology in Environment and human health.

COURSE OUTCOME OF ENVIRONMENTAL STUDIES

CO 1: In this unit the students learn about the scope and importance of Environmental studies. The students also understand about the types of natural resources and problems associated with them.

CO 2: In this unit the students understand about different kinds of ecosystems, biodiversity and its conservation. They also learn about types of biodiversity, values of biodiversity and threats to biodiversity.

CO 3: In this unit the students gain knowledge about different types of environmental pollutions, their causes, effects and control measures.

CO 4: In this unit the student learns about sustainable development and various environmental legislation Acts.

CO 5: In this unit the students gain knowledge about characteristics of human population growth and its impact on environment.

Reference Books:

1. Environmental Studies (for Non-Engineering Students) by Prof. B.Sudhakara Reddy,

Prof. T.Shivaji Rao, Prof. U.Tataji and Prof. K.Purushotham Reddy, published by Maruthi Publications, Guntur. (prescribed by APSCHE)
2. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G.Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
3. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
4. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B.Sc. First year Mathematics Syllabus

Semester –I, Paper - I

Differential Equations (w.e.f. 2015-16 Admitted Batch)

Total Credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To solve first order and first degree linear and exact differential equation
2. To solve first order but not first degree and find solution of clairaut's equation
3. To solve higher order linear differential equations.
4. To solve higher order linear differential equations with constant and non-constant coefficients.

CO: 1(UNIT-1)

Differential Equations of first order and first degree (No. of hours: 12)

Linear Differential Equations; Differential Equations Reducible to Linear Form; Exact Differential Equations; Integrating Factors; Change of Variables.

CO: 2(UNIT-2) Orthogonal Trajectories (No. of hours: 12)

Differential Equations of first order but not of the first degree:

Equations solvable for *p*; Equations solvable for *y*; Equations solvable for *x*; Equations that do not contain.

x (or y); Equations of the first degree in *x* and *y* – Clairaut's Equation.

CO: 3(UNIT-3) Higher order linear differential equations-I (No. of hours: 12)

Solution of homogeneous linear differential equations of order n with constant coefficients; Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators.

General Solution of f(D)y=0

General Solution of f(D)y=Q when Q is a function of x.

1/xis expressed as partial fractions.

P.I. of f(D)y = Q when Q= be^{ax} ,b sin ax or b cos ax.

CO: 4(UNIT-4) Higher order linear differential equations-II (No. of hours: 12)

Solution of the non-homogeneous linear differential equations with constant coefficients.

P.I. of f(D)y = Q when Q= bx^k

P.I. of f(D)y = Q when Q= $e^{ax}V$

P.I. of f(D)y = Q when Q= xV

P.I. of f(D)y = Q when Q= x^mV

CO: 5(UNIT-5) Higher order linear differential equations-III (No. of hours: 12)

Method of variation of parameters; Linear differential Equations with non-constant coefficients; The Cauchy-Euler Equation.

Course Outcomes:

1. Those opted these Differential equations can solve different differential equations under one or more conditions.
2. The student can have apply this differential equations in Geometry and Economics, Mechanics etc..They will get knowledge of drawing graphs.Students are capable to calculate intrinsic value of securities.
3. The students have a knowledge to solve the no of problems under various conditions while solving the problems in Engineering and other fields.
4. Student acquires knowledge to find Newton's law of cooling and the light of the falling object in the study of engineering physics.

5. Student gets efficiency for finding the proportions of current in the function of current at different times.

Prescribed Text Book: A text book of mathematics for BA/BSc Vol I by N. Krishna Murthy & others, published by S. Chand & Company, New Delhi.

Practical's Differential Equations Problem Solving Sessions

CO:1 **Differential Equations of first order and first degree**

CO:2 **Orthogonal Trajectories**

CO:3 **Higher order linear differential equations-I**

CO:4 **Higher order linear differential equations-II**

CO:5 **Higher order linear differential equations-III**

Program Specific Objective: The need to solve differential equations motivated the development of calculus. The mathematical formulations of many problems in the sciences (Physics, Chemistry, Engineering, Life Sciences, and more) are as differential equations. In this level course sequence students learn this important mathematical subject, and they learn how to apply mathematics to other fields.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE & PG COURSES
(Autonomous)
B.Sc.PHYSICS SYLLABUS UNDER CBCS
B.Sc. 1st Semester Physics
Paper I: Mechanics& Properties of Matter
W.e.f. Admitted Batch 2015-16

Workload: 60 hours per semester **4hrs/week**
Credits: 3

Course Objectives:
This course would empower the student to acquire engineering skills and practical knowledge, which help the student in their everyday life. This syllabus will cater the basic requirements for their higher studies. This course will provide a theoretical basis for doing experiments in related areas.

UNIT I (20 hrs) CO1

1. Vector Analysis: 10 hrs

Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field with derivations and physical interpretation. Vector integration (line, surface and volume), State and proof of Gauss and Stokes theorem.

UNIT II(10hrs) CO2

2. Mechanics of particles: 10 hrs

Laws of motion, motion of variable mass system, motion of a rocket. Conservation of energy and momentum. Collisions in two and three dimensions. Concept of impact parameter, scattering cross-section. Rutherford scattering-derivation.

UNIT III (16 hrs) CO3

3. Mechanics of Rigid bodies: 10 hrs

Definition of rigid body, rotational kinematic relations, equation of motion for a rotating body, angular momentum. Euler equation, precession of a top. Gyroscope, precession of the equinoxes.

4. Mechanics of continuous media: 6 hrs Elastic constants of isotropic solids and their relation, Poisson's ratio and expression for Poisson's ratio in terms of y, n, k. Classification of beams, types of bending, point load, distributed load, shearing force and bending moment, sign conventions.

UNIT IV (12) CO4

5. Central forces: 12 hrs

Central forces, definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, equation of motion under a central force. Derivation of Kepler’slaws. Motion of satellites.

UNIT V (12 hrs) CO5

6. Special theory of relativity: 12 hrs

Galilean relativity, absolute frames. Michelson-Morley experiment, negative result. Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, mass-energy relation. Concept of four-vector formalism.

Course Outcomes:

CO1. The students are able to calculate surface and line integrals, apply Gauss Divergence- and Stokes' theorems, and have sufficient knowledge in vector analysis

CO2. Understand the laws of motion, motion of the particles and concept of collisions.

CO3. Understand concept of rotational kinematic relations, equation of motion for a rotating body, angular momentum.

CO4. Understand the concept of central forces its applications. Derivation of Kepler’slaws. Motion of satellites.

CO5. Understand the concept ofspecial Theory of Relativity, Lorentz transformation equations by using special Theory of Relativity.

REFERENCE BOOKS

Sl. No.	Author Name	Book Title	Publisher's Name	Place	Year
1.			Telugu Academy	Hyderabad	
2.	Resnick, Halliday, Krane	Fundamentals of Physics	Wiley India		2007
3.	S.L. Gupta & S. Guptha	Unified Physics, Vol. I.	Jai Prakash Nath & Co. Ltd.	Meerut	
4.	T. Bhimasankaram& G. Prasad	College Physics-I	Himalaya Publishing House		
5.	F.W. Sears, M.W. Zemansky& H.D. Young	University Physics	Narosa Publications	Delhi	
6.	S.G. Venkatachalapathy	Mechanics	Margham Publication		2003

Smart class URL'S

S.NO	CO	UNIT	URL
1	CO1	I	https://www.youtube.com/watch?v=eSqznPrtzS4
2	CO2	II	https://www.youtube.com/watch?v=_l2H_Jh7-y0
3	CO3	III	https://www.youtube.com/watch?v=ozUnwriYoP8
4	CO4	IV	https://www.youtube.com/watch?v=Xt_xAgmwQtA
5	CO5	V	https://www.youtube.com/watch?v=gFU-p94oAuA

Practical paper 1: Mechanics & Properties of Matter

3hrs/Week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Viscosity of liquid by the flow method (Poiseuille's method)
2. Young's modulus of the material of a bar (scale) by uniform bending

3. Young's modulus of the material a bar (scale) by non- uniform bending
4. Surface tension of a liquid by capillary rise method
5. Determination of radius of capillary tube by Hg thread method
6. Viscosity of liquid by Searle's viscometer method
7. Bifilar suspension –moment of inertia of a regular rectangular body.
8. Determination of moment of inertia using Fly-wheel
9. Determination of the height of a building using a sextant.

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
I YEAR B.Sc :: SEMESTER-I
SYLLABUS W.E.F 2015-16 Admitted Batch
PAPER-1 Computer Fundamentals & Photoshop

4 Hours/Week
Credits: 3

Course Objective:

To explore basic knowledge on computers and Photoshop's beauty from the practical to the painterly artistic and to understand how Photoshop will help youcreate your own successful images

UNIT-I: [CO1]

Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems:binary,hexaand octal numbering system

UNIT-II:[CO2]

Input and output devices: Keyboard and mouse,inputting data in other ways, Types of Software:system software,Application software,commercial,open source,domain and free ware software, Memories: primary,secondary and cache memory.Windows basics: desktop,start menu,icons.

Unit –III[CO3]

Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop,page layout and back ground, Photoshop program window-title bar,menubar,optionbar,image window,mage title bar,status bar,ruler,paletts,tool box,screen modes,savingfiles,revertingfiles,closing files.

Unit –IV[CO4]

Images: working with images, image size and resolution ,image editing,colour modes and adjustments , Zooming & Panning an Image,, , Rulers, Guides & Grids- Cropping & Straightening an Image,image backgrounds ,making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels – Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin

Unit-V[CO5]

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds ,artsticfilter,blurfilter,brush store filter,distort filters,noice filters,pixelate filters,light effects,differenceclouds,sharpen filters,printing.

Course Outcomes:

CO1: After successful completion of the course the student must be able to understand the Basics of the Computers.

CO2: After successful completion of the course the student must be able to understand the Input and output devices, different types of software's, Memories and windows concepts.

CO3: At the end of this course the student will posses basics knowledge Image editing Photoshop software.

CO4: At the end of this course the student will posses Image editing Photoshop software and tool Box.

CO5: After successful completion of the course the student must be able to understand the concepts of Photoshop Layers and Filters.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3.Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color Grading & Graphic...19 February 2016 by David Maxwell

Web Links:

https://www.youtube.com/watch?v=O4DMvPhFclI

https://www.youtube.com/watch?v=a8Ddw1Zm-ig

https://www.youtube.com/watch?v=zviciy5RRvw

https://www.youtube.com/watch?v=Rsqgd8bFijc

https://www.youtube.com/watch?v=c6bAy5HBfns

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
I YEAR B.Sc :: SEMESTER-I
2015-16 Admitted Batch
PAPER -1 Computer Fundamentals & Photoshop

3 Hours/Week
Credits: 2

Photo Shop Lab

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organixation
6. Create Broacher for your college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert colour photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)
NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)
SEMESTER-II COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	First Language (Telugu/Hindi/Sanskrit)	100	25	75	4	3
2	Second Language (English)	100	25	75	4	3
3	Foundation Course-3 (ICT-I)	50	0	50	2	2
4	Foundation Course- 4 (CSS-I)	50	0	50	2	2
5	Mathematics(paper-II)	100	25	75	5	3
6	Mathematics Practical-II	50	0	50	2	2

7	Physics(Paper-II)	100	25	75	4	3
8	Physics Practical-II	50	0	50	3	2
9	Computer Science(Paper-II)	100	25	75	4	3
10	Computer Science Practical-II	50	0	50	3	2
	TOTAL	750			33	25

Hours : 60 with effect from 2018-19 Admitted Batch
Credits : 3

Gayathri Vidya Parishad College for Degree and PG Courses (Autonomous)
Visakhapatnam

సాహితీ కౌముది
తెలుగు పాఠ్యపుస్తకం
మారుతీ పబ్లికేషన్స్
గుంటూరు

విషయ సూచిక

సెమిస్టర్ -2 తెలుగు

PROGRAMME OBJECTIVE : డిగ్రీలో తెలుగు భాషా బోధన లక్ష్యం.
మాతృభాషలో శ్రవణం, భాషణం, అధ్యయనం లేఖనం - ఈ నాల్గింటికి విద్యార్థులు కౌశలము సాధింతురు. ఇవి వారి సర్వతోముఖాభివృద్ధికి దోహదపడతాయి.

	ప్రాచీన కవిత్వం	పాఠ్య ప్రధానోద్దేశము - Course Outcome
CO 1	1. సాయుజ్యము - ధూర్జటి	16వ శతాబ్దంలో శ్రీకృష్ణ దేవరాయల ఆస్థానంలో ధూర్జటి రచించిన "శ్రీకాళహస్తి మహాత్మ్యం" ప్రబంధంలోని శివుని పూజించడంలో ఏనుగు, పాముల స్వర్గ పరమ రమణీయంగా వర్ణింపబడినది. వర్ణనా ప్రావీణ్యం విద్యార్థులకు తెలుస్తుంది.
CO 2	2.సుభద్రా పరిణయం- చేమకూర వేంకటకవి	దక్షిణాంధ్రయుగ సాహిత్యంలో చేమకూర వేంకట కవి ప్రసిద్ధుడు. పద్య రచనలో చమత్కారములు. సభంగశ్లేష అభంగ శ్లేష ఇత్యాదులు విద్యార్థులకు పట్టుబడతాయి. తెలుగింటి పెళ్ళి వేడుకలు, సంప్రదాయముల సందడి తెలుగు విద్యార్థులకు అవగతమవుతుంది.
	ఆధునిక కవిత్వం	
CO 3	3. ఫిరదౌసి లేఖ-గుర్రం జాషువా	ఆధునిక యుగంలో తెలుగుభాషలో ఖండకావ్య రచనలో పలుకుబడి, భావరామణీయకతకు నెలవయినది. హృదయవేదన వ్యక్తీకరించడంలో తెలుగు పదాలకున్న పదును తెలుగుభాషా విద్యార్థులకు దీని వలన అలవడుతుంది.
CO 3	4. చెట్టు - గెద్దాపు సత్యం	నవ్య సాహిత్యంలో చక్కని ఉపమలతో కవిత చెప్పినవారు సత్యం కవిగారు. పర్యావరణంలో 'చెట్టు' ప్రాధాన్యము విద్యార్థులు గ్రహిస్తారు.
	కథానికలు	
CO 4	5. నమ్ముకున్న నేల-కేతు విశ్వనాథరెడ్డి	ఇది కేతు విశ్వనాథరెడ్డి గారి ప్రసిద్ధ కథానిక. కడప జిల్లాలో చిలమకూరులో రచయిత దాయాది వీరన్న రెండె కరాల పొలం సాగు చేస్తూ కరవు కాటకాలతో పంటలు పండక వ్యవసాయం మాని ఫ్యాక్టరీలో కూలి పనికి చేరడంవ్యాపారుల దురాశ చిత్రింపబడినది. అనాది సాంఘిక పరిస్థితులకు దర్పణం ఈ కథ.

CO 4	6.అమ్మకు ఆదివారం లేదా రంగనాయకమ్మ	ఇంటిపనులు, వంటపనులలో స్త్రీలకు వారంలో ఒకరోజు విశ్రాంతి ఇవ్వాలనే రాజ్యసభ నిర్ణయంపై స్త్రీ పురుష వివక్ష లేకుండాఅందరూ సమంగా ఇంటి పనులను పంచుకుంటే జీవితం సుఖమయం అనేది సారాంశం
	ఉప వాచకం	
CO 5	7. బతుకాట - డా॥ వి.ఆర్.రాసాని	ఇది సాహిత్య అకాడమీ బహుమతి పొందిన ప్రసిద్ధ నవల. చిత్తూరు జిల్లాలో కళాకారుల జీవితాల యదార్థ సంఘటన లను కనులకు కట్టినట్లు చిత్రింపబడినవి. సురభి నాటకాలు రంగస్థల పాత్రల చిత్రవిచిత్ర ప్రవృత్తులు, బ్రతుకు గడవక కళాకారులు అప్పులు చేయడం. గజ్జెపూజ, భారతోత్సవాలు భారతం ఆధారంగా జానపదుల కథలలో వచ్చిన పోతరాజు వృత్తాంతం, ద్రౌపది తపస్సు మొదలయినవి. దృశ్యరీతిలో వివరింపబడినవి. ఈ నవల నాటి సామాజిక జీవనమునకు కళకు అంకితమయిన కళాకారుల స్వభావం. విద్యార్థులు గ్రహిస్తారు.

GARATRI VIDYA PARISHAD COLLEGE FOR DEGREE&P.G.COURSES[A]

B.Com/B.Sc/BBA/BCA

HINDI SYLLABUS UNDER CBCS

II SEMESTER HINDI

PAPER II:HINDI GADYA SANDESH(w.e.f. Admitted Batch2015-2016)

Work Load:60 Hrs Per Semester

Credits:34Hrs/Week

Course Objectives:

- संपर्कभाषाकेरूपमेंभारतकेविभिन्नक्षेत्रोंमेंइसकामहत्वपूर्णस्थानहैं।
- विभिन्नक्षेत्रोंमेंसरकारी,गैरसरकारीकेविभिन्ननौकरियांजैसेअनुवादक,आशुलिपिक,टंकक,अद्यापक,हिन्दी अधिकारीआदिप्राप्तकरसकतेहै।
- स्नातकस्तरपरकार्यालयीसंबंधजोकार्यालयीनहिन्दीपाठ्यक्रमविभिन्नपदपरनौकरियोंकेलिएउपयोगीहैयथा हिन्दीअनुवादक,हिन्दीटंकक,हिन्दीअधिकारी,हिन्दीपत्राचारआदि।
- हमकिसीभीदेशकीसंस्कृतिकोउसदेशकेसाहित्यकेमाद्यमसेहीजानाजासकताहैं।पाठ्यक्रममेंसम्मिलितविभिन्नकहांनियां, कविताएं,निबंधआदिविभिन्नविषयोंसेसंबंधितहै
- व्याकरणकीसभीपहलूओंपरविद्यार्थियोंकोविषदरूपअध्ययनकरायागयाहै।क्योंकिव्याकरणहीकिसीभाषा कीरीढहोतीहै।
- सरकारीएवंनिजीस्थारपरअनेकउच्चअधिकारीपरीक्षाओंकेलिएहिन्दीभीएकउपविषयकेरूपमेंचयनकिया जाताहै।जिसकेलिएहमारास्नातकपाठ्यक्रमभीमहत्वपूर्णसिद्दहोगा।

UNIT-1[12Hrs]

संस्कृतिऔरसाहित्यकापरस्परसंबंध[CO1]

संस्कृतिऔरसाहित्यकाघनिष्टसंबंधहै।जिसदेशकासहित्यजितनाउन्नतहोगाउसदेशकीसंस्कृतिउतनाहीउत्तमहोगी।वेद,पुराण,रामायण,महाभारतआदिभारतीयसंस्कृतिकेनिधिहै।विश्वमेंभारतीयसंस्कृतिकेइनग्रंथोंकामहत्व पूर्णस्थानहै।इनसभीग्रंथोंमेंमानवीयमूल्योंकीस्थापनासेसंबंधितविषयोंपरदृष्टिपातकियागयाहै।भारतीयसंस्कृतिकीयहनिजीसमस्तविश्वकेलिएएकअतिउत्तमप्रेरणादायकग्रंथोंकेरूपमेंजानीजातेहै।जीवनकापरमलक्ष्यशांति ,विश्वमेंशांतिस्थापनाहै।भारतकीकईमहानपूरूषोंनेशास्त्रज्ञोंनेमहानविद्वानोंनेअपनेविचारोंमेंइन्हीग्रंथोंकीनिचोडकोअभिव्यक्तकियाहै।

Unit-2[12Hrs]

भारतएकहै[CO2]

भिन्नत्वमेंएकत्वभारतदेशकीविशेषताहै।भारतीयजनताकीएकताकेअसलीआधारभारतीयदर्शनऔरसाहित्यहैं। इसपाठमेंलेखकभूभाग, भाषा,वातावरण,भाषा-शैली,आचार-विचार,धर्म,

संस्कृतिआदिविषयोंमेंभिन्नत्वमेंएकत्वकोचित्रितकियाहै।UNITY IN DIVERSITY"
इसनिबंधकामूलमंत्रहैजोकिसीभीदेशकीप्रगतिकेलिएआवश्यकहै

Unit-3[12 Hrs]

एच.आई.वी/एड्स[CO3]

एच.आई.वी/एड्सवर्तमानयुगमेंएकभयंकरसंक्रमकरोगहै।जिसकेउत्पन्नहोनेयाफैलनेसेमनुष्यमानसिकएवंशा

रीरिकरूपसेअस्वस्थहोजाताहैऔरमृत्युकीकागारतकपहुंचजाताहै।
बीमारीउसकेफैलनेकेबारेमेंपूर्णजानकारीनाहोनेकेकारणयुवावस्थाकीछात्र -

छात्राएंभयग्रस्थहोकरमानसिकरूपसेबीमारहोजातेहैं

Unit-4[12Hrs]

जरियां[CO4]

चित्रामुदगलजीअपनीकहानीजरियाकेमाद्यमसेबतायाकिवर्तमानसमाजमेंलोगभयंकरशोषणकाकिसतरहशि कारहोरहेहैं।इसकामूलकारणमनुष्यकीस्वार्थलिप्साहै।वहनामकमानाचाहताहै॥इसकीइसकमजोरीसेपरिचित कोईभीव्यक्तिउसकाशोषणआसानीसेकरसकताहै।चाहेवहकितनाभीपढालिखाक्योंनहो।

Unit-5[12Hrs]

भूखहडताल[CO5]

बालशौरीरेड्डीद्वारालिखितभूखहडतालवर्तमानदेशकीमहत्वपूर्णसमस्यासेसंबंधितहै।एकनिम्नवर्गलकडहारेकेजी वनकेमाद्यमसेलेखकनेबतानेकीकोशिशकिएहैकिसमाजमेंसमस्याओंकाअंतसरकारपरआरोपलगानेमात्रसेनहीं होताकारणपरआरोपसमस्याओंकेमूलकारणकोजानकरउसकोदूरकरनेपरसमस्याकासमाधानप्राप्तहोसकताहै।ल कडहारापढालिखानाहोनेपरभीवयोजनशिक्षाकेन्द्रमेंभाषणदेनेकेलिएजारहेवक्तासेकुछऐसेमौलिकप्रश्नपूछताहै किस्वयंवक्ताआश्चर्यचकितहोजाताहै।
इसकहानीमेंहडतालसेहोनेवालेनुकसानकेबारेमेंभीविस्तृतरूपसेचर्चितकियागयाहै।साथहीसरकारीकर्मचारियों कीपरिस्थितियोंपरभीचर्चितकियागयाहै।

परमात्माकाकुत्ता[CO5]

मोहनराकेशनेपरमात्माकाकुत्ताकहानीमेंभ्रष्टाचारकोविश्रृतरूपसेदर्शायाहैएकसामान्यव्यक्तिकेलिएन्यायपाना कितनीमुश्किलहैयहभीबतायाहै।इसकहानीकेप्रमुखपात्रकेमाद्यमसेबतायाहैकिएकसैनिककापरिवारसरकारद्वा राप्राप्तजमीनकोप्राप्तकरनेकेलिएकितनीकठिनाइयोंकोसामनेकरनापढाहैऔरसैनिककामृत्युकेबादपरिवारबिक डजाताहैसैनिककाभाईजोसाहसीहोनेकेकारणसरकारसेलडकरहककोप्राप्तकरताहै।वर्तमानसमाजकीयहविसंग तिहैकि, जिसकीलाठीउसकाबैंस।

व्याकरण:कार्यालय हिन्दी शब्दावली अंग्रेजी–हिन्दीPage no 72 to76[CO1],कार्यालयों की कुछ प्रशासनिक शब्द अंग्रेजी–हिन्दी–Page no 76 to81,शब्दों का वाक्यों में प्रयोग[CO2], संधि[CO3], पत्र लेखन[CO4]

व्याकरणपाठ्यक्रमकेअंतर्गतविद्यार्थियोंकोसंधीसंबंधीज्ञानअनेकउदाहरणकेमाध्यमसेदियागयाहै।भाषाकीसबसे छीटीइकाईअक्षरसबसेबडीइकाईवाक्यहै।शुद्ववाक्यकीघटनकेलिएलिंग,वचन,काल,वाच्य

,संधीआदिकाज्ञानहोनाआवश्यकहै।हरभाषाकाअपनाएकव्यवस्थाहोतीहै।विशेषकरदक्षिणमें [आंध्रप्रदेश]

मेंहिन्दीसिखातेसमयउनपरमातृभाषातेलुगुकाप्रभावहोनादेखाजाताहै।इसलिएहिन्दीकोउसप्रभावसेमुक्तहोकर सिखानाएकशिक्षककाउत्तमदायित्वहैताकिवेभारतमेंकिसीभीप्रांतमेंजाकरअपनाकार्यसफलतापूर्वककरसके।

पत्रलेखन:

कार्यालयीहिन्दीकेअंतर्गतविभिन्नतकनीकीशब्दावलीअंग्रेजीसेहिन्दी ,हिन्दीसेअंग्रेजीतथापत्रलेखन

,पत्रकेविभिन्नरूपोंकाअध्ययनकरायाजाताहै।कार्यालयीहिन्दीकेज्ञानसेएकऔरविद्यार्थियोंकोस्नातकोत्तरस्थान

परविभिन्नप्रतिस्पर्दाओंमेंभागलेनेसरकारीतथागैरसरकारीकार्यालयोंमेंनौकरीप्राप्तकरनेतथासरकारीउच्चस्थाप रहोनेवालेविभिन्नपरीक्षाओंमेंसफलताप्राप्तकरनेमेंअत्यंतउपयोगीहैं।

Courses out comes:

CO1:
विद्यार्थियोंकोऐसेउत्तमविचारवालेनिबंधकोपाठ्यक्रममेंसम्मिलितकरजीवनकेलिएएकमार्गदर्शनकरायागयाहै |

CO2: विद्यार्थियोंकोराष्ट्रीयएकताकीभावनाकोबढानेमेंयहपाठअत्यंतउपयुक्तहै।"UNITY IN

DIVERSITY" इसनिबंधकामूलमंत्रहैजोकिसीभीदेशकीप्रगतिकेलिएआवश्यकहै
CO3:
एड्सकेइतिहासउसकेफैलावउससेबचनेकेउपायआदिकेबारेमेंउसकेयुवावर्गकोविस्तृतज्ञानदियाजायतोइसमहा मारीसेबचनाबहुतआसानहै| इसप्रकारयहवैज्ञानिकनिबंधविद्यार्थियोंकोअत्यंतउपयोगीहै।

CO4:विद्यार्थियोंकेलिएयहएकसीखहैकिकिसीभीप्रलोभनमेंनपढऔरबहुतसूझबूझकेसाथजीवनकथमबढाए|

गैरसरकारीकार्यालयोंमेंनौकरीप्राप्तकरनेतथासरकारीउच्चस्थापरहोनेवालेविभिन्नपरीक्षाओंमेंसफलताप्राप्तकर नेमेंअत्यंतउपयोगीहैं।
CO5: वर्तमानयुवावर्गकोस्वाभिमानसेसबहासिलकरनेकीसीखदीगईहै, नाकिकिसीपरआधारितरहकर।

विद्यार्थियोंकेलिएयहएकसीखहैकिकिसीभीप्रलोभनमेंनपढ|

REFERENCE BOOKS:

Sno	Authors Name	Title Of Book	Publishers Name
1.	V.L NarasimhamSivakoti And Dr.D.Lakshmi	Hindi Gadya Sandesh Semester -1	Loven Publishers
2.	MeenuKadhariya ‘Kapil’	Adunik Hindi Vyakaran Evam Rachana	V.Kumar Publications Pvt.Ltd.
3.	Bhatt Kamaleswar	Prayojanmulak Hindi	Children Book Bank.

GayatriVidyaParishad College for Degree and P.G.Courses(A)

DEPARTMENT OF *SAMSKṚTAM*

1st Year B.Sc./B.Com/B.B.A./B.C.A

Part - I (A) *SAMSKṚTAM* :: SEMESTER - II

(Prescribed Syllabus with effect from 2015-16batch onwards under CBCS Pattern)

Work Load:60Hrs Per Semester ,Credits:34Hrs/Week

PAPER – II :: *VIŚVABHĀRATĪ* -2 (POETRY, PROSE AND GRAMMAR)

Unit – I **Poetry:** ***1. VASISHṬHĀŚRAMAGAMANAM –CO-1***
***Raghuvamśah* – 1st Canto – 35 – 95 *Śloka*-s**
(*Nakştrāmkitaślokа*no.s 2,5,7,9,11,12,17,20 are only to be given for *Pratipadārthatātparyalekhanam*)

Unit – II **Poetry:** ***2 . GANGĀVATARAṆAM* –-CO-2**
Bhoja*'s*ChampūRāmāyaṇam – Bālakānda

Unit – III **Prose:** ***1. PUŞPODBHAVA CHARITAM from* 4th Chapter of -*CO-3***
PŪRVAPĪṬHIKĀ*of*DAŚAKUMĀRA CHARITAM

2. KṚŞIPHALAM from*20th Chapter of *KĀLĀYA TASMAI -CO-4
***NAMAH* — Written by OgetiParīkşitŚarma**
Unit – IV **Grammar:** **1. *ŚABDĀH* – Nouns ending in Vowels: *Nadī, Tanu, Vadhū,***
Mātṛ, Phala, Vāri*and *Madhu.-CO5

2. *DHĀTAVAH-CO-5*
III- Conjugation – *Yudh*
IV- Conjugation _ *Iş*
VIII- Conjugation – *Likh, Dukṛṇ*
IX- Conjugation – *Krīṇ*
X- Conjugation – *Kath, Ram, Vand*

UNIT – V **Grammar:** **1. *SANDHAYAH-CO-5***
Halsandhih -Latva, Jaśtva
VisargaSandhih– Utva, Visargalopa,
Rephādesa,Ūşma Sandhi

2. *SAMĀSĀH-CO-5*
Avyayībhāvah, Bahuvrīhih.

Text book:

1. *VIŚVABHĀRATĪ* -3 - Developed and approved by the Sanskrit subject experts committee, Published byLorven Publications, Hyderabad, 2015.

GayatriVidyaParishad College for Degree and P.G.Courses(A)
B.Sc.(C.B.C.S)– SECOND SEMESTER
ENGLISH (w.e.f. admitted batch 2016-17)

Max.Marks:100	**External : 75 Marks**	**Internal : 25 Marks**

Course Objectives:

1. To make the student understand the importance of cultural differences and importance of science in one's life.
2. To make the student understand the feministic approach and the use of poetic devices.
3. To make the student understand the mechanics of Prose and Dialogue Writing.
4. To make students familiar with dialogue writing, reading and role play.
5. To make the student improve their expressive power through various English Grammar Components.

SYLLABUS

Unit-I: Prose

1.The Scientific Point of View – J.B.S.Haldane
2. On Shaking Hands- A.G Gardiner

UNIT – II: Poem

1.Ode to Autumn –John Keats
2.I am not that Woman- KishwarNaheed

Unit-III: Short Story

1. The Boy Who Broke the Bank- Ruskin Bond
2. Half a Rupee Worth- R.K Narayan

Unit-IV: One Act Play

1. The Proposal -Anton Chekhov.

Unit V:Grammar and Language Activity:

Transformation of Sentences — Listening Comprehension
Active Voice, Passive Voice — Synonyms and Antonyms

Direct and Indirect Speech Degrees of Comparison Reading Comprehension One Word substitutes	Guided Composition Homonyms Dialogue Writing Dialogue Practice (Oral)
Course Outcomes	
1. Enables the student to read and understand the text on their own to know the different cultural aspects and the prominence of Science in our daily lives.	
2. Enables the students understand Feminism and the influence of Seasons on human activities.	
3. Enables the students to convert the prose form to dialogue form and vice-versa.	
4. Enable students to enhance their ability to write dialogues and exhibit intonation patterns.	
5. Enables the students to improve their verbal and writing skills.	
Recommended Books:	
1. A Spectrum of Language Skills – Maruthi Publications.	
2. Engage with English –Orient Black Swan Publications.	

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
Foundation Course – 3
INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)
Computer Fundamentals and Office Tools
Common for all DegreeProgrammes
II Semester
SYLLABUS W.E.F 2015-16
(30 Hours of Teaching Learning including Lab)

2 Hours/Week
Credits: 2

Course Outcome :

CO1: After successful completion of the course, a student should able to learn about the fundamentals and the architecture of a computer.

CO2 : After successful completion of the course, a student should able to learn about the Memories, Software, Hardware and Windows Concepts.

CO3: After successful completion of the course, a student should be familiar about the MS-Word.

CO4: After successful completion of the course, a student should be familiar about the MS-Power Point

CO5: After successful completion of the course, a student should be familiar about the MS-Excel.

Unit-I:

Basics of Computers : Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices.

Unit-II:

Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane.

Unit-III:

MS-Word

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting andPrinting of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format –

Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge.

Unit-IV:

MS-PowerPoint

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using aTemplate - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation..

Unit-V:

MS-Excel

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns –Changing column widths and row heights, auto format, changing font sizes, colors, shading.

Reference Books:

1. Fundamentals of Computers by ReemaThareja, Publishers : Oxford University Press, India
2.Fundamentals of Computers by V.Raja Raman, Publishers : PHI
3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and FaitheWempen, Publishers : Wiley.

URL:

https://mva.microsoft.com/en-us/training-courses/microsoft-office-basics-and-beyond-18218?l=drtqFo9mE_6012263987

https://www.youtube.com/watch?v=TKY_AuLMQIc&list=PLWPirh4EWFpEpO6NjjWLbKSCb-wx3hMql&index=6

https://www.youtube.com/watch?v=ZCnk_eIhH_s&list=PLWPirh4EWFpEpO6NjjWLbKSCb-wx3hMql&index=14

https://www.youtube.com/watch?v=54ugHfkXfvU&list=PLWPirh4EWFpHyWP7u5HOrr4s2-bycPpO6&index=25

https://www.youtube.com/watch?v=iCxm0RZG4Fk&list=PLWPirh4EWFpHyWP7u5HOrr4s2-bycPpO6&index=28

GayatriVidyaParishad College for Degree and P.G.Courses(A)
B.Sc/B.Com/BBA/B.C.A (C.B.C.S)– SECOND SEMESTER

Foundation Course-4

Communication and Soft Skills-I (With effect from 2016-17)

Max.Marks:50		**External : 50 Marks**

Course Objectives:

1. Vocabulary building as vocabulary is fundamental to effective communication.
2. Choosing appropriate words to express oneself in the right tense.
3. Preparing the students to face competitive examinations by improving their grammatical skills.
4. To improve the students listening skills for better performance in competitive examinations.
5. To improve the student in reading skills for better performance in competitive examinations.

SYLLABUS

Unit-I: Vocabulary Building

Vocabulary Building

1. Classification of Words

1. a. Prefixes and Suffixes

1.b. Conversion

1.c. Compounding

1.d. Analogy

2. One word Substitutes

3. Words often confused

4. Synonyms and Antonyms

5. Phrasal Verbs

6. Idioms

Unit-II: Grammar -1

1. Types of Verbs

2. Subject Verb Agreement

Unit-III: Grammar -2

1. Meanings of Modals
2. Tense (Present and Past) and Aspect
3. The several possibilities for denoting Future Time.
4. Articles and Prepositions

Unit IV Listening Skills and Reading Skills

1. The importance of Listening
2. Types of Listening
3. Barriers of Effective Listening
4. Strategies for Effective Listening

Unit V Reading Skills

1. Skimming
2. Scanning
3. Intensive Reading and Extensive Reading
4. Comprehension

Course Outcomes

1. Enable students to improve their vocabulary and the usage.
2. Enable students to learn and hone the language skills for apt expression.
3. Enable students to master tenses for effective communication.
4. Enable students to develop effective listening skills and reading skills.
5. Enable students to develop effective reading skills.

Recommended Books:

Skills Pro-I Maruthi Publications

B.Sc. First year Mathematics Syllabus
Semester –II, Paper –II
Solid Geometry (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of Hours: 60**

Course Objectives:

1. To learn about the Plane by introducing the definitions etc. and solving the sums on plane.
2. To learn about the different types of equation of line etc and to solve sums on line
3. To learn about the sphere, plane section etc and to know the concepts generated by sphere with line, sphere with plane
4. To know about different the types of conics, ex: cone, cylinder etc.

CO: 1*(UNIT-1) *The Plane **(No. of hours: 12)**

Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes, Combined equation of two planes, Orthogonal projection on a plane.

CO: 2*(UNIT-2) *The Line **(No. of hours: 12)**

Equation of a line; Angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; Number of arbitrary constants in the equations of straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance between two straight lines; Length of the perpendicular from a given point to a given line;

CO: 3*(UNIT-3) *Sphere **(No. of hours: 12)**

Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle; Intersection of a sphere and a line; Power of a point; Tangent plane; Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes; Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres; Simplified from of the equation of two spheres.

CO:4*(UNIT-4) *Cones **(No. of hours: 12)**

Definitions of a cone; vertex; guiding curve; generators; Equation of the cone with a given vertex and guiding curve; Enveloping cone of a sphere; Equations of cones with vertex at origin are homogenous; Condition that the general equation of the second degree should represent a cone; Condition that a cone may have three mutually perpendicular generators; Intersection of a line and a quadric cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a common vertex;

CO:5*(UNIT-5)*Cones& Cylinders **(No. of hours: 12)**

Right circular cone; Equation of the right circular cone with a given vertex; axis and semi-vertical angle. Definition of a cylinder; Equation to the cylinder whose generators intersect a given conic and parallel to a given line; Enveloping cylinder of a sphere; The right circular cylinder; Equation of the right circular cylinder

Course Outcomes:

1. The outcome of this course solid Geometry is motivated the students to go to the area of research.
2. The student will get full knowledge that how to calculate volume, surface area etc.
3. Student acquire knowledge of mechanism of controlling a robot, and its construction and design of instruments which will be used for music.
4. Students will be able understand pictures animation and computer graphics.

Prescribed Text Book: A text book of Mathematics for BA/B.ScVol 1, by V Krishna Murthy & Others, Published by S. Chand & Company, New Delhi.

Practical's Solid geometry Problem Solving Sessions

CO:1 **The Plane**

CO:2 **The Line**

CO:3 **Sphere**

CO:4 **Cones**

CO:5 **Cones& Cylinders**

Program Specific Objective: With the help of this solid geometry for example we can visualize the axes drawn on a floor of a room but we cannot locate a point on the roof of that room. this is due to

room having three dimensional which we call length, breadth and height. A box, a ball, a pillar, a conical funnel etc.., are objects which occupy points in three-dimensional space (R^3).

The branch which deals with the nature and finding of such object in (R^3), is three dimensional or solid geometry. We can describe various forms of equations of different three-dimensional objects like plane, Straight line, Sphere, Cone and Conicoid etc...

Imagining a moving point to trace on a surface does not seem to be natural. We can trace the point by using this three-dimensional geometry.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE & PG COURSES
(Autonomous)
B.Sc. PHYSICS SYLLABUS UNDER CBCS
W.e.f 2015-16 Admitted batch
B.Sc. 2nd Semester Physics
Paper II: Waves & Oscillations

Workload: 60 hours per semester **4hrs/week**
Credits: 3

Course Objectives:
This course would empower the student to acquire skills and practical knowledge, which help the student in their everyday life. This syllabus will cater the basic requirements for their higher studies. This course will provide a theoretical basis for doing experiments in related areas.

UNIT I CO1

1. Simple Harmonic oscillations : 12 hrs

Simple harmonic oscillator and solution of the differential equation-Physical characteristics of SHM, torsion pendulum-measurements of rigidity modulus, compound pendulum- measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies. Lissajous figures.

UNIT II CO2

2. Damped and forced oscillations: 12 hrs

Damped harmonic oscillator, solution of the differential equation of damped oscillator. Energy considerations, comparison with un-damped harmonic oscillator, logarithmic decrement, relaxation time, quality factor, differential equation of forced oscillator and its solution, amplitude resonance and velocity resonance.

UNIT III CO3

3. Complex vibrations : 10 hrs

Fourier theorem and evaluation of the Fourier coefficients, analysis of periodic wave functions-square wave, triangular wave, saw tooth wave

UNIT IV CO4

4. Vibrating strings : 8 hrs

Transverse wave propagation along a stretched string, general solution of wave equation and its significance, modes of vibration of stretched string clamped at ends, overtones, energy transport and transverse impedance.

5. Vibrations of bars : 9 hrs

Longitudinal vibrations in bars-wave equation and its general solution. Special cases i) bar fixed at both ends ii) bar fixed at the midpoint iii) bar free at both ends iv) bar fixed at one end. Tuning fork.

UNIT V CO5

6. Ultrasonic's : 9 hrs

Ultrasonic's, properties of ultrasonic waves, production of ultrasonic's by piezoelectric and magnetostriction methods, detection of ultrasonic's, determination of wavelength of ultrasonic waves. Applications of ultrasonic waves.

Course Outcomes:

CO1. Understand the Simple harmonic oscillator and solution of the differential equation-Physical characteristics of SHM.

CO2. Understand the damped harmonic oscillator, solution of the differential equation of damped oscillator.

CO3. Understand concept ofFourier theorem and evaluation of the Fourier coefficients, analysis of periodic wave functions-square wave and saw tooth wave.

CO4. Understand the concept of Transverse wave propagation along a stretched string, general solution of wave equation

CO5. Understand the concept of ultrasonic's, properties of ultrasonic waves and its applications.

Reference Books

Sl. No.	Author Name	Book Title	Publisher's Name	Place	Year
1.			Telugu Academy	Hyderabad	
2.	N. Subramanyam &Brijlal	Waves and Oscillations	Vikas Publications		
3.	S.L. Gupta & S. Guptha	Unified Physics, Vol. I.	Jai Prakash Nath & Co. Ltd.	Meerut	
4.	Halliday, Resnick, Walker	Fundamentals of Physics	Wiley India Edition		2007
5.	S. Badami, V. Balalsubramanian& K.R. Reddy	Waves and Oscillations	Orient Longman		
6.	T. Bhimasankaram& G. Prasad	College Physics-I	Himalaya Publishing House		

7.	Baldevraj	Science and Technology of Ultrasonics	Narosa Publications	New Delhi	2004
8.	F.J. Buche	Introduction to Physics for Scientists and Engineers	Mcgraw Hill		

Smart Class URL'S

S.NO	CO	UNIT	URL
1	CO1	I	https://www.youtube.com/watch?v=nu8xQ_w-biA
2	CO2	II	https://www.youtube.com/watch?v=t8FIvBOdEtk
3	CO3	III	https://www.youtube.com/watch?v=KWmt1i6lB-U
4	CO4	IV	https://www.youtube.com/watch?v=MwXWqTVjau0
5	CO5	V	https://www.youtube.com/watch?v=Kb_uB3GXGwg

Practical Paper 2: Waves & Oscillations

3hrs/Week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1) Determination of 'g' by compound/bar pendulum
2) Simple pendulum normal distribution of errors-estimation of time period and the error of the mean by statistical analysis
3) Determination of the force constant by static and dynamic method and evaluation of 'g'.
4) Determination of the elastic constants of the material of a flat spiral spring.
5) Determination of moment of inertia of a cylindrical rod -bifilar suspension
6) Verification of laws of vibrations of stretched string –sonometer
7) Determination of velocity of transverse wave along a stretched string-sonometer
8) Determination of frequency of a bar –Melde's experiment.
9) Study of a damped oscillation using the torsional pendulum immersed in liquid-decay constant and damping correction of the amplitude.
10) Lissajous figures-CRO
11) Rigidity modulus of material of a wire-dynamic method (torsional pendulum)

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
I YEARB.Sc:: SEMESTER - II
SYLLABUS W.E.F 2015-16 Admitted Batch
Paper-II :PROGRAMMING IN C

4 Hours/Week
Credits: 3

Course Objectives

1. Learn how to solve common types of computing problems.
2. Learn data types and control structures of C
3. Learn to map problems to programming features of C.
4. Learn to write good portable C programs.

UNIT I : [CO-1]

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

UNIT II : [CO-2]

Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration

UNIT III : [CO-3]

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one

dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices

Strings: Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT IV : [CO-4]

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - **CO1:**Aftersuccessful completion of the course, a student should able toAnalyze a given problem and develop an algorithm to solve the problem using basic programming concepts in C.

Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Pointer and 2D Arrays – Pointer and 3D Arrays – Function Pointers – Array 0f Function Pointer – Pointers to Pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types

UNIT V : [CO-5]

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File

REFERENCE BOOKS

1. Introduction to C programming by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. E Balagurusamy: ―COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw-Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
4. Henry Mullish&HuubertL.Cooper: The Spirit of C An Introduction to modern Programming, Jaico Pub. House,1996.

CO2: After successful completion of the course,a student should be able to design programs involving decision structures, loops and functions.

CO3 : After successful completion of the course,a student should be able to understand the concepts of Arrays and Strings in C language.

CO4 : After successful completion of the course,a student should be able to understand the concepts of pointers and Structures and Enums.

CO5: After successful completion of the course,a student should be able to understand the Concepts of Files in C language.

Web Links:

- https://www.youtube.com/watch?v=wiY0O_tHyrI&list=PLJvIzs_rP6R73WlvumJvCQJrOY3U5zq1j&index=6
- https://www.youtube.com/watch?v=CY6GvNtSxdI&list=PLJvIzs_rP6R73WlvumJvCQJrOY3U5zq1j&index=28
- https://www.youtube.com/watch?v=3loZ0NOc4Wc&list=PLWPirh4EWFpEK1RbpruFXrwgzcGUjZ4nV&index=4
- https://www.youtube.com/watch?v=rNC9SSfQHDg&list=PLJvIzs_rP6R73WlvumJvCQJrOY3U5zq1j&index=9
- https://www.youtube.com/watch?v=fWOnJFzOHYM&list=PLJvIzs_rP6R73WlvumJvCQJrOY3U5zq1j&index=46

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
I YEAR B.Sc :: SEMESTER-II
Paper-II :PROGRAMMING IN C

w.e.f 2015-16 Admitted Batch

PROGRAMMING IN C LAB

3 Hours/Week
Credits: 2

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a C program to find the sum of individual digits of a positive integer.
4. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C program to print the Fibonacci series
5. Write a C program to generate the first n terms of the Fibonacci sequence.
6. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.
7. Write a C program to find both the largest and smallest number in a list of integers.
8. Write a C program that uses functions to perform the following:
    a. Addition of Two Matrices
    b. Multiplication of Two Matrices
9. Write a program to perform various string operations
10. Write C program that implements searching of given item in a given list
11. Write a C program to sort a given list of integers in ascending order

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)
NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)
SEMESTER-III COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	First Language (Telugu/Hindi/Sanskrit)	100	25	75	4	3
2	Second Language (English)	100	25	75	4	3

3	Foundation Course-5 (ICT-II)	50	0	50	2	2
4	Foundation Course- 6 (CSS-II)	50	0	50	2	2
5	Mathematics(paper-III)	100	25	75	5	3
6	Mathematics Practical-III	50	0	50	2	2
7	Physics(Paper-III)	100	25	75	4	3
8	Physics Practical-III	50	0	50	3	2
9	Computer Science(Paper-III)	100	25	75	4	3
10	Computer Science Practical-III	50	0	50	3	2
	TOTAL	750			33	25

Hours : 60
Credits : 3

Admitted Batch : 2015-16

సాహితీ సౌరభం

Gayathri Vidya Parishad College for Degree and PG Courses (Autonomous)
Visakhapatnam
విషయ సూచిక - సెమిస్టర్ -3

సంకలనం
సాహితీ సౌరభం
తెలుగు పాఠ్యపుస్తకం
మారుతీ పబ్లికేషన్స్
గుంటూరు

PROGRAMME OBJECTIVE : డిగ్రీలో తెలుగు భాషా బోధన లక్ష్యం.
మాతృభాషలో శ్రవణం, భాషణం, అధ్యయనం లేఖనం - ఈ నాల్గింటికి విద్యార్థులు కౌశలము సాధింతురు. ఇవి వారి సర్వతోముఖాభివృద్ధికి దోహదపడతాయి.

	ప్రాచీన కవిత్వం	పాఠ్య ప్రధానోద్దేశము - **Course Outcome**
CO 1	1. వామనావతారం - బమ్మెర పోతన	ఇచ్చిన మాట తప్ప కూడదని, అసత్యం పాపహేతువని మూడడుగుల నేల దానం చేసిన బలిచక్రవర్తి మహాదాన గుణశీలం విద్యార్థులకు ఆదర్శంగా నిలుస్తుంది.
CO 2	2. శాలివాహన విజయం - కొఱవి గోపరాజు	విక్రమార్కుని ఔదార్యం, నాట్యకళా ప్రావీణ్యం, పరమేశ్వర వరగర్వితుడై శాలివాహనునితో యుద్ధం చేసి వీరమరణం పొందడం, మానవశక్తి కంటే దైవశక్తి గొప్పదని విద్యార్థులు గ్రహిస్తారు.
CO 3	3. హరిజనశతకం - కుసుమ ధర్మన్న	జాతిపిత గాంధీజీ, డాక్టరు బి.ఆర్.ఆంబేద్కర్‌ల ప్రభావంతో హరిజనులు ఆత్మవిశ్వాసంతో జన్మహక్కులకు పోరాడుతూ జాతీయవాదాన్ని సందేశాత్మకంగా చాటిన పాఠం.
CO 3	4. సంక్రాంతి సంబరం - రాయప్రోలు సుబ్బారావు	పండుగలలో సంక్రాంతి ముఖ్యమైనదని తెలుగువారి సంస్కృతీ వైభవం, ప్రకృతిలో సూర్యపరంగా ఏర్పడిన పర్వదినంగా గ్రహిస్తారు.
CO 4	5. తెలుగుభాష - ఆచార్య గుజ్జర్లమూడి కృపాచారి	తెలుగుభాష పుట్టుపూర్వోత్తరాలు, ప్రశస్తి సాహిత్య చరిత్ర, భాషాభివృద్ధికి సూచనలు. ప్రపంచీకరణ నేపథ్యంలో తెలుగుభాషకు పొంచి ఉన్న ప్రమాదములు విద్యార్థులు గ్రహిస్తారు.
CO 5	6.వ్యక్తిత్వ వికాసం - ఆచార్య రాచపాళెం చంద్రశేఖరరెడ్డి	వ్యక్తి-వ్యక్తిత్వం-వ్యక్తిత్వ వికాసం వీటిని చక్కని దృష్టాంతాలతో రచయిత వివరించారు. సహాయం చేయడం, సవాళ్లనుఎదుర్కొని పరిష్కరించడం, ఆశావాదం, సానుకూల దృక్పథం, తార్కికత మొదలయిన విషయములు విద్యార్థుల వ్యక్తిత్వ వికాసమునకు దోహదపడుతుంది.
CO 1	5. వ్యాకరణం - ఛందస్సు, ఉత్పలమాల, చంపకమాల,శార్దూలము మత్తేభము, కందము, తేటగీతి, ఆటవెలది	విద్యార్థులలో సృజనాత్మకతకు, ఊహా కల్పనలకు, కవితా వ్యవసాయానికి ఛందోమయ రచనా విన్యాసమునకు సహకరిస్తుంది.
CO 1	6. వ్యాకరణం - అర్థాలంకారములు (1) ఉపమ(2) రూపకము(3)ఉత్ప్రేక్ష (4) స్వభావోక్తి (5) అతిశయోక్తి (6) అర్థాంతరన్యాసము (7) దృష్టాంతము (8) శ్లేష	తెలుగులో అర్థపరమైన పరిజ్ఞానం, నైపుణ్యం సాధించ దానికి దోహదపడేవి అలంకారములు

GAYATRI VIDYA PARISHADCOLLEGE FOR EGREE& P.G.COURSES[A]
B.Com/B.Sc/BBA/BCA

HINDI SYLLABUS UNDER CBCS
THIRD SEMESTER
PAPER:3HINDI KAVYA DEEP
(w.e.f.Admitted Batch2015-2016)
Work load:60 hrs per semester
4 hrs/week

Course Objectives:

- विभिन्नक्षेत्रोंमेंसरकारी,गैरसरकारीकेविभिन्ननौकरियांजैसेअनुवादक,आशुलिपिक,टंकक,अद्यापक,हिन्दीअधिकारीआदिप्राप्तकरसकतेहै।
- विदेशीविश्वविद्यालयोंमेंहिन्दीकोएकभारतीयभाषाकेरूपमेंपढाईजातीहैंऔरइसकोपढानेकेलिएभारतकेविभिन्नविश्वविद्यालयोंसेआचार्योंकोभेजाजाताहैं।
- स्नातककेलिएनिर्धारितपाठ्यक्रमविध्यार्थियोंकोस्नातकोत्तरस्तरपरआसेटऔरआरसेटदोनोंभरतीपरीक्षाओंकेलिएउपयोगीहै।
- सरकारीएवंनिजीस्थारपरअनेकउच्चअधिकारीपरीक्षाओंकेलिएहिन्दीभीएकउपविषयकेरूपमेंचयनकियाजाताहै।जिसकेलिएहमारास्नातकपाठ्यक्रमभीमहत्वपूर्णसिद्दहोगा।
- स्नातकस्तरकीपाठ्यक्रममेंविभिन्नप्राचीनतथानवीनपद्यएवंगद्यलेखकोंकेरचनाओंकोसम्मिलितकियागयाहै।
- इसपाठ्यक्रमकेअतर्गतप्राचीनकविता, आधुनिककविता, हिन्दीसाहित्यकाइतिहास ,निबंध ,अनुवादएवंप्रयोजनमूलकहिन्दीकोरखागयाहै।

unit-1[12hrs]

कबीरदास -साखी

प्राचीनकविताकेअंतर्गतकबीरदासएकसमाजसुधारकहैं।जिसकीकविताआजवर्तमानयुगमेंभीप्रासंगिकहै।कबीरदासमेंसमाजकेसुधारसंबंधीनीतीसंबंधीऔरज्ञानसंबंधीअनेकदोहोंकीरचनाकियेहैं।

सूरदास-

बालवर्णन:सूरदासभक्तिकालकीप्राचीनकविहैं।इन्होंनेबालकृष्णकीबालचेष्टाओंकावर्णनतथाकृष्णकेआध्यात्मिकरूपकोदर्शायाहैंजोअत्यंतमनोवैज्ञानिकहैं।सूरदासआंखसेअंधेहोनेपरभीउनकोजोप्रतिभाकाजोरूपदिखाईदेताहैं। जिससेपताचलताहैकिज्ञानेंद्रियकीकमीहोनेपरभीयदिमनुष्यकुछपानाचाहेतोप्रतिभाऔरश्रमकेकारणपासकताहै।इसीप्रकारसूरदासजीविश्वविख्यातहुए।विद्यार्दियोंकोइससेसीखमिलतीहैकिसाधनाऔरतपसेकूछभीप्राप्तकरऔरजीवनमेंआगेबढसकतेहैं।

Unit-2[12hrs]

मातृभूमि

यहमैथिलीशरणगुप्तकीआधुनिककाव्यहै।मातृभूमिकवितामेंकविबतायाहैकिमातृभूमिहीहमारीजन्मदात्रीहै।ह मारापोषणकरतीहैऔरअंतमेंअपनेमेंसमालेतीहै, अत:अपनीमातृभूमिकीरक्षाकरनाहमारापरमकर्तव्यहै।

तोडतीपत्तर:प्रगतीवादीआधुनिककविसूर्यकांतत्रिपाठीनिरालानेइसकवितामेंएकश्रमिकमहिलाकाश्रमऔरउ सकाशोषणकायथार्थचित्रणप्रस्तुतकियाहैं।तोडतीपत्तरमेंश्रमकेमहत्वकोबतातेहुएप्रलोभनोंसेदूररहनेकाउपदेश दियाहै।

गीतफरीश:इसकवितामेंहिन्दीकीवर्तमानदिशाकोदर्शायागयाहै।आजवर्तमानकविकीविसंगतियहहैकिकविअप नीगीतोंकोबेचनेकीदुर्दशासेपीढितहैं।अत:
इसकृत्रिमताकेवर्तमानसेदूररहकरजबसमाजकीसत्यकोअपनीकविताओंमेंजोकविचित्रितकरताहैतभीसमाजका हितसंभवहै।

Unit-3[12Hrs]

हिन्दीसाहित्यकाइतिहास :

हिन्दीसाहित्येतिहासकेअध्ययनसेहमहिन्दीकेविभिन्नकवियोंऔरलेखकोंकीजीवनियंतथाउनकीरचनाओंकीजान कारीमिलतीहै।हमगद्य ,
पद्य , कहानी , नाटक , उपन्यास , आधुनिककालकासाहित्यआदिकाविस्तृतपरिचयप्राप्तकरसकेंगे।
हमेंयुगीनपरिस्थितियोंपुररम्पराओंआदिकापरिचयप्राप्तकरेंगे।किसीभीयुगकासमाजकैसाथाहमउसयुगकीसाहि त्यकोपढकरहीसमझसकतेहैं।औरउसीकेआधारपरआगेकीप्रगतिकोभीअनुमानलगासकतेहै।
भक्तिकाल
:हिन्दीसाहित्यकाइतिहासमेंहिन्दीसाहित्यकेआरंभसेवर्तमानसमयतककेभाषाऔरसाहित्यकेविकासकाअध्ययन कियाजाताहै।किसीभीयुगकासमाजकैसाथाहमउसयुगकीसाहित्यकोपढकरहीसमझसकतेहैं।औरउसीकेआधारप रआगेकीप्रगतिकोभीअनुमानलगासकतेहै।समयपरिवर्तनशीलहै
,समयकेअनुसारसमाजमेजोपरिवर्तनहोताहैवहसाहित्यमेंभीदेखाजासकताहैं।साहित्यकीइतिहासकोचारभागों मेंभांटागयाहै।वेआदिकाल,भक्तिकाल,रीतिकाल,आधुनिककाल।स्नातकपाठ्यक्रमकेअंतर्गतभक्तिकालहै।एवंउन कीशाखाओंकापरिचयसम्मिलितहै।जिसकेअंतर्गतज्ञानाश्रयशाखाएवंउसकेकविएवंप्रेमाश्रयशाखाएवंउसकेकवि तथाविशेषताएंसम्मिलितहैं।

Unit-3[12Hrs]

निबंध

निबंधकेअंतर्गतसामाजिकनिबंध,वैज्ञानिकनिबंधएवंसाहित्यकनिबंधोंकोरखागयाहै।जैसेसमाचारपत्र,बेकारी

कीसमस्या,कंप्यूटर,पर्यावरणऔरप्रदूषण,साहित्यऔरसमाज

समाचारपत्र:सबकोज्ञानप्राप्तहोताहै।

बेकारीकीसमस्या:

उससमस्याकोजानकरदूरकरनेकाप्रयासकरसकतेहैं।
कंप्यूटर:सामान्यजनताकंप्यूटरको "विशालमस्तिष्क"

कीसंज्ञादेतीहै।विज्ञानकेनित्यनवीनबढतेचरणोंनेमानवकोएकअपूर्णशक्तिकंप्यूटरमेंप्रदानहै।
<u>पर्यावरणऔरप्रदूषण</u>:

पृथ्वीपरस्थितजैवतथाअजैवपदार्थोंकेसहसम्बन्धकोपर्यावरणकहाजताहै।प्रदूषणकेप्रकारएवंप्रदूषणसेनष्टजानक रदूरकरनेकाप्रयासकरसकतेहै।
<u>साहित्यऔरसमाज:</u>

साहित्यमानवकेभाषाबद्दविचार -

प्रवाहकानामहै।साहित्यसमाजकादर्पणहै।समाजकीउन्नितथाअवनतिमेंसाहित्यकोप्रमुखस्थानरहताहै।
<u>Unit-4[12Hrs]</u>
<u>अनुवाद</u>
अनुवादअर्थातआदानप्रदानएकभाषाविचारकोदूसरीभाषामेंअंतरणकरनाअनुवादहै।अनुवादकेद्वा्राविश्वकेस भीभाषाओंकेसाहित्यसमाजऔरसंस्कृतिकोजानाजासकताहै।अनुवादपरकायाप्रवेशकेसमानहै।अनुवादआदानप्र दानकेसमानहैअनुवादआदानप्रदानकाएकउत्तममाद्यमहै।विशेषकरछात्रोंकेलिएउपयोगीसिद्दहोताहैं।विश्वमेंअ नेकतकनीकीपुस्तकेविदेशीभाषामेंलिखीगईहैं।उनकोभारतीयअन्यभाषाओंमेंअनुवादकरविषयकोसरलतासेसी खाजासकताहै।
<u>Unit-5[12Hrs]</u>
<u>प्रयोजनमूलकहिन्दी</u>
कार्यालयीहिन्दीकेअंतर्गतविभिन्नतकनीकीशब्दावलीअंग्रेजीसेहिन्दी ,हिन्दीसेअंग्रेजीतथापत्रलेखन

,पत्रकेविभिन्नरूपोंकाअध्ययनकरायाजाताहै।कार्यालयीहिन्दीकेज्ञानसेएकऔरविद्यार्थियोंकोस्नातकोत्तरस्थान

परविभिन्नप्रतिस्पर्दाओंमेंभागलेनेसरकारीतथागैरसरकारीकार्यालयोंमेंनौकरीप्राप्तकरनेतथासरकारीउच्चस्थरप रहोनेवालेविभिन्नपरीक्षाओंमेंसफलताप्राप्तकरनेमेंअत्यंतउपयोगीहैं।
<u>Courses out comes</u>:

CO1छात्र-

छत्रोंकोइनदोहोंकेमाद्यमसेएकसमाजमेंएकउत्तमनागरिककेरूपमेंसमाजकीसेवाकिसतरहकरनाचाहिएइसकी शिक्षामिलतीहै।जबसमाजकीसत्यकोअपनीकविताओंमेंजोकविचित्रितकरताहैतभीसमाजकाहितसंभवहै।मातृ भूमिकीरक्षाकरनाहमारापरमकर्तव्यहै।
CO2कालोंकीमुख्यप्रवृत्तियोंसेपरिचयहोकरसाधारणहिन्दीपाठकहिन्दीसाहित्यकीजानकारीप्राप्तकरसकेगा। साहित्यकेइतिहासकेमाद्यमसेहमतत्कालीनसमाज,सामाजिक,राजनीतिक,सांस्कृतिक,आर्थिकएवंसाहित्यकप

रिस्थितियोंकेबारेमेंज्ञानप्राप्तकरसकतेहैं
CO3निबंधोंकेमाध्यमसेविध्यार्थियोंकोसामान्यज्ञानप्राप्तहोताहैजैसेउन्हेंजीवनमेंबहुउपयोगीसिद्दहै।
CO4स्नातकस्तरपरछात्रोंओंकोअनुवादसाहित्यकऔरअनुप्रयोगिकमाध्यमसेसिखाजारहाहै,

जोउनकोभविष्यमेंअत्यंतलाभाकारीसिद्दहोग
CO5कार्यालयीहिन्दीकेज्ञानसेसरकारीतथागैरसरकारीकार्यालयोंमेंनौकरीप्राप्तकरनेतथासरकारीउच्चस्थरपरहोनेवालेविभिन्नपरी क्षाओंमेंसफलताप्राप्तकरनेमेंअत्यंतउपयोगीहैं।

REFERENCE BOOKS:

SNO	Author Name	Book Title	Publisher's Name
1.	B.Radha Krishna Murthi	Hindi Kavya Deep	Maruthi Publications
2.	Dr.Nagander	Hindi sahitya ka itihas	Maruthi Publications
3.	Dr.S.Krishnababu	Prayojanmulakhindi our anuad ka sandharb	Geeta Prakashnan

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G. COURSES (A)
DEPARTMENT OF *SAMSKṚTAM*
B.Sc./B.Com/B.B.A./B.C.A
(w.e.f.Admitted Batch2015-2016)

Work load:60-hrs per semester

Credits:3 4hrs/week

Part - I (A) *SAMSKṚTAM* :: SEMESTER - III

Unit – I[CO1] Drama: *1. DŪTAVĀKYAM* - One Act Play by *Bhāsa-CO-1*
(*Śloka*no.s 7, 16, 20, 26, 27, 31, 40, 41 are only to be given for *Pratipadārthatātparyalekhanam*)
Unit-2 [CO2] ADHUNIKA RUPAKA VIBHAGAHA—Asaninirasam

Unit – III[C03]*Upanishad*: *2 .ŚIṢYĀNUŚĀSANAM - Śikṣāvallī* of *TAITTARĪYOPANIṢAD-CO-2*

Unit – IV[C03]*Alamkāra*-s *1.Upamā 2. Ananvaya 3. Utprekṣā–CO-3*
4. Dīpakam5.Aprastutapraśamsā*Unit – III *Alamkāra*-s *1.Dṛṣṭānta. 2. Arthāntaranyāsa 3. Virodhābhāsa 4. Ullekhah
5.Vyājastutih

Unit – V [CO5]History of Poetics: *1. Pāṇinīh 2. Kauṭilyah 3. BharataMunih–4.Bharavih5.Maghaha*

Grammar: 1. *ŚABDĀH* - Nouns ending in consonants-[CO1]
1. Vāk 2. Marut
3. Bagavat 4. Rājan

2. KṚTPRATYAYĀH – Ktvā, Lyap, Tumun, Kta,
Grammar: 1. *ŚABDĀH* - Nouns ending in consonants *1. Vidvas 2. Manas*
Pronouns:*1.Asmad 2. Yuşmad*

2. KṚTPRATYAYĀH –Ktavat, Śatṛ, Śānać, Tavya.[CO2]

Course Out comes

1. प्राचीनरूपकविभाग:

   दूतवाक्यम्

   रूपकाणाम् दर्शनेन मनोविकासं भवतीति दृश्यकाव्यस्य प्राधान्यं जगति वर्तते । अत: तूतीय सेमिष्टर मध्ये रूपकाणाम् परिचय: कृत: । प्राचीन रूपकेषु आद्यरूपककर्ता भासमहाकवि: इति सर्वै: अंगीक्रियते । अत: भासमहाकविविरचित दूतवाक्यम् इति रूपक: पाठ्यभागे नियोगितवन्त: ग्रन्थकर्तार: । दूतवाक्य रूपके दुर्योधनस्य पात्रचित्रणे तस्य दुर्गुणा: ,सोदरसम्बन्धविषये तस्य अनुचितप्रवर्तना इत्यादि विषया: विद्यार्थिनां अवगन्तुं शक्यते । सुजनजनविषयेषु दुर्जनजनानाम् अनुचितप्रवर्तना , अपि च सुजनजना: कथं सहेयु: इति तेषां सहनशीलता, अनुचितप्रवर्तनेन दुर्योधनादीनाम् कथं विनाशस्थिति: भवतीति सुस्पष्टेन विशदीकृत: ।

2. आधुनिकरूपकविभाग:

   अशनिनिरासम्

   वैज्ञानिकविषया: संस्कृतसाहित्ये नैका: विद्यन्ते । अशनि: कथं भवतीति अशने: प्रादुर्भाव: अशने: निर्माणविधानम् , तस्य पतनविधानम् इत्यादि विषया: वैज्ञानिकसम्बन्धा: अस्मिन् पाठ्यभागे उपवर्णिता: । कलाप्रपूर्णा श्री विश्वनाथ सत्यनारायण महाकविना विरचितेषु अमूल्यग्रन्थेषु एक: ग्रन्थराज: ।

3. उपनिषदादेश:

   उपनिषद: पठनेन ज्ञानं भवति । उपनिषद: इति पदस्य वेदान्ता: इत्यपि अर्थ: विद्यते। प्रधान उपनिषत्सु एक: तैत्तरीयोपनिषत् । तत: शिष्यानुशासनम् इति पाठ्यभाग: विद्या परिसपास्यनन्तरं के के आचरणीया: इति विषया: गुरुमुखत: ज्ञातव्या: ।अत: अयं पाठ्यांश: विद्यार्थिनाम् अत्यन्त उपयोगकारी भवतीति विदित:।

4. अलंकारा:

   अलंकारा: पठनेन श्लोकेषु के के अलंकारा: विद्यन्ते इति अवगतं भवति । अलंकाराणाम् प्रयोग: ये कवय: प्रयोगितवन्त: तेषां रचनापद्धति: तेषां अलंकारप्रयोगा: ज्ञातुं शक्यते विद्यार्थिन: ।

5. व्याकरणम्

   शब्दा: – शब्दा: अभ्यसनेन शब्दप्रयोगा: शब्द्ज्ञानं भवति ।शब्दज्ञानेन वाक्यनिर्माणं अवगम्यते ।

   प्रत्यया:- कृदन्त प्रयोगा: केषां मेलनेन भवति प्रयोगा: कथं भवन्ति इति विषय:।

Text book:

1. ***VIŚVABHĀRATĪ*** **-3** - Developed and approved by the Sanskrit subject experts committee, Published by
Lorven Publications, Hyderabad, 2015.

2. ***DAIVĪ VĀK*** **-2 -** Developed and approved by the ***Samskṛtam*** subject experts' committee, Published
byMaruthi Publishing House, Hyderabad, 2010

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G. COURSES (A)
SEMESTER-III ENGLISH PAPER-III
(w. e. f 2016-17 admitted batch)

TOTAL HOURS: 54 **CREDITS:3**

Course Objectives-:

1. To make the students read and comprehend text based passages.
2. To make the students understand stress and rhythm patterns employing poetic devices
3. To make students learn the four skills of listening, speaking, reading, and writing more effectively.
4. To make students familiar with dialogue writing and reading.
5. To make students know combination of words and transformation of sentences

CO 1 UNIT – I Prose **No. of hours: 10**

1.Shyness My Shield –M.K.Gandhi
2.Why People Really Love Technology an Interview with Genevive Bell – Alexix Madrigal

CO 2 UNIT – IIPoetry **No. of hours: 10**

1.Once Upon a Time – GabrielOkara
2.Digging – Seamus Heaney

CO 3 UNIT – IIIShort Story **No. of hours: 10**

The Interpreter of Maladies –Jhumpa Lahari

2. My Beloved Charioteer – Shashi Deshpande

CO 4 UNIT – IV **No. of hours:8**

KanyaSulkam- Gurajada. Apparao

CO 5 UNIT – VGrammar&Language Activity: **No. of hours: 16**

1. Transformation of Sentences -Simple, Complex and Compound
2. Error Analysis
3. Expansion of an Idea or a proverb,
4. Report writing,
5. Reporting for the media
6. Vocabulary
7. JAM, Note Making

Course outcomes-:

CO 1: Enable the students enhancing their higher order skills like analytical skills, problem solving skills, reviewing and critical thinking.

CO 2: Enable students improve and understand intonation patterns in language.

CO 3:Enable the students understand literary, cultural and higher order literary aspects.

CO 4:

CO 5: Enable students improve English language skills through text based exercises

TEXT AND REFERENCE BOOKS FOR THEORY (SEMESTER – III)

Global Horizons Orient Black Swan

Wren and Martin

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
Foundation Course - 5
INFORMATION & COMMUNICATION TECHNOLOGY –2 (ICT-2)
Internet Fundamentals and Web Tools
Common for BA / BCom / B Sc / BBA /BCA Programmes
III Semester
SYLLABUS W.E.F 2015-16 Admitted Batch
(30 Hours of Teaching Learning including Lab)

2 Hours/Week
Credits: 2

Unit-I : [CO-1]

Fundamentals of Internet : Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.

Unit-II: [CO-2]

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumblr, Linkedin, facebook, flickr, skype, yelp, vimeo, yahoo!, google+, youtube, WhatsApp, etc.

Unit-III : [CO-3]

E-mail : Definition of E-mail - Advantages and Disadvantages – UserIds, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management,Email Inner Workings.

Unit IV: [CO-4]

WWW- Web Applications, Web Terminologies, Web Browsers,URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-V : [CO-5]

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags –Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

CO-1: Understand different types of networks, internet and its applications.
CO-2: Identify and use Internet browser features.
CO-3: Understand about Internet tools, E-mail systems, Search Engines, WWW and Social networking.
CO-4: Understand aboutWeb Terminologies.
CO-5: Creating basic WebPages using various HTML tags.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

Web Links:

https://www.youtube.com/watch?v=YOXwcbwSEUo&list=PL04D5787E247DC324

https://www.youtube.com/watch?v=tfPfwDrfSP8&list=PL04D5787E247DC324&index=10

https://www.youtube.com/watch?v=QEtWL4lWlL4&list=PL04D5787E247DC324&index=13

https://www.youtube.com/watch?v=omuyzDmNaf4&list=PL04D5787E247DC324&index=14

https://www.youtube.com/watch?v=WRdTXaz4_Ls&list=PL04D5787E247DC324&index=15

G.V.P. COLLEGE FOR DEGREE AND P.G. COURSES (A)
SEMESTER-III (w. e. f 2016-17 admitted Batch)
Foundation Course-6
COMMUNICATION AND SOFT SKILLS-II

TOTAL HOURS: 26 **CREDITS: 2**

1. To make the students learn the sounds of International Phonetic Alphabet (IPA).
2. To make the students learn the importance of stress and intonation patterns for the clarity in speech.
3. To make students learn employability skills to succeed in interviews through effective speaking.
4. To make the students learn the importance of Debating and Group Discussion.
5. To make students learn effective writing skills

CO 1 UNIT – I

Pronunciation-1**No. of hours: 4**

1.The sounds of English

CO 2 UNIT – II **No. of hours: 4**

Pronunciation- 2

1.Stress

2.Intonation

CO 3 UNIT – III Speaking Skills **No. of hours: 6**

1.Conversational skills

2.Interview Skills

3.Presentation Skills

4.Public Speaking Skills

CO 4 UNIT – IV **No. of hours: 6**

1.Role Play

2. Debating

3.Group Discussion.

CO 5 UNIT – V Writing Skills **No. of hours: 6**

1.Spelling

2.Punctuation

3.Information Transfer

Course outcomes-:

CO 1: Enable the students to pronounce the words in English correctly through phonemic transcription

CO 2: Enable students understand the role of stress and intonation in language learning.

CO3: Enable students to write with clarity using punctuation marks correctly.

CO4:Enable students prepare themselves for the placements.

CO5: Enable students to gain effective writing skills to excel at professional life.

TEXT AND REFERENCE BOOKS FOR THEORY (SEMESTER – III)

English in Use - Orient Black Swan

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B.Sc. Second year Mathematics Syllabus

Semester –III, Paper -III

Real analysis (w. e. f. 2015-16)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To learn about Real number system.
2. To know about real sequence, infinite series, continuous function, differentiability and Riemann integration.
3. To generate an infinite series from real sequence.
4. To know the theory behind derivatives this learnt in earlier classes.
5. To know the necessary and sufficient conditions for integrability.

CO: 1(UNIT-1) REAL NUMBERS (No. of hours: 12)

The algebraic and order properties of R, Absolute value and Real line, Completeness property of R, Applications of supreme property; intervals. (No Question is to be set from this portion).

Real Sequences: Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence.

The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit

Point of Sequence, Subsequences and the Bolzano-weierstrass theorem – Cauchy Sequences – Cauchey's general principle of convergence theorem.

CO: 2(UNIT-2) INFINITIE SERIES (No. of hours: 12)

Series: Introduction to series, convergence of series. Cauchey's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms.

1. P-test
2. Cauchey's n^{th} root test or Root Test.
3. D'-Alemberts' Test or Ratio Test.
4. Alternating Series – Leibnitz Test.

Absolute convergence and conditional convergence, semi convergence.

CO: 3(UNIT-3) CONTINUITY (No. of hours: 12)

Limits: Real valued Functions, Boundedness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. No. Question is to be set from this portion.

Continuous functions: Continuous functions, Combinations of continuous functions, Continuous Functions on intervals, uniform continuity.

CO: 4(UNIT-4) DIFFERENTIATION AND MEAN VALUE THEORMS (No. of hours: 12)

The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Role's Theorem, Lagrange's Theorem, Cauchhy's Mean value Theorem

CO: 5(UNIT-5) RIEMANN INTEGRATION (No. of hours: 12)

Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, integral as the limit of a sum, Mean value Theorems.

Course Outcomes:

1. Student acquired knowledge on basic concepts of natural numbers, integers and structure of real numbers.

2. students acquired the knowledge of discrete mathematise

3. Students will gain knowledge to use this concept in the coding of software filed.

4.Usefull to the students in the field of physics marine biology and bio-mathematics.

Prescribed Text Book: A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, Published by S. Chand & Company Pvt. Ltd., New Delhi.

Practical's Real Analysis Problem Solving Sessions

CO:1 **Real Numbers**

CO:2 **Infinite Series**

CO:3 **Limits and Continuity**

CO:4 **Differentiation and Mean value theorems**

CO:5 **Riemann Integration**

Program Specific Objective: The real number system is the foundation on which the whole branch of mathematics known as Real Analysis.We can write different ways to introducing the real number system.We shall study about Sequences, a special class of functions as it plays an important role in Analysis.We deal the Infinite series, Limit of a function, Continuity and Discontinuity of a function.We give the basic definition of derivability which is an emerging area not only in Mathematics; it has a huge application in Engineering and Science and in the field of Economics also.We will discuss the subject of integration in connection with the problem of finding area of a plane region is calculated as limit of a sum and is based on the geometrical concepts.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES (A)
B.Sc PHYSICS SYLLABUS UNDER CBCS
B.Sc 3rd SEMESTER PHYSICS
Paper III: Wave Optics
W.E.F admitted batch 2018-19

Work load: 60 hrs per semester **4 hrs/week**
CREDITS: 3

Course Objectives:
The course provides an extensive discussion of optical phenomena such as interference, diffraction, and polarization**.**

UNIT-I (8 hrs) CO1

1. Aberrations:

Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion. Chromatic aberration-the achromatic doublet.Achromatism for two lenses (i) in contact and (ii) separated by a distance.

UNIT-II (14hrs) CO2

2. Interference

Principle of superposition – coherence-temporal coherence and spatial coherence-conditions for interference of light.Fresnel'sbiprism-determination of wavelength of light –change of phase on reflection. Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films. Determination of diameter of wire, Newton's rings in reflected light. Michelson interferometer, Determination of wavelength of monochromatic light using Newton's rings and Michelson Interferometer.

UNIT-III (14hrs) CO3

3. Diffraction

Introduction, distinction between Fresnel and Fraunhoffer diffraction, resultant of n simple harmonic motions. Fraunhoffer diffraction –Diffraction due to single slit-Fraunhoffer diffraction due to double slit.Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens-difference between interference and diffraction.

UNIT-IV (10 hrs) CO4

4. Polarisation:

Polarized light: methods of polarization polarization by reflection, refraction, double refraction, scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, half wave plate-optical activity, determination of specific rotation by Laurent's half shade polarimeter-Babinet's compensator - idea of elliptical and circular polarization

UNIT-V (14hrs) CO5

5. Lasers and Holography

Lasers: introduction, spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laser-Applications of lasers. Holography: Basic principle of holography-Gabor hologram and its limitations, Applications of holography.

6. Fiber Optics

Introduction- different types of fibers, rays and modes in an optical fibers, fiber material, principles of fiber communication (qualitative treatment only), advantages of fiber optic communication.

Course Outcomes:

CO1: Understand about Aberrations; solve problems related to the phenomena.

CO2: Understand about interference; solve problems related to the phenomena.

CO3: Understand about diffraction; solve problems related to the phenomena.

CO4: Understand about Polarisation; solve problems related to the phenomena.

CO5: Realize the importance of advantages of fiber optic communication and applications of lasers.

Reference Books

Sl.No.	Author Name	Book Title	Publisher's Name	Place	Year
1.		II BSc Physics	*Telugu Akademy*	*Hyderabad*	
2.	Halliday/Resnick/Walker.*C*	Fundamentals of Physics	*Wiley India*		*2007*

3.	FA Jenkins and HG White	Optics	Mc Graw-Hill		
4.	N Subramanyam, L Brijlal	A Text Book of Optics	*S.Chand& Co*		
5.	BK Mathur	Principles of Optics	*Gopala Printing Press*		*1995*
6.		Unified Physics Vol.II Optics & Thermodynamics	*Jai Prakash Nath &Co.Ltd*	Meerut	
7.	Avadhanlu	Introduction of Lasers	*S.Chand& Co*		
8.	H.R. Gulati and D.R. Khanna	Fundamentals of Optics	R. Chand Publication		, 1991

Smart class URL'S

S.NO	CO	UNIT	URL
1	**CO 1**	**I**	https://www.britannica.com/technology/aberration
2	**CO 2**	**II**	https://www.toppr.com/guides/physics/wave-optics/interference-of-light-waves-and-youngs-experiment/
3	**CO 3**	**III**	https://www.toppr.com/guides/physics/wave-optics/diffraction/
4	**CO 4**	**IV**	hyperphysics.phy-astr.gsu.edu/hbase/phyopt/polref.html
5	**CO 5**	**V**	https://www.elsevier.com/books/lasers-and-holography/kock/978-0-435-55072-1

Practical Paper III: Wave Optics

3hrs/week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Determination of radius of curvature of a given convex lens-Newton's rings.
2. Resolving power of grating.
3. Study of optical rotation –polarimeter.
4. Dispersive power of a prism.
5. Determination of wavelength of light using diffraction grating-minimum deviation method.
6. Determination of wavelength of light using diffraction grating-normal incidence method.
7. Resolving power of a telescope.
8. Refractive index of a liquid-hallow prism
9. Determination of thickness of a thin wire by wedge method
10. Determination of refractive index of liquid-Boy's method.

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
II YEAR III SEMESTER
SYLLABUS W.E.F Admitted Batch 2015-16
Paper-III: OBJECT ORIENTED PROGRAMMING USING JAVA

4 Hours/Week
Credits: 3

Course Objectives

- Gain knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods etc.
- Understand the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods etc and exception handling mechanisms.
- Understand the principles of inheritance, packages and interfaces.

UNIT-1

FUNDAMENTALS OF OBJECT – ORIENTED PROGRAMMING : Introduction,Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **OVERVIEW OF JAVA LANGUAGE**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **CONSTANTS, VARIABLES & DATATYPES:**Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **OPERATORS & EXPRESSIONS**.

UNIT-II

DECISION MAKING & BRANCHING: Introduction, Decision making with if statement, Simple if statement, if. Else statement, Nesting of if. else statements, the else if ladder, the switch statement, the conditional operator. **LOOPING**: Introduction, The While statement, the do-while statement, the for statement, Jumps in loops.

CLASSES, OBJECTS & METHODS: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;

UNIT-III

INHERITANCE: Extending a class, Overloading methods, Final variables and methods, Final classes, Abstract methods and classes;

ARRAYS, STRINGS AND VECTORS: Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes;

INTERFACES: MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

UNIT-IV

MULTITHREADED PROGRAMMING: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

MANAGING ERRORS AND EXCEPTIONS: Types of errors : Compile-time errors, Run-time errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

UNIT-V

APPLET PROGRAMMING: local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state.

PACKAGES: Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package.

MANAGING INPUT/OUTPUT FILES IN JAVA: Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams, Reading and writing files.

Course Outcomes

Unit-I	Be able to understand the difference between object oriented programming and procedural oriented language and data types in java
Unit-II	Be able to understand classes and objects and Decision making and branching and looping techniques and in java
Unit-III	Be able to understand java features such as Operator overloading, inheritance, Polymorphism etc in java.
Unit-IV	Be able to understand Multithreaded programming and Exception handling in java .
Unit-V	Be able to understand Applet programming and Files and Packages in java.

Reference Books:

1. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill

Company.
2. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TATA McGraw-Hill Company.
3. Deitel&Deitel. Java TM: How to Program, PHI (2007)
4. Java Programming: From Problem Analysis to Program Design- D.S Mallik
5. Object Oriented Programming Through Java by P.Radha Krishna, Universities Press (2008)

Web Links:

https://www.youtube.com/watch?v=1B5ppTif5ZY&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=3

https://www.youtube.com/watch?v=K9gQwLeNXyw&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=7

https://www.youtube.com/watch?v=rxsl1TzcEgg&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=13

https://www.youtube.com/watch?v=TwU3cv1FFis&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=17

https://www.youtube.com/watch?v=0pzR2FGTEhk&list=PLfn3cNtmZdPOe3R_wO_h540QNfMkCQ0ho&index=5

OBJECT ORIENTED PROGRAMMING USING JAVA LAB

3 Hours/Week
Credits: 2

1. Write a program to perform various String Operations
2. Write a program on class and object in java

3. Write a program to illustrate Function Overloading &Function Overriding methods in Java
4. Write a program to illustrate the implementation of abstract class
5. Write a program to implement Exception handling
6. Write a program to create packages in Java
7. Write a program on interface in java
8. Write a program to Create Multiple Threads in Java
9. Write a program to Write Applets to draw the various polygons
10. Write a program which illustrates the implementation of multiple Inheritance using interfaces in Java
11. Write a program to assign priorities to threads in java

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)
NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)
SEMESTER-IV COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	Foundation Course-7 (CSS-II)	50	0	50	2	2
2	Foundation Course- 8 (Analytical Skills)	50	0	50	2	2
3	Foundation Course-9 (Enterpreneurship)	50	0	50	2	2
4	Foundation Course- 10 (Leadership Education)	50	0	50	2	2
5	Mathematics(paper-IV)	100	25	75	5	3
6	Mathematics Practical-IV	50	0	50	2	2
7	Physics(Paper-IV)	100	25	75	4	3

8	Physics Practical-IV	50	0	50	3	2
9	Computer Science (Paper-IV)	100	25	75	4	3
10	Computer Science Practical-IV	50	0	50	3	2
	TOTAL	650			29	23

GayatriVidyaParishad College for Degree and P.G.Courses(A)
B.Sc/B.Com/BBA/B.C.A (C.B.C.S)– FOURTH SEMESTER
FOUNDATION COURSE-7
Communication and Soft Skills-II

(With effect from 2016-17 Admitted Batch)

Max.Marks:50		**External : 50 Marks**

Course Objectives:

1. To promote personal growth as well as prepare students for success in life.
2. To instil interest in writing skills.
3. To make students improve drafting and documentation skills for professional excellence.
4. To make students improve their employability skills.

5.To make students ready for career search by building a bridge between campus and corporate.

SYLLABUS

Unit-I: Soft Skills

1. Positive Attitude
2.Body Language
3.SWOT/SWOC
4.Emotional Intelligence
5.Netiquette

Unit-II: Paragraph Writing

1. Paragraph Structure
2. Development of Ideas

Unit-III: Paraphrasing and Summarizing

1. Elements of Effective Paraphrasing
2. Techniques of Paraphrasing
3. What Makes a Good Summary
4. Stages of Summarizing

Unit IV Letter Writing

1. Letter Writing (Formal and Informal)
2. E-Correspondence

Unit IVResume and CV

1.Resume and Curriculum Vitae
2. Cover Letters

Course Outcomes

1. Enable students develop positive attitude, emotional intelligence and analytical abilities.
2. Enable students to improve critical and creative writing and thinking competencies
3. Enable students develop effective documentation skills.
4. Enable students improve upon their employability skills and life skills to be on the success side in their professional and social life.
5. Enable students improve life skills to be on the success side in their professional and social life.

Recommended Books:

1. Skills Pro-III Orient Black Swan.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

Foundation Course – 8, ANALYTICAL SKILLS

Syllabus, For all Degree Programmes.

w.e.f. 2015-16 (Revised in April, 2016)

Semester – IV

(Total 30 Hrs) 2 Hours/week

Credits - 2

CO: 1(UNIT – 1)

Data Analysis: The data given in a Table, Graph, Bar Diagram, Pie Chart, Venn diagram or a passage is to be analyzed and the questions pertaining to the data are to be answered.

CO: 2(UNIT – 2)

Sequence and Series: Analogies of numbers and alphabets completion of blank spaces following the pattern in a:b::C: d relationship odd thing out; Missing number in a sequence or a series.

CO: 3(UNIT – 3)

Arithmetic ability: Algebraic operations BODMAS, Fractions, Divisibility rules, LCM&GCD (HCF).

Date, Time and Arrangement Problems: Calendar Problems, Clock Problems, Blood Relationship.

CO: 4(UNIT – 4)

Quantitative aptitude: Averages, Ration and proportion, Problems on ages, Time-distance – speed.

CO: 5(UNIT – 5)

Business computations: Percentages, Profit &loss, Partnership, simple compound interest.

Reference Books:

S.No	Author	Name of Book	Publisher	Latest Edition
01	R S Agrawal,	Quantitative Aptitude for Competitive Examination	S.Chand publications	20th Edition 2013
02	R V Praveen	Quantitative Aptitude and Reasoning	PHI publishers	3rd Edition 2016
03	KiranPrakashan, Pratogitaprakasan, Kic X,	Quantitative Aptitude : Numerical Ability (Fully Solved)	KiranPrakasan publishers	5th Edition 2002

04	Abhijit Guha	Quantitative Aptitude for Competitive Examination	Tata Mc Graw hill	4th Edition 2010

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES(A)
II Year B. Sc / B.Com / B.B.A/B.C.A
Semester – IV
FOUNDATION COURSE-9
ENTREPRENEURSHIP
(w.e.f admitted batch 2015-16)

Max. Marks : 50

Course Objectives :

1. To acquire necessary knowledge and skills to become a successful entrepreneur.
2. To develop the ability of analyzing various aspects of entrepreneurship.
3. To identify and create business opportunities.

No. of Credits : 2 **No. of hours :2/ week**

CO 1: Unit-I:

Entrepreneurship: Entrepreneur characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations – Role of Entrepreneurship in economic development –Start-ups.

CO 2 Unit-II:

Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

CO 3 Unit-III: Project Formulation and Appraisal : Preparation of Project Report – Content; Guidelines for Report preparation – Project Appraisal techniques –economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

CO 4 Unit-IV: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions – DICs- SFC- SSIDC- Other financial assistance.

CO 5 Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions –Rehabilitation and Investment Allowances.

Course outcomes:

CO 1 : The students will understand the role of entrepreneurship in economic development.
CO 2 : The students will be able to generate ideas in entrepreneurship and opportunity recognition.
CO 3 : The students will be able to take sound decisions with the help of project formulation.

CO 4 : The students gain knowledge about central and state level financial institutions.
CO 5: The students understand the government policy for small scale industries.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M.CH., Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi,2009
3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011
4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi, 2011
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi.
7. Peter F. Drucker,Innovation and Entrepreneurship.
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges &Opportunities.
9. Rudra Saibaba, Entrepreneurship, Kalyani Publishers, 2017.

GAYATRIVIDYAPARISHAD COLLEGE FOR DEGREE AND P.G.COURSES (A)
II Year B.Sc/ B.Com/B.B.A/ SEMESTER-IV
FOUNDATION COURSE-10
SUBJECT- LEADERSHIP EDUCATION
w.e.f 2015-16 Admitted Batch (Revised in April, 2016)
Max. Marks : 50

COURSE OBJECTIVES

1 To Develop leadership skills among the students.
2 To learn how to manage group energy and ensure full participation.
3 To Develop good interpersonal skills.

No. Of Credits : 2 **No. of hours : 2/weeks**

CO 1 UNIT-I

Organization-Management-Leadership-Meaning and Significance-Different theories-Trait theory, Blake &Mountan theory – other functions of Management.

CO 2 UNIT-II

Behavioural concepts-Individual Behavior-Perception-Learning-Attitude formation and change – Motivation- Theories of Motivation-Personality Development.

CO 3 UNIT-III

Interpersonal Behviour- Communication-Leadership –Influencing Relations – Transactional Analysis.

CO 4 UNIT-IV

Group Dynamics-Roles-Morale- Conflict-Groups- Inter-Group Behaviour- Inter-Group collaboration and conflict Management.

CO 5 UNIT-V

Team Building and Management-Developing team resources- Designing team-Participation and Repercussion- Team building activities.

Course Outcomes :

CO 1: Students will be able to understand the significance of leadership and functions of management.

CO 2 : The students will be able to understand the attitude formation, perception and different theories of motivation.

CO 3 : The students will be able to understand the importance of interpersonal relationship and the factors it.

CO 4 : The student will be able to understand the conflict management.

CO 5 : The student will be able to understand team building and management.

Reference Books:

1. Fred Luthans, “Organizational Behviour”, Tata McGraw Hill Publishing Co; New Delhi.
2. Robins, Stephen P, “OrganisationalBehaviour”, 9th Edition, Prentice Hall of India, New Delhi.
3. Koontz and O “Donnell”, Essentials of Management, Tata McGraw Hill Publishing Co., New Delhi, 2000.
4. Keith Davis, “Human Behaviour at work”, Tata McGraw Hill Publishing Co., New Delhi.
5. Aswathappa, “Organizational Behaviour”, Himalaya Publishing House, Mumbai.
6. Stoner Freeman, “Management”, Prentice hall of India, New Delhi.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B.Sc. Second year Mathematics Syllabus

Semester –IV, Paper –IV

Abstract algebra (w. e. f. 2015-16)

Total No. of credits: 5 **Total No. of Hours: 60**

Course Objectives:

1. To Know about the binary operation and then theory behind addition of numbers etc.
2. To know the operations on sets.
3. To know the extension of mappings.
4. To the real meaning of cycle.
5. To know concept of permutations in depth.

CO: 1(UNIT-1) GROUPS (No. of hours: 10)

Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group. Composition tables with examples.

CO: 2(UNIT-2) SUBGROUPS (No. of hours: 14)

Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition – examples-criterion for a complex to be a subgroups.Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups.

Co-sets and Lagrange's TheoremCosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

CO: 3(UNIT-3) NORMAL SUBGROUPS (No. of hours: 12)

Definition of normal subgroup – proper and improper normal subgroup–Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group – simple group – quotient group – criteria for the existence of a quotient group.

CO: 4(UNIT-4) HOMOMORPHISM (No. of hours: 10)

Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – aultomorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

CO: 5(UNIT-5) PERMUTATIONS AND CYCLIC GROUPS (No. of hours: 14)

Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem.

Cyclic Groups: -Definition of cyclic group – elementary properties – classification of cyclic groups.

Course Outcomes:

1. Students will be understood what is a group, ring and techniques of homomorphism.
2. It is an immense importance in the study of abstract algebra in the history and development of Mathematics
3. Student will get knowledge of symmetrical operations in computers and in the subject of physics.
4. Student will get knowledge use group theory in Chemistry chemical preparation.

Prescribed Text Book: A text book of Mathematics for B.A. / B.Sc. by B.V.S.S. SARMA and others, Published by S.Chand & Company, New Delhi.

Practical's Group theory Problem Solving Sessions

CO:1 **Groups**

CO:2 **Subgroups**

CO:3 **Normal subgroups**

CO:4 **Homomorphism**

CO:5 **Permutations and cyclic groups**

Program Specific Objective: We able to know the algebraic structure which has an immense importance in the study of abstract algebra. In the history of development of mathematics, it has acquired its prime position. The concept of Group theory is used in Mechanics, Physics, Chemistry and even in Biology. We deal groups and subgroups and group theory has embraced all branches of mathematics and wide variety of other fields. We study Co-Sets and Normal sub groups and their properties. We deal the concept of homomorphism of groups. Permutation of groups.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES (A)
B.Sc. PHYSICS SYLLUBUS UNDER CBCS
W.e.f. 2017-18 admitted batch
B.Sc. 4th Semester Physics
Paper IV: Thermodynamics &Radiation Physics

Work load: 60 hrs per semester **4 hrs/week**

CREDITS:3

Course Objectives:
The course provides an extensive discussion of Thermodynamics and Radiation Physics such as Carnot's theorem,Maxwell's thermodynamic relations,Joule Kelvin effect,Adiabatic demagnetization,Wein,s displacement law, Wein's law, Planck's law-Measurement of radiation

UNIT-I (12 hrs) CO1

1. Thermodynamics

Introduction- Isothermal and adiabaticprocess-indicator diagram-work done in isothermal and adiabatic processes- Reversible and irreversible processes-Carnnot's engine and its efficiency-Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder-Entropy of Universe–Temperature-Entropy (T-S) diagram and its uses.

UNIT-II (12 hrs) CO2

2. Thermodynamic potentials and Maxwell's equations

Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect and vander Waal's gas.

UNIT-III (10 hrs) CO3

3. Kinetic theory of gases(10 hrs)

Introduction –Deduction of Maxwell's law of distribution of molecular speeds, experimental verification. Transport phenomena – Mean free path - Viscosity of gases-thermal conductivity-diffusion of gases.

UNIT-IV (12 hrs) CO4

4. Low temperature Physics

Introduction-Joule Kelvin effect-Porous plug experiment - Joule Thomson expansion-Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures -applications of substances at low temperature-effects of chloro and fluoro carbons on ozone layer.

UNIT-V (14 hrs) CO5

5. Quantum theory of radiation

Blackbody-Ferry's black body-distribution of energy in the spectrum of black body-Wein's displacement law,Wein's law, Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation-Types of pyrometers-Disappearing filament optical pyrometer-experimental determination – Angstrompyrheliometer-determination of solar constant, Temperature of Sun.

Course Outcomes:

C01: Become familiar with various thermodynamic process and work done in each of these processes.Have a clear understanding about Reversible and irreversible process and also working of a Carnot engine, and knowledge of calculating change in entropy for various process.

C02: Realize the importance of Thermo dynamical functions and applications of Maxwell's relations

C03: Understand the Maxwell's speed distribution and transport phenomena.

C04: Become familiar with Joule Kelvin effect-Porous plug experiment - Joule Thomson expansion.Expression for Joule Thomson cooling- Liquefaction of helium, Kapitza's method-Adiabatic demagnetization

C05: Realize the importance of Wien's displacement law, Planck's law and Rayleigh-Jean's.

Become familiar with Angstrom pyrheliometer-determination of solar constant, Temperature of Sun.

Reference Books: Thermodynamics &Radiation Physics

Sl.No.	Author Name	Book Title	Publisher's Name	Place	Year
1.		BSc Physics	*Telugu Akademy*	*Hyderabad*	
2.	Halliday/Resnick/Walker.*C*	Fundamentals of Physics	*Wiley India*		2007
3.	Samal, Mishra & Mohanty	Text Book of +3 Physics	National Library, Min.of Culture, Govt of India		
4.	MS Yadav	Heat and Thermodynamics	*Anmol Publications Pvt. Ltd*		*2000*
5.	HD Young, MW Zemansky,FW Sears	University Physics	*Narosa Publishers*	*New Delhi*	
6.		Unified Physics Vol.II Optics & Thermodynamics	*Jai Prakash Nath &Co.Ltd*	*Meerut*	
7.	N Brij Lal, P Subrahmanyam, PS Hemne	Heat, Thermodynamics and Statistical Physics	*S.Chand& Co.,*		*2012*
8.	R.C. Srivastava, Subit K. Saha& Abhay K.	Thermodynamics	Jain Eastern Economy Edition.		

Smart Class URL'S

S.No	CO	UNIT	URL
1	CO1	I	https://www.toppr.com/guides/physics/thermodynamics/carnot-

			engine/
2	CO2	II	https://www.thefreedictionary.com/Joule-Kelvin+effect
3	CO3	III	https://chem.libretexts.org/...Laws/.../Maxwell-Boltzmann_Distributions
4	CO4	IV	*https://www.britannica.com/science/adiabatic-demagnetization*
5	CO5	V	www.btb.termiumplus.gc.ca/.../alpha-eng.html?...ANGSTROM%20COMPENSATION...

Practical Paper IV: Thermodynamics & Radiation Physics

3hrs/week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Specific heat of a liquid –Joule's calorimeter –Barton's radiation correction
2. Thermal conductivity of bad conductor-Lee's method
3. Thermal conductivity of rubber.
4. Measurement of Stefan's constant.
5. Specific heat of a liquid by applying Newton's law of cooling correction.
6. Heating efficiency of electrical kettle with varying voltages.
7. Thermoemf- thermo couple - potentiometer
8. Thermal behavior of an electric bulb (filament/torch light bulb)
9. Measurement of Stefan's constant- emissive method
10. Study of variation of resistance with temperature - thermistor.

COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
II YEAR B.Sc :: IV SEMESTER
SYLLABUS W.E.F 2015-16 Batch
Paper-IV :DATA STRUCTURES

4 Hours/Week
Credits: 3

Course Objectives
To introduce the fundamental concept of data structures and to emphasize the importance of data structures in developing and implementing efficient algorithms..

UNIT I
Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Data Structures.
Linear Lists– ADT, Array and Linked representations, Pointers.
Arrays– ADT, Mappings, Representations, Sparse Matrices, Sets – ADT, Operations
Linked Lists: Single Linked List, Double Linked List, Circular Linked List , applications

UNIT II
Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications
Queues: Definition, ADT, Array and Linked representations, Circular Queues, Dequeues, Priority Queues, Implementations and Applications.

UNIT III
Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) – Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees.

UNIT IV

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

UNIT- V

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential and Binary Searching.

REFERENCE BOOKS

1. D S Malik, Data Structures Using C++, Thomson, India Edition 2006.
2. Sahni S, Data Structures, Algorithms and Applications in C++, McGraw-Hill, 2002.
3. SamantaD, Classic Data Structures, Prentice-Hall of India, 2001.
4. Heilman G I,.Data Structures and Algorithms with Object-Oriented Programming, Tata McGraw-l lill. 2002. (Chapters I and 14).
5. Tremblay P, and Sorenson P G, Introduction to Data Structures with Applications, Tata McGraw-Hill,

CO1: Course outcome for unit1:ADT,**Linear Lists,Arrays**

Describe the how the data is Defined in different types like linear and non linear ways, storage structures and file structures.Describe how arrays, records, linked structures are represented in memory and used by algorithms. Compare and contrast the benefits of dynamic and static data structures implementations.Explore about Abstract Data types and its implementation

CO2: Course outcome for unit2:Stacks and Queues:

Describe how to organize data in stacks, queues represented in memory in arrays, records, linked structures and used by algorithms

Describe common applications for arrays, records, linked structures, stacks, queues

Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack .

CO3: Course outcome for unit3: TREES

Describe how to organize data in nonlinear ways like trees and represented in memory in arrays, linked structures and used by algorithms

Demonstrate different methods for traversing trees and applications.

CO4: Describe how to organize data in nonlinear ways like Graphs and represented in memory in arrays, linked structures and used by algorithms

Demonstrate different methods for graph traversals with minimum cost and describing graph applications.

CO5: Course outcome for unit5:Sorting and Searching

Discuss the Techniques and computational efficiency of the principal algorithms for sorting's and searching's.

Web Links:

https://www.youtube.com/watch?v=g1USSZVWDsY&list=PLBF3763AF2E1C572F&index=2

https://www.youtube.com/watch?v=PGWZUgzDMYI&list=PLBF3763AF2E1C572F&index=3

https://www.youtube.com/watch?v=tORLeHHtazM&list=PLBF3763AF2E1C572F&index=6

https://www.youtube.com/watch?v=mRGQylRWAsI&list=PLBF3763AF2E1C572F&index=11

https://www.youtube.com/watch?v=HjPmZuOXkHQ&list=PLBF3763AF2E1C572F&index=21

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
Semester – IV -COMPUTER SCIENCE

PAPER –IV – DATA STRUCTURES USING JAVA

w.e.f 2015-16 Admitted Batch

3 Hours/Week
Credits: 2

DATA STRUCTURES USING JAVA LAB

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement theQueue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement theQueue operations using a singly linked list.
6. Write a program for arithmetic expression evaluation
7. Write a program to implement Double Ended Queue using a doubly linked list.
8. Write a program to search an item in a given list using Linear Search and Binary Search
9. Write a program for Quick Sort
10. Write a program for Merge Sort
11. Write a program on Binary Search Tree operations(insertion, deletion and traversals)

12. Write a program for Graph traversals

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)
NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)
SEMESTER-V COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	Mathematics(paper-V)	100	25	75	5	3
2	Mathematics Practical-V	50	0	50	2	2
3	Physics(Paper-V)	100	25	75	4	3
4	Physics Practical-V	50	0	50	3	2
5	Chemistry(Paper-V)	100	25	75	4	3
6	Chemistry Practical-V	50	0	50	3	2
7	Mathematics(paper-VI)	100	25	75	5	3
8	Mathematics Practical-VI	50	0	50	2	2
9	Physics(Paper-VI)	100	25	75	4	3
10	Physics Practical-VI	50	0	50	3	2
11	Computer Science (Paper-VI)	100	25	75	4	3
12	Computer Science Practical-VI	50	0	50	3	2
	TOTAL	900			42	30

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B. Sc. Third year Mathematics Syllabus

Semester –V, Paper -V

Ring theory and Vector Calculus (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To Know about the Algebraic structures having two binary operations
2. To know the sets obeys the field axioms.
3. To know the concepts in rings similar to that of groups.
4. To know the operators defined on vectors and on scalars.
5. To know concept of line, surface and volume integrals.
6. To know the integral transformations: line to surface integrals, surface to volume integrals.

CO: 1(UNIT-1) RINGS-I **(No. of hours: 12)**

Definition of Ring and basic properties, Boolean Rings, divisors of zero and cancellation laws Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring - The characteristic of an Integral Domain, The characteristic of a Field. Sub Rings, Ideals

CO: 2(UNIT-2) RINGS-II **(No. of hours: 12)**

Definition of Homomorphism – Homorphic Image – Elementary Properties of Homomorphism –Kernel of a Homomorphism – Fundamental theorem of Homomorhphism –Maximal Ideals – Prime Ideals.

CO: 3(UNIT-3) VECTOR DIFFERENTIATION (No. of hours: 12)

Vector Differentiation, Ordinary derivatives of vectors, Differentiability, Gradient, Divergence, Curl operators, Formulae Involving these operators.

CO: 4(UNIT-4) VECTOR INTEGRATION (No. of hours: 12)

Line Integral, Surface Integral, Volume integral with examples.

CO: 5(UNIT-5) VECTOR INTEGRATION APPLICATIONS (No. of hours: 12)

Theorems of Gauss and Stokes, Green's theorem in plane and applications of these theorems.

Course Outcomes: At the end of the course

1. student can know its applications in the area of computer science, economics, engineering and physics.
2. Student will understand the techniques of the application
3. Student will know the concepts of graph theory, coding theory in the area of research
4. student can understand some methods calculating the surface area of an agriculture field.

Prescribed Text Book: A text Book of B.Sc., Mathematics by B.V.S.S. Sarma and others, published by S. Chand & Company Pvt. Ltd., New Delhi.

Practical's Ring theory and Vector calculus Problem Solving Sessions

CO:1 **Rings-I**

CO:2 **Rings-II**

CO:3 **Vector Differentiation**

CO:4 **Vector Integration**

CO:5 **Vector Integration Applications**

Program Specific Objective: Understanding of the fundamental axioms in mathematics and capability of developing ideas based on them. Provide knowledge of a wide range of mathematical techniques and application of mathematical methods/tools in other scientific and engineering domains. Strong foundation on algebraic topology and

representation theory which have strong links and application in theoretical physics, in particular string theory.Nurture problem solving skills, thinking, creativity through assignments, project work. Assist students in preparing (personal guidance, books) for competitive exams e.g. NET,

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE & PG COURSES
(Autonomous)
B.Sc. PHYSICS SYLLABUS UNDER CBCS
B.Sc. 5th SemesterPhysics
Paper V: Electricity, Magnetism& Electronics
W.e.f Admitted batch2017-2018

Workload: 60 hours per semester **4hrs/week**
Credits: 3

Course Objectives:

- Develop understanding of the concepts in electricity and magnetism
- Reinforce general problem solving skills and reinforce conceptual understanding through the use of problem solving skills.
- To acquire the basic knowledge of digital logic levels and application of knowledge to understand electronics circuits.
- To prepare students to perform the analysis and design of various electronic circuit

UNIT-I (12 hrs) CO1

1. **Electric field intensity and potential:**
   Gauss's law statement and its proof- Electric field intensity due to (1) Uniformly charged sphere and (2) an infinite conducting sheet of charge. Electrical potential – equipotential surfaces- potential due to i) a point charge, ii) charged spherical shell and uniformly charged sphere.
2. **Dielectrics:**
   Electric dipole moment and molecular polarizability- Electric displacement D, electric polarization P – relation between D, E and P- Dielectric constant and susceptibility. Boundary conditions at the dielectric surface.

UNIT-II (12 hrs) CO2

3. Electric and magnetic fields

Biot-Savart's law, explanation and calculation of B due to long straight wire, a circular current loop and solenoid – Lorentz force – Hall Effect – determination of Hall coefficient and applications.

4. Electromagnetic induction

Faraday's law-Lenz's law- Self and mutual inductance, coefficient of coupling, calculation of self inductance of a long solenoid, energy stored in magnetic field.

UNIT-III (12 hrs) CO3

5. Alternating currents and electromagnetic waves

Alternating current –AC through pure resistance, inductance and capacitance .Relation between current and voltage in LR ,CR and LC circuits, LCR series and parallel resonant circuit, Q –factor, power in ac circuits.

6. Maxwell's equations

Idea of displacement current - derivation of Maxwell's equations (integral and differential forms), derivation of Maxwell's wave equation, Poynting theorem (statement and proof), production of electromagnetic waves (Hertz experiment).

UNIT-IV (12 hrs) CO4

7. Basic electronics:

PN junction diode, Zener diode, Tunnel diode, I-V characteristics, PNP and NPN transistors, CB, CE and CC configurations – Relation betweenα, β and γ - transistor (CE) characteristics, Transistor as an amplifier.

UNIT-V: (12 hrs) CO5

8. Digital electronics

Number systems - Conversion of binary to decimal system and vice versa. Binary addition and subtraction (1's and 2's complement methods).Laws of Boolean algebra - De Morgan's laws-statement and proof, Basic logic gates, NAND and NOR as universal gates, exclusive-OR gate, Half adder and Full adder.

Course Outcomes

CO1.Understand basic conceptofElectric field intensity and potential, dielectrics.

CO2.Understand Biot-Savart's law,Lorentz force, Hall Effect.Understand the concept of electromagnetic induction, self induction of solenoid, mutual induction of coaxial solenoid.

CO3.Understand LCR series and parallel resonant circuits and its physical significances and understand the applications of Maxwell's equations

CO4.Gain knowledge of diodes and transistors

CO**5.**Learn to convertnumber systems, Laws of Boolean algebra and De Morgan's laws

REFERENCE BOOKS:

Sl. No.	Author Name	Book Title	Publisher's Name	Place	Year

1.		BSc Physics Vol.3	*Telugu Akademy*	*Hyderabad*
2.	D.N. Vasudeva	Electricity and Magnetism	S. Chand & Co	
3.	K.K.Tewari	Electricity, Magnetism with Electronics	R.Chand& Co	
4.	V.K. Mehta	Principles of Electronics	S.Chand& Co	
5.	A.P. Malvino and D.P.Leach	Digital Principles and Applications	Mc GrawHill	

Smart class URL'S

Sl.NO	CO	UNIT	URL
1	CO1	I	https://www.youtube.com/watch?v=ukkDxMUp0_8
2	CO2	II	https://www.youtube.com/watch?v=hVfsNCnYZz0
3	CO3	III	https://www.youtube.com/watch?v=XUR-dnDa7eI
4	CO4	IV	https://www.youtube.com/watch?v=NbKumOTdt9A
5	CO5	V	https://www.youtube.com/watch?v=M0mx8S05v60&list=PLBlnK6fEyqRjMH3mWf6kwqiTbT798eAOm

Practical Paper V: Electricity, Magnetism & Electronics

3hrs/Week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Figure of merit of a moving coil galvanometer.
2. LCR circuit series/parallel resonance, Q factor.
3. Determination of ac-frequency –sonometer.
4. Verification of Kirchhoff's laws and maximum power transfer theorem.
5. Field along the axis of a circular coil carrying current.
6. PN Junction Diode Characteristics
7. Zener Diode Characteristics
8. Transistor CE Characteristics- Determination of hybrid parameters
9. Logic Gates- OR, AND, NOT and NAND gates. Verification of Truth Tables.
10. Verification of De Morgan's Theorems.

GAYATRI VIDYA PARISHAD COLLEGE for DEGREE and P.G. COURSES (AUTONOMOUS)
Syllabus W.E.F Admitted batch 2015-16
III YEAR V SEMESTER
Paper-V: Data Base Management Systems

4 Hours/Week
Credits: 3

Course Objective:

- To understand the overview of DBMS versus File systems, data models, ANSI-SPARK model and DBMS architecture.
- To represent a database system using ER diagrams and EER
- To understand Coddrules , Concept of Keys and Normalization, Relational Algebra and Calculus.
- To understand the Query Language Specifications, Views, Sub-Queries and Embedded SQL.
- To learn PL/SQL programming elements and Exception handling.

UNIT I **[CO1]**

Overview of Database Management System:

Introduction, file-based system, Drawbacks of file-Based System ,Data and information,Database, Database management System, Objectives of DBMS, Evaluation of Databasemanagement System, Classification of Database Management System, DBMS Approach,advantages of DBMS, Anis/spark Data Model, data models, Components and Interfaces ofDatabase Management System. Database Architecture, Situations where DBMS is notNecessary, DBMS Vendors and Their Products.

UNIT II [CO2]

Entity-Relationship Model:

Introduction, the building blocks of an entity relationship diagram, classification of entitysets, attribute classification, relationship degree, relationship classification, reducing ERdiagram to tables, enhanced entity-relationship model (EER model), generalization andspecialization, IS A relationship and attribute inheritance, multiple inheritance, constraintson specialization and generalization,aggregation and composition, entity clusters, connection types, advantages of ER modelling.

UNIT III [CO3]

Relational Model:

Introduction, CODD Rules, relational data model, concept of key, relational integrity,relational algebra, relational algebra operations, advantages of relational algebra,limitations of relational algebra, relational calculus, tuple relational calculus, domainrelational Calculus (DRC). QBE

UNIT IV [CO4]

Structured Query Language:

Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data DefinitionLanguage, Selection Operation, Projection Operation, Aggregate functions, DataManipulation Language, Table Modification Commands, Table Truncation, Imposition ofConstraints, Join Operation, Set Operation, View, Sub Query, Embedded SQL,

UNIT V [CO5]

PL/SQL:

Introduction, Shortcoming in SQL, Structure of PL/SQL, PL/SQL Language Elements, DataTypes, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program,Iterative Control, Cursors, Steps to create a Cursors, Procedure, Function, Packages,Exceptions Handling, Database Triggers, Types of Triggers.

Course Outcomes:

Able to

CO-1: Understand fundamental concepts of DBMS.

CO-2: Understand an ER-modelling for relational model.

CO-3: Normalize the database and performing operations on Relational Algebra and Calculus.

CO-4: Perform Query Language Commands such as DDL,DML,DCL,TCL , Sub-Queries and Views.

CO-5: Write PL/SQL programs using cursors, procedures, triggers and exception handlers.

Web Links:

https://www.youtube.com/watch?v=OWX4RvijwLw&list=PL2pwAEWBmoSmQpiDqtBH5TbziOcZjqUBx&index=3

https://www.youtube.com/watch?v=uLkNWOKdUXA&list=PL2pwAEWBmoSmQpiDqtBH5TbziOcZjqUBx&index=6

https://www.youtube.com/watch?v=B9tS_JNbW00&list=PL2pwAEWBmoSmQpiDqtBH5TbziOcZjqUBx&index=12

https://www.youtube.com/watch?v=K5jqNjnE-pE&list=PL2pwAEWBmoSmQpiDqtBH5TbziOcZjqUBx&index=17

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
III YEAR V SEMESTER

DATABASE MANAGEMENT SYSTEMS LAB

3 Hours/Week
Credits: 2

1. Draw ER diagrams for train services in a railway station
2. Draw ER diagram for hospital administration
3. Creation of college database and establish relationships between tables
4. Write a view to extract details from two or more tables
5. Write a stored procedure to process students results
6. Write a program to demonstratea function
7. Write a program to demonstrate blocks, cursors & database triggers.
8. Write a program to demonstrate Joins
9. Write a program d
10. Write a program to demonstrate of Aggregate functions
11. Creation of Reports based on different queries
12. Usage of file locking table locking, facilities in applications.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B. Sc. Third year Mathematics Syllabus

Semester –V, Paper -VI

Linear Algebra (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To know about the internal and external compositions.
2. To know the concept of linearly dependent and independent.
3. To find the vectors generates finite dimensional vector space.
4. To know the homomorphism in vectors
5. To know the concept of matrices in detail.
6. To know the developments on vector spaces, called inner product spaces

CO: 1(UNIT-1) Vector Spaces-I **(No. of hours: 12)**

Vector Spaces, General properties of vector spaces, *n*-dimensional Vectors, addition and scalar multiplication of Vectors, internal and external composition, Null space, Vector subspaces, Algebra of subspaces, Linear Sum of two subspaces, linear combination of Vectors, Linear span Linear independence and Linear dependence of Vectors.

CO: 2(UNIT-2) Vector Spaces-II **(No. of hours: 12)**

Basis of Vector space, Finite dimensional Vector spaces, basis extension, co-ordinates, Dimension of a Vector space, Dimension of a subspace, Quotient space and Dimension of Quotientspace.

CO: 3(UNIT-3) Linear Transformations **(No. of hours: 12)**

Linear transformations, linear operators, Properties of L.T, sum and product of LTs, Algebra of Linear Operators, Range and null space of linear transformation, Rank and Nullity of linear transformations – Rank – Nullity Theorem.

CO: 4(UNIT-4) Matrix **(No. of hours: 12)**

Matrices, Elementary Properties of Matrices, Inverse Matrices, Rank of Matrix, Linear Equations, Characteristic Roots, Characteristic Values & Vectors of square Matrix, Cayley – Hamilton Theorem.

CO: 5(UNIT-5) Inner product space (No. of hours: 12)

Inner product spaces, Euclidean and unitary spaces, Norm or length of a Vector, Schwartz inequality, Triangle in Inequality, Parallelogram law, Orthogonality, Orthonormal set, complete orthonormal set, Gram – Schmidt orthogonalization process. Bessel's inequality and Parseval's Identity.

Course Outcomes:

1. Student will understand the role of the concepts like groups, rings in modern mathematics
2. Student may get interest to go for research in the area of theory of coding
3. Student will have the knowledge in mathematical reasoning for advanced algebra
4. He will understand various applications in engineering and other subjects

Prescribed Text Book: A text Book of B.Sc., Mathematics by V. VenkateswaraRao, N. Krishna Murthy etc published by S. Chand & CompanyPvt. Ltd., New Delhi.

Practical'sLinearalgebra Problem Solving Sessions

CO:1 **Vector Spaces-I**

CO:2 **Vector Spaces-II**

CO:3 **Linear Transformations**

CO:4 **Matrix**

CO:5 **Inner product space**

Program Specific Objective: It comprises of the theory and applications of linear system of equations, linear transformations and to study the systematic use of matrices and their properties.Many complicated expressions occurring in electrical and mechanical systems can be elegantly simplified by using this concept of determinants in linear algebra.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE & PG COURSES
(Autonomous)
B.Sc.PHYSICS SYLLABUS UNDER CBCS
B.Sc. 5th SemesterPhysics
Paper VI: Modern Physics
W.e.f 2017-2018 Admitted batch

Work load: 60 hrs per semester **4 hrs/week**
Credits: 3

Course objectives:
To explain basic principles, conceptual relationships, and major theoretical concepts at the undergraduate level in the particular areas of modern physics.
To develop a solid grasp of core concepts and applications of quantum mechanics.
To develop theability of modelling and solving physical problems.
To enable acquaintance with basic fields of modern physics.

UNIT-I (12 hrs) CO1

1. Atomic and molecular physics

Introduction –Drawbacks of Bohr's atomic model- Sommerfeld's elliptical orbits-relativistic correction (no derivation).Vector atom model and Stern-Gerlach experiment - quantum numbers associated with it.L-Sand j- j coupling schemes. Statement of Zeeman Effect Raman Effect, hypothesis, Stokes and Anti Stokes lines. Quantum theory of Raman Effect. Experimental arrangement – Applications of Raman effect.

UNIT-II (12 hrs) CO2

2. Matter waves & Uncertainty Principle

Matter waves, de Broglie's hypothesis - wavelength of matter waves, Properties of matter waves - Davisson and Germer experiment – Phase and group velocities. Heisenberg's uncertainty principle for position and momentum (x and p), & energy and time (E and t)

UNIT-III (12 hrs) CO3

3. Quantum (wave) mechanics

Basic postulates of quantum mechanics-Schrodinger time independent and time dependent wave equations-derivations. Physical interpretation of wave function. Eigen functions, Eigen values. Application of Schrodinger wave equation to particle in one dimensional infinite box.

UNIT-IV (12 hrs) CO4

4. General Properties of Nuclei

Basic ideas of nucleus -size, mass, charge density (matter energy), binding energy, angular momentum, parity, magnetic moment, electric moments. Liquid drop model and Shell model (no derivation) - Magic numbers.

5. Radioactivity decay:

Alpha decay: basics of α-decay processes. Theory of α-decay, Gamow's theory, Geiger Nuttallaw.β-decay, Energy kinematics for β-decay, positron emission, electron capture, neutrino hypothesis.

UNIT-V (12 hrs) CO5

6. Crystal Structure

Amorphous and crystalline materials, unit cell, Miller indices, types of lattices, diffraction of X-rays by crystals, Bragg's law, experimental techniques, Laue's method and powder diffraction method.

7. **Superconductivity:**
   Introduction - experimental facts, critical temperature - critical field - Meissner effect – Isotope effect - Type I and type II superconductors - BCS theory (elementary ideas only) - applications of superconductors.

Course Outcomes:

After the completion of the course, Students will be able to

CO 1: Describe theories explaining the structure of atoms and the origin of the observed spectra, list different types of atomic spectra, identify atomic effect such as Zeeman Effect and Stark effect.

CO 2: Understand the dual nature of matter and the uncertainty relations.

CO 3: Understand and explain the differences between classical and quantum mechanics, understand the idea of wave function. Solve Schrodinger equation for simple potentials.

CO 4: Understand the size of nucleus and all its properties and different nuclear models. This course has led the students to understand interaction of various types of radiation with matter which they observe in their daily life.

CO 5: Demonstrate an understanding of the crystal lattice and how the main lattice types are described, knowledge of X-ray diffraction in crystals. Determine the structures of simple crystals. Knowledge of the super conductivity, types of super conductors, Meissner effect, applications of super conductors.

Smart Class URL:

S.NO	CO	UNIT	URL
1	CO1	I	https://www.youtube.com/watch?v=Agu68RGaoWM
2	CO2	II	https://www.youtube.com/watch?v=rf0OlvOYjpE
3	CO3	III	https://www.youtube.com/watch?v=5nghwfEcB98
4	CO4	IV	https://www.youtube.com/watch?v=2DBo5MeuqCU https://www.youtube.com/watch?v=X_e6aVgSJC8
5	CO5	V	https://www.youtube.com/watch?v=D-9M3GWoBrw

REFERENCE BOOKS:Modern Physics

Sl.No.	Author Name	Book Title	Publisher's Name	Place	Year
1.		BSc Physics, Vol.4	Telugu Akademy	, Hyderabad	
2.	G. Aruldhas	Molecular Structure and Spectroscopy	Prentice Hall of India	New Delhi	
3.	R. Murugeshan and Kiruthiga Siva Prasath	Modern Physics	S. Chand & Co		
4.	Aruldhas& P. Rajagopal	Modern Physics	Eastern Economy Edition		
5.	Arthur Beiser	Concepts of Modern Physics	Tata McGraw-Hill		
6	Mahesh C Jain	Quantum Mechanics	Eastern Economy Edition		
7	Irving Kaplan	Nuclear Physics	Narosa publishing House		
8	D.C.Tayal	Nuclear Physics	Himalaya Publishing House		
9	J.P.Srivastava	Elements of Solid State Physics	Prentice Hall of India Pvt., Ltd		
10	A.J. Dekker	Solid State Physics	McMillan India		

Practical Paper VI:Modern Physics

3 hrs/week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Rydberg constant
2. Determination of Planck's constant (photocell).
3. Verification of inverse square law of light using photovoltaic cell.
4. Study of absorption of α-rays.
5. Study of absorption of β-rays.
6. Determination of Range of β-particles.
7. Determination of M & H.
8. Analysis of powder X-ray diffraction pattern to determine properties of crystals.

9. Energy gap of a semiconductor using junction diode.
10. Energy gap of a semiconductor using thermister.

Note: For all the above 8 practical papers the book "B.Sc Practical Physics" by C.L. Arora

Published by S.Chand& Co, New – Delhi may be followed.

NOTE: Problems should be solved at the end of every chapter of all units.

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)

Syllabus w.e.f Admitted Batch 2015-16

III YEAR V SEMESTER

Paper VI :Software Engineering

4 Hours/Week
Credits: 3

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

UNIT I [CO 1]

INTRODUCTION: Software Engineering Process paradigms - Project management - Process and Project Metrics – software estimation - Empirical estimation models - Planning - Risk analysis - Software project scheduling. .

UNIT II [CO 2]

REQUIREMENTS ANALYSIS : Requirement Engineering Processes – Feasibility Study – Problem of Requirements – Software Requirement Analysis – Analysis Concepts and Principles – Analysis Process – Analysis Model

UNIT III [CO 3]

SOFTWARE DESIGN: Software design - Abstraction - Modularity - Software Architecture - Effective modular design - Cohesion and Coupling - Architectural design and Procedural design - Data flow oriented design.

UNIT IV [CO 4]

USER INTERFACE DESIGN AND REAL TIME SYSTEMS : User interface design - Human factors - Human computer interaction - Human - Computer Interface design - Interface design - Interface standards.

UNIT V [CO 5]

SOFTWARE QUALITY AND TESTING : Software Quality Assurance - Quality metrics - Software Reliability - Software testing - Path testing – Control Structures testing - Black Box testing - Integration, Validation and system testing - Reverse Engineering and Re-engineering.

CASE tools –projects management, tools - analysis & design tools – programming tools - integration and testing tool - Case studies

Course Outcomes

CO1: Ability to gather and specify requirements of the software projects.
CO2: Ability to analyze software requirements with existing tools
CO3: Able to differentiate different testing methodologies
CO4: Able to understand and apply the basic project management practices in real life projects
CO5: Ability to work in a team as well as independently on software projects

REFERENCE BOOKS:

1. Roger Pressman S., “Software Engineering: A Practitioner's Approach”, 7th Edition, McGraw Hill, 2010.
2. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, “Software Engineering”, Eighth Edition, Pearson Education, 2007
3. Pfleeger, “Software Engineering: Theory & Practice”, 3rd Edition, Pearson Education, 2009
4. Carlo Ghazi, Mehdi Jazayari, Dino Mandrioli, “Fundamentals of Software Engineering”, Pearson Education, 2003

Web Links:

https://www.youtube.com/watch?v=OT2O7uNldQk&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=6

https://www.youtube.com/watch?v=_ziaLmfToSk&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=7

https://www.youtube.com/watch?v=zKWeXjpFeRw&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=8

https://www.youtube.com/watch?v=PR_ZwLfjWrA&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=17

https://www.youtube.com/watch?v=5q_KBeNlRFk&list=PLbRMhDVUMngf8oZR3DpKMvYhZKga90JVt&index=19

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
w.e.f Admitted Batch 2015-16
Semester – V -COMPUTER SCIENCE

PAPER –VI – SOFTWARE ENGINEERING LAB

3 Hours/Week
Credits: 2

1. Studying various phases of Water-Fall Model.
2. Prepare SRS for Banking or On line book store domain problem
3. Using COCOMO model estimate effort for Banking or on line book store domain problem.
4. Calculate effort using FP oriented estimation model
5. Analyze the Risk related to the project and prepare RMMM plan.
6. Develop Time-line chart and project table using PERT or CPM project scheduling methods.
7. Draw E-R diagram, DFD, CFD and STD for the project.
8. Design of the test cases.
9. Prepare FTR. Version control and change control for software configuration item

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES(A)
NAME OF THE PROGRAM: B.Sc. (Mathematics, Physics and Computer Science)
SEMESTER-VI COURSE STRUCTURE

S.NO.	COURSE	TOTAL MARKS	MID SEM EXAM	SEM END EXAM	TEACHING HOURS	CREDITS
1	Mathematics(paper-VII)	100	25	75	5	3
2	Mathematics Practical-VII	50	0	50	2	2
3	Physics(Paper-VII)	100	25	75	4	3
4	Physics Practical-VII	50	0	50	3	2
5	Computer Science (Paper-VII)	100	25	75	4	3
6	Computer Science Practical-VII	50	0	50	3	2
7	CLUSTER-A	100	25	75	5	3
8	CLUSTER-A Practical	50	0	50	2	2
9	CLUSTER-B	100	25	75	4	3
10	CLUSTER-B Practical	50	0	50	3	2
11	CLUSTER-C	100	25	75	4	3
12	CLUSTER-C Practical/Project	50	0	50	3	2
	TOTAL	900			42	30

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND P.G COURSES (A)

Visakhapatnam

B. Sc. Third year Mathematics Syllabus

Semester –VI, Paper –VII

Numerical Analysis (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To provide the numerical methods of solving the non-linear equations, interpolation, differentiation, and integration.
2. To improve the student's skills in numerical methods by using the numerical analysis software and computer facilities.

CO: 1UNIT- I: (10 hours)

Errors in Numerical computations: Errors and their Accuracy, Mathematical Preliminaries, Errors and their Analysis, Absolute, Relative and Percentage Errors, A general error formula, Error in a series approximation.

CO: 2UNIT – II: (12 hours)

Solution of Algebraic and Transcendental Equations: The bisection method, The iteration method, The method of false position, Newton Raphson method, Generalized Newton Raphson method. Muller's Method

CO: 3UNIT – III: (12 hours) Interpolation - I

Interpolation: Errors in polynomial interpolation, Finite Differences, Forward differences, Backward differences, Central Differences, Symbolic relations, Detection of errors by use of Differences Tables, Differences of a polynomial

CO: 4*UNIT – IV: (12 hours) Interpolation - II*

Newton's formulae for interpolation. Central Difference Interpolation Formulae, Gauss's central difference formulae, Stirling's central difference formula, Bessel's Formula, Everett's Formula.

CO: 5UNIT – V: (14 hours) Interpolation - III

Interpolation with unevenly spaced points, Lagrange's formula, Error in Lagrange's formula, Divided differences and their properties, Relation between divided differences and forward differences, Relation between divided differences and backward differences Relation between divided differences and central differences, Newton's general interpolation Formula, Inverse interpolation.

Course Outcomes:

1. Student have get knowledge of some basic concepts or ideas regarding numerical applications for computation or errors and their analysis
2. student can be providing efficient methods for determining numerical amusers to such problems
3. student can able to find required approximate value when data has been given
4. student can solve differential equations without using any basic formulas of differentiation.

Prescribed Book: Numerical Analysis by S.Ranganatham, Dr.M.V.S.S.N. Prasad,Dr.V.RameshBabuS.Chand Publication.

Practical Numerical Analysis Problem Solving Sessions

CO:1**Errors in Numerical computations &Interpolation – I**

CO:2**Solution of Algebraic and Transcendental Equations**

CO:3**Interpolation – II**

CO:4**Interpolation – III**

Program Specific Objective: The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically and obtaining numerical solutions to problems of mathematics, also describing and understanding of the several errors and approximation in numerical methods.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES (A)
B.Sc. PHYSICS SYLLABUS UNDER CBCS
Semester –VI
W. e .f. 2015-16 Admitted batch
Paper –VII: Analog and Digital Electronics

Work load: 60 hours per semester **4hrs / week**
Credits: 3

Course Objectives:
The course has been designed to introduce fundamental principles of Analog and digital electronics, to impart knowledge on assessing performance of electronic circuit through monitoring of sensitive parameters. Bar codes in shopping malls, employee ID cards and number systems converting circuits and Compare different types of logic gate families. This is very helpful of students in competitive, army, air force, and navy examinations

Unit-I (14 Hours) CO1

1. FET-Construction, Working, characteristics and uses; MOSFET-enhancement MOSFET, depletion MOSFET, construction and working , drain characteristics of MOSFET, applications of MOSFET
2. Photo electric devices: Structure and operation, characteristics, spectral response and application of LDR, LED and LCD

Unit-II (10Hours) CO2

3. Operational Amplifiers: Characteristics of ideal and practical Op-Amp (IC 741), Basic differential amplifiers, Op-Amp supply voltage, IC identification, Internal blocks of Op-Amp, its parameter off set voltages and currents, CMRR, slew rate, concept of virtual ground.

Unit-III (10 Hours) CO3

4. Applications of Op-Amp: Op-Amp as voltage amplifier, Inverting amplifier, Non-inverting amplifier, voltage follower, summing amplifier, difference amplifier, comparator, integrator, differentiator.

Unit-IV (14 Hours) CO4

5. Data processing circuits: Multiplexers, De-multiplexers, encoders, decoders, Characteristics for Digital ICs -RTL, DTL, TTL, ECL CMOS (NAND & NOR Gates).
6. IC 555 Timer -Its pin diagram, internal architecture, Application as astablemultivibrator and mono stable multivibrator.

Unit-V (12 Hours) CO5

7. Sequential digital circuits: Flip-flops, RS, Clocked SR, JK, D, T, Master-Slave, Flip- flop, Conversion of Flip flops.
8. Code Converters: Design of code converter, BCD to 7 segments, binary/BCD to gray, gray to binary/BCD, design of counters using state machine.

Course Outcomes

After studying this course the students would gain enough knowledge

CO1. Have a thorough understanding of the fundamental concepts and techniques used in analog and digital electronics.

CO2. To understand and examine the structure of various number systems and its application in digital design.

CO3. The ability to understand, analyze and design various combinational and sequential circuits

CO4. Evaluate possible causes of discrepancy in practical experimental observations in comparison to theory

CO5. Prepare professional quality textual and graphical presentations of laboratory data and Computational results, incorporating accepted data analysis and synthesis methods, Mathematical software and word-processing tools.

Reference Books

Sl.No.	Author Name	Book Title	Publisher's Name	Place	Year
1	G.K.Kharate	. Digital Electronics	Oxford University Press		
2	Agarwal and Agarwal	Unified			

		Electronics		
3	Ramakanth A Gayekwad	Op- Amp and Linear ICs4th edition	PHI	
4	Malvino and Leach	. Digital Principles and Applications	TMH	1996
5	Morris Mano	Digital Circuit design	PHI	
6	A.AnandKumar	Switching Theory and Logic design	PHI	
7	SV Subramanyam	Operations amplifier		
8	Dr.S.L.Gupta,Sanjeev Gupta	Analog and Digital Electronics		2017

SMART CLASS URL'S

S.NO	CO	UNIT	URL
1	**CO1**	**I**	https://www.youtube.com/watch?v=PMOaS967Yus
2	**CO2**	**II**	https://www.youtube.com/watch?v=lJDjWZqhpVc
3	**CO3**	**III**	https://www.youtube.com/watch?v=FbIrlme4Xqw
4	**CO4**	**IV**	https://www.youtube.com/watch?v=g1Lfz1XgrH8,

https://www.youtube.com/watch?v=6T_Q0QqFzGA

https://www.youtube.com/watch?v=smeUN1Bxj3M

5 CO5 V

https://www.youtube.com/watch?v=ApJ972OYyXQ

Elective Paper-VII
Practical: Analog and Digital Electronics

3hrs/Week **Credits:2**

Minimum of 6 experiments to be done and recorded

1) Characteristics of FET
2) Characteristics of MOSFET
3) Characteristics of LDR
4) Characteristics of Op-amp.(IC741)
5) Op-Amp as amplifier/inverting amplifier
6) Op-Amp as integrator/differentiator
7) Op-Amp as summing amplifier/difference amplifier
8) IC 555 as astablemultivibrator
9) IC 555 as monostable amplifier
10) Master slave flip-flop
11) JK flip-flop

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
III YEARB.Sc :: VI SEMESTER
w.e.f 2015-16Admitted Batch
Paper-VII :: Operating Systems

4 Hours/Week
Credits: 3

Course Objectives

1. To understand the services provided by and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is and how processes are synchronized and scheduled.
4. To understand different approaches to memory management.
5. Students should be able to use system calls for managing processes, memory and the file system.

Course Outcomes

CO1: Learn the basic concepts of operating systems. and about process management

CO2: Apply different optimization techniques for the improvement of system

performance

CO3: Learn and apply different memory management techniques

CO4: Discuss various files concepts, disk structure, protection and security aspects.

CO5: Apply different deadlock prevention techniques

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
III YEARB.Sc :: VI SEMESTER
Elective Paper-VII
SYLLABUS W.E.F 2015-16

Operating Systems

4 Hours/Week
Credits: 3

Course Objectives

1. To understand the services provided by and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is and how processes are synchronized and scheduled.
4. To understand different approaches to memory management.
5. Students should be able to use system calls for managing processes, memory and the file system.

Course Outcomes

1. Analyze the concepts of processes in operating system and illustration of the scheduling of processor for a given problem instance.
2. Identify the dead lock situation and provide appropriate solution so that protection and security of the operating system is also maintained.
3. Analyze memory management techniques, concepts of virtual memory and disk scheduling.
4. Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.

UNIT - I

Operating System Introduction: Operating Systems Objectives and functions, Computer System Architecture, OS Structure, OS Operations, Evolution of Operating Systems - Simple Batch, Multi programmed, time shared, Parallel, Distributed Systems, Real-Time Systems, Operating System services.

UNIT - II

Process and CPU Scheduling - Process concepts - The Process, Process State, Process Control Block, Threads, Process Scheduling - Scheduling Queues, Schedulers, Context Switch, Preemptive Scheduling, Dispatcher, Scheduling Criteria, Scheduling algorithms, Case studies: Linux, Windows.Process Coordination - Process Synchronization, The Critical section Problem, Synchronization Hardware, Semaphores, and Classic Problems of Synchronization, Monitors, Case Studies: Linux, Windows.

UNIT – III

Memory Management and Virtual Memory - Logical & physical Address Space, Swapping, Contiguous Allocation, Paging, Structure of Page Table. Segmentation, Segmentation with Paging, Virtual Memory, Demand Paging, Performance of Demanding Paging, Page Replacement Page Replacement Algorithms, Allocation of Frames.

UNIT – IV

File System Interface - The Concept of a File, Access methods, Directory Structure, File System Mounting, File Sharing, Protection, File System Structure, Mass Storage Structure - Overview of Mass Storage Structure, Disk Structure, Disk Attachment, Disk Scheduling.**UNIT – V**

Deadlocks - System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery from Deadlock.

REFERENCES BOOKS:

1. Operating System Principles, Abraham Silberchatz, Peter B. Galvin, Greg Gagne 8th Edition, Wiley Student Edition.
2. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press

3. Operating systems - Internals and Design Principles, W. Stallings, 6th Edition, Pearson.
4. Modern Operating Systems, Andrew S Tanenbaum 3rd Edition PHI.
5. Operating Systems A concept - based Approach, 2nd Edition, D. M. Dhamdhere, TMH.
6. Principles of Operating Systems, B. L. Stuart, Cengage learning, India Edition.
7. Operating Systems, A. S. Godbole, 2nd Edition, TMH

OPERATING SYSTEM

Web Links:

- https://www.youtube.com/watch?v=MaA0vFKt-ew&list=PLFN0Qcc8RnU62xhyLF4KEe5fxneHPAkog
- http://www.ee.surrey.ac.uk/Teaching/Unix/
- http://www.personal.kent.edu/~rmuhamma/OpSystems/os.html
- http://courses.cs.vt.edu/csonline/OS/Lessons/index.html
- https://www.youtube.com/watch?v=bkSWJJZNgf8&list=PLxCzCOWd7aiGz9donHRrE9I3Mwn6XdP8p
- https://www.youtube.com/watch?v=QTQ8zym8Au0&list=PLWPirh4EWFpGkHH9JTKH9KsnfAA471Fhy
- https://www.youtube.com/watch?v=2i2N_Qo_FyM

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
III YEARB.Sc :: VI SEMESTER
Elective Paper-VII

w.e.f 2015-16Admitted Batch

Operating Systems Lab

3 Hours/Week
Credits: 2

Objectives:

- To use linux operating system for study of operating system concepts.
- To write the code to implement and modify various concepts in operating systems

Outcomes:

- The course objectives ensure the development of students applied skills in operating systems related areas.
- Students will gain knowledge in writing software routines modules or implementing various concepts of operating system.

List of Experiments:

1. 1.Usage of following commands Ls,pwd,tty,cat,who,who am I,rm, kdir,rmdir,touch,cd.
2. Usage of following commands Cal,cat(append),cat(concatenate),mv,cp,man,date.
3. Usage of following commands Chmod,grep,tput(clear,highlight),bc.
4. Write a shell script to check if the number entered at the command line is Prime or not.
5. Write a shell script to modify "cal" command to display calendars of the specified months.
6. Write a shell script to modify "cal" command to display calendars of the specified range of months.
7. Write a shell script to accept a login name. If not a valid login name display message "entered login name is invalid"
8. Write a shell script to display date in the mm/dd/yy format.
9. To implement the FCFS Algorithm.
10. To implement the shortest job First Algorithm.
11. To implement the priority algorithm.
12. To implement the round robin Algorithm.
13. To implement the FIFO page replacement algorithm
14. To implement the LRU page replacement Algorithm.
15. To implement the Resource request Algorithm.
16. To implement the First-Fit, Best-Fit, Worst-Fit Algorithm.
17. To implement the sequential file organization.
18. To implement the Random file organization
19. Simulate Page Replacement Algorithms FIFO
20. Simulate Page Replacement Algorithms LRU
21. Simulate Page Replacement Algorithms OPTIMAL
22. Simulate Algorithm For Deadlock Prevention

Integral Transforms (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. To solve initial value differential equations in easy manner.
2. To gain a facility with using the transform, both specific techniques and general principles, and learning to recognize when, why, and how it is used. Together with a great variety, the subject also has a great coherence, and the hope is students come to appreciate both.

CO: 1(UNIT-1)

Application of Laplace Transform to solutions of Differential Equations

(No. of hours: 12)

Solutions of ordinary Differential Equations.

Solutions of Differential Equations with constants co-efficient

Solutions of Differential Equations with Variable co-efficient

CO: 2(UNIT-2)Application of Laplace Transform (No. of hours: 12)

Solution of simultaneous ordinary Differential Equations.Solutions of partial Differential Equations.

CO: 3(UNIT-3)Application of Laplace Transforms to Integral Equations (No. of hours: 12)

Definitions : Integral Equations-Abel's, Integral Equation-Integral Equation of Convolution Type, Integro Differential Equations.Application of L.T. to Integral Equations.

CO: 4(UNIT-4)Fourier Transforms-I (No. of hours: 12)

Definition of Fourier Transform – Fourier's in Transform – Fourier cosine Transform – Linear Property of Fourier Transform – Change of Scale Property for Fourier Transform – sine Transform and cosine transform shifting property – modulation theorem.

CO: 5(UNIT-5)Fourier Transform-II (No. of hours: 12)

Convolution Definition – Convolution Theorem for Fourier transform – parseval'sIndentify – Relationship between Fourier and Laplace transforms – problems related to Integral Equations.

Course Outcomes:

1. Student can solve problems of basic integral calculus.

2. Student can understand solving of the problems in differential equations using Laplace

transforms.

3. He will apply integrals using Beta, Gamma functions.

4. Student can solve Fourier Series expansions.

Prescribed Text Book: A text book of mathematics, Integral Transforms, semester – 6, Paper – 8 A1, Cluster elective –A I, Deepthi Publications, Tenali.

Practical Integral transformation Problem Solving Sessions

CO:1 **Application of Laplace Transform to solutions of Differential Equations**

CO:2 **Application of Laplace Transform**

CO:3 **Application of Laplace Transforms to Integral Equations**

CO:4 **Fourier Transforms-I**

CO:5 **Fourier Transform-II**

Program Specific Objective: Enable the students in the concepts of differential and integral calculus, differential equations and numerical analysis. Enable the students to enhance their knowledge in the concept in transforming the technique differential equations and integral calculus. Enable the students to enhance their knowledge to deal the efficiency in solving the problems by Fourier transforms and Fourier sin transforms and cosine transforms which is a emerging area in the field of electrical engineering and signal processing.

Semester –VI, Paper -VIII-B

Advanced Numerical Analysis (w. e. f. 2015-16 Admitted Batch)

Total No. of credits: 5 **Total No. of hours: 60**

Course Objectives:

1. The *course* will develop *numerical methods* aided by technology to solve algebraic, transcendental, and differential equations.
2. To calculate derivatives and integrals.
3. The *course* will also develop an understanding of the elements of error *analysis* for *numerical methods* and certain proofs.

CO: 1(UNIT-1) Curve Fitting **(No. of hours: 10)**

Least – Squares curve fitting procedures, fitting a straight line, nonlinear curve fitting, Curve fitting by a sum of exponentials.

CO: 2(UNIT-2) Numerical Differentiation **(No. of hours: 12)**

Derivatives using Newton's forward difference formula, Newton's backward difference formula, Derivatives using central difference formula, stirling's interpolation formula, Newton's divided difference formula, Maximum and minimum values of a tabulated function.

CO: 3(UNIT-3) Numerical Integration **(No. of hours: 12)**

General quadrature formula on errors, Trapozoidal rule, Simpson's 1/3 – rule, Simpson's 3/8 – rule, and Weddle's rules, Euler – Maclaurin Formula of summation and quadrature, The Euler transformation.

CO: 4(UNIT-4) Solutions of simultaneous Linear Systems of Equations

(No. of hours: 14)

Solution of linear systems – Direct methods, Matrix inversion method, Gaussian elimination methods, Gauss-Jordan Method,Method of factorization, Solution of Tridiagonal Systems, Iterative methods. Jacobi's method, Gauss-siedal method.

CO: 5(UNIT-5) Numerical solution of ordinary differential equations

(No. of hours: 12)

Introduction, Solution by Taylor's Series, Picard's method of successive approximations, Euler's method, Modified Euler's method, Runge – Kutta methods.

Course Outcomes:

1. Student can get some idea about the nature of relationship between the two variables.
2. Student understand how to derive expressions for the reminder terms in the polynomial formulas.
3. Student can able to solve the problems of definite integration without using any basic formula's of integration.
4. When solving difficult differential equations which are not solve by analytical methods, student can apply these special methods to get the numerical solution of the equation.

Prescribed Book: Numerical Analysis by S.Ranganatham, Dr.M.V.S.S.N. Prasad,Dr.V.RameshBabuS.Chand Publication.

Practical Advance Numerical Analysis Problem Solving Sessions

CO:1 **Curve Fitting**

CO:2 **Numerical Differentiation**

CO:3 **Numerical Integration**

CO:4 **Solutions of simultaneous Linear Systems of Equations**

CO:5 **Numerical solution of ordinary differential equations**

Program Specific Objective: The objectives of studying this module are to make the students familiarize with the ways of solving complicated mathematical problems numerically and obtaining numerical solutions to problems of mathematics, also describing and understanding of the several errors and approximation in numerical methods. The limitations of analytical methods have led the engineers and scientists to evolve graphical and numerical methods. With advent of high-speed digital computers and increasing the demand for numerical answers to various problems, numerical technics have indispensable.

Visakhapatnam

B. Sc. Third year Mathematics Syllabus

Semester –VI, Paper -VIII-C

Semester – VI (C.B.C.S. Pattern)

(With effect from 2015-16 admitted Batch)

The guidelines for implementation and evaluation of Science projects of the cluster in Semester – VI of 3rd B.Sc. Examinations prepared by University under C.B.C.S. pattern with effect from the admitted batch of 2015-16.

GUIDELINES FOR PROJECT OF THE CLUSTER IN SEMESTER – VI

Objective:

The project work is an integral part of the academic curriculum of B.Sc. The objective of conducting project work at the end of semester – VI of the course is

(i.) To provide an opportunity for students to apply theoretical concepts in real life situations at the work place.

(ii.) To enable students to manage resources, work under deadlines, identify and carryout specific goal oriented tasks, to get innovative ideals, to sharpen domain knowledge and provide cross functional skills.

Guidelines:

The students who wants to do the project should follow the below mentioned points.

1. To select the topic with clear Aim & Objectives
2. To collect the previous information regarding the topic
3. To get the clear idea after getting the reference material.
4. Before going to discuss the topic, every student has to do at least three seminars on chosen topic.
5. Finally to come with results and conclusions.
6. Bibliography (Reference Journals / Books) should be mentioned.

Modalities:

The following modalities to do the project work:

1. The duration of the project work is equal to that period of respective semester as per the U.G. academic calendar circulated by Andhra University from time to time.

2. The Project guide should finalize the topics of their students to carry out the proposed project work and to identify the model / organization selected for study within 15 days of the commencement of the class work of that semester – VI. No two students can choose the same topic / project.

3. The students should submit their project Report before 15 days of the commencement of semester end theory examinations.

4. The project work shall be submitted as one book with minimum 50 pages and typing should be done on one side of the paper.

5. The topic chosen from semester I to Semester VI or application of the subject in real life situations / different disciplines.

Project Guide:

Project guide is a full time faculty member of the respective college. The maximum of 15 students can work under an internal guide. The students are expected to be in continuous interaction with the guide during the course of the project work.

Evaluation pattern for the Project work:

The project report has 150 marks consisting of 100 marks (25 marks internal + 75 marks external) for project report and the remaining 50 marks for viva-voce examination. The minimum pass marks for project is 75 out of 150 marks on an aggregate.

• Seminars (Internal) • 25 marks	• Report of the project – 75 marks • (External – 50 + Internal – 25)	• Viva-voce of the project • (External - 25 marks)
• 1st Seminar – 5 marks • 2nd Seminar – 10 marks • 3rd Seminar – 10 marks	• 1. Introduction (Selection of the topic, aim and objectives). • 2. Review of information • 3. Methodology • 4. Analysis and Discussion • 5. Suggestions and Conclusion • 6. References	• Presentation – 15 marks • Viva – 10 marks

The Viva-voce examination will be conducted at the respective institutions as per the guidelines of Andhra University where a student is expected to give a presentation of his / her project work. The viva-voce examination will be conducted by the committee comprising of Head of the Department, Project guide and an External examiner nominated by the Andhra University.

Semester –VI

Elective Paper – VIII-A: Introduction to Microprocessors and Microcontrollers

Workload: 60 hours per semester **4hrs/week**

Credits: 3

Course Objectives:

- To introduce students with the architecture and operation of typical microprocessors andmicrocontrollers.
- To familiarize the students with the programming and interfacing of microprocessors andmicrocontrollers.
- To provide strong foundation for designing real world applications using microprocessors and microcontroller

Unit –I (10Hours) CO1

1. Introduction to Microprocessors: Organization of microprocessorbased system, 8085 microprocessor, its pin diagram and architecture, concept of data bus, and address bus, 8085 programming, instruction classification, stacks and its implementation, hardware and software interrupts.

Unit – II (10Hours) CO2

2. 8085 Interfacing: I/O Interfacing, programmable peripheral interfacing, 8255, programmable peripheral interval Timer 8253, programmable communication interface 8251, DAC 0800 and ADC 0800 interfacing.

Unit– III (15Hours) CO3

3. Introduction to Microcontroller: General purpose of computer systems, architecture of embedded system, 8051 block diagram, assembly language programming, programme counter, ROM memory, data types and directives, flag bits PSW register, jump, loop and call constructions

Unit – IV (15 hours) CO4

4. 8051 I/O Programming: Introduction to I/O port programming, pin out diagram, I/O port pin programming, bit manipulation, addressing modes, accessing memory, arithmetic and logic instructions.

5. Timers: Programming of 8051 timers, counter programming, interrupts, external hardware interrupts, serial communication interrupts, interrupt priority.

Unit –V (10Hours) C05

6. Embedded system programming: Structure of programming, infinite loop, compiling, linking locating, down loading and debugging, simulator, emulator.

7. Classification and Applications of Embedded system.

Course Outcomes

CO 1: The general architecture of a microcomputer system and architecture &organization of 8085 Microprocessor and understand the difference between 8085 and advanced microprocessor.

CO 2: Understand and realize the Interfacing of memory & various I/O devices with 8085 microprocessor.

CO 3: Understand need of microcontroller, architecture and operation of microcontroller, 8051 develops assembly language programs using instruction set of 8051.

CO 4: Develop programs using interrupts, various applications of microcontrollers

CO 5: To provide in depth knowledge about embedded processor, its hardware and software.

Reference Books

Sl. No.	Author Name	Book Title	Publisher's Name	Place	Year
1	R Kamal	EmbeddedSystems..Architecture, programming and design	TMH		2008
2	M.A.MazidiJ.G.Mazidi and R.D.McKinlay	The 8051 micro controller and embedded systems using Assembly and C	Pearson Education	India	2007
3	K.V. Shibu	Introduction to embedded systems	McGraw Hill		2009
4	I Susnea and Mitescu	Micro Controllers in practice	Springer		2005

Smart Class URL:

S.NO	CO	UNIT	URL
1	**CO1**	**I**	*https://www.youtube.com/watch?v=_UQ9mYzUnD8*
2	**CO2**	**II**	*https://www.youtube.com/watch?v=-FGw_MPlfbk&vl=en*
3	**CO3**	**III**	

			https://www.youtube.com/watch?v=iXSXIJn_Xwc&vl=en
4	**CO4**	**IV**	*https://www.youtube.com/watch?v=2I6d6yuPc-s*
5	**CO5**	**V**	*https://www.youtube.com/watch?v=JO4AEkOVF2M*

Elective Paper-VIII-A Practical: Introduction to Microprocessors and Microcontrollers3hrs/Week

Credits: 2

Minimum of 6 experiments to be done and recorded

1. Program to Add Two 8-bit Numbers Without Carry
2. Program to Add Two 8-bit Numbers With Carry
3. Program to Subtract Two 8-bit Numbers without Borrow
4. Program to Subtract Two 8-bit Numbers With Borrow
5. Program to Add Two 16-bit Numbers Without Carry
6. Program to Add Two 16-bit Numbers with Carry
7. Program to Subtract Two 16-bit Numbers Without Borrow
8. Program to Subtract Two 16-bit Numbers With Borrow
9. Program to Multiply Two 8-bit Numbers
10. Program to Multiply Two 16-bit Numbers

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
B.Sc Physics Syllabus under CBCS
W.E.F 2015-16 admitted batch
B.Sc VI Semester Physics
Cluster Elective Paper VIII-B: Computational Methods and Programming
Work Load: 60 hours per semester4 Hrs / week

Credits: 3

Course Objectives

1. Learn data types and control structures of C
2. Learn to map problems to programming features of C.
3. Learn to write good portable C programs.

UNIT-I (12hrs) **CO1**

1. Fundamentals of C language: C character set-Identifiers and Keywords-Constants - Variables-Data types-Declarations of variables-Declaration of storage class-Defining symbolic constants- Assignment statement.
2. Operators: Arithmetic operators-Relational operators-Logic operators-Assignment operators- Increment and decrement operators-Conditional operators.

Course Outcomes : Unit I : Students completing this unit portion will be able to Define and Declare statements using C Language and the use of various operators used in C Language.

UNIT-II (12hrs) **CO2**

3. Expressions and I/O Statements: Arithmetic expressions-Precedence of arithmetic operators-Type converters in expressions-Mathematical (Library) functions - Data input and output-The getchar and putchar functions-Scanf-Printf simple programs.
4. Control statements:If -Else statements -Switch statements - The operators - GO TO - While, Do - While, FOR statements - BREAK and CONTINUE statements.

Course Outcomes : Unit II : Students completing this unit portion will be able to Know to use statements iteratively and execute some statements depending on the requirement.

UNIT-III (12hrs) **CO3**

5. Arrays: One dimensional and two dimensional arrays - Initialization - Type declaration - Inputting and outputting of data for arrays - Programs of matrices addition, subtraction and multiplication
6. User defined functions: The form of C functions - Return values and their types - Calling a function - Category of functions. Nesting of functions.Recursion.ANSI C functions- Function declaration. Scope and life time of variables in functions.

Course Outcomes: Unit III: Students completing this unit portion will be able to Define efficient use of memory and execute statements based on a particular task.

UNIT-IV (12hrs) CO4

7. Linear and Non - Linear equations: Solution of Algebra and transcendental equations-Bisection, Falsi position and Newton-Rhapson methods-Basic principles-Formulae-algorithms
8. Simultaneous equations: Solutions of simultaneous linear equations-Guass elimination and Gauss Seidel iterative methods-Basic principles-Formulae – Algorithms.

UNIT-V (12hrs) CO5

9. Interpolations: Concept of linear interpolation-Finite differences-Newton's and Lagrange's interpolation formulae-principles and Algorithms
10. Numerical differentiation and integration: Numerical differentiation-algorithm for evaluation of first order derivatives using formulae based on Taylor's series-Numerical integration-Trapezoidal and Simpson's 1/3 rule- Formulae-Algorithms.

Reference books:

S.No.	Author Name	Book Title	Publisher's Name	Place	Year
1.	Sastry	. Introductory methods of Numerical Analysis			
2	Balaguruswamy	Numerical Methods			
3	Balaguruswamy	Programming in ANSI C	, Tata Mc Graw Hill		
4	Byron Gottafried	Programming with 'C'	, Tata Mc Graw Hill		

Web Links

S.No.	CO	Unit	URL

1	CO1	I	https://www.youtube.com/watch?v=PwWuOFYH92U&list=PLJ5C_6qdAvBFzL9su5J-FX8x80BMhkPy1&index=5
2	CO2	II	https://www.youtube.com/watch?v=HyDpW7Al6_E&index=15&list=PLJ5C_6qdAvBFzL9su5J-FX8x80BMhkPy1
3	CO3	III	https://www.youtube.com/watch?v=I9828WOCEMg&index=26&list=PLJ5C_6qdAvBFzL9su5J-FX8x80BMhkPy1
4	CO4	IV	
5	CO5	V	

Cluster Elective Paper-VIII-B
Computational Methods and Programming

3hrs/Week **Credits: 2**

Minimum of 6 experiments to be done and recorded

1. Write a program that reads an alphabet from keyboard and display in the reverse order.
2. Write a program to read and display multiplication of tables.
3. Write a program for converting centigrade to Fahrenheit temperature and Fahrenheit temperature centigrade.
4. Write a program to find the largest element in an array.
5. Write a program based on percentage calculation, the grade by entering the subject marks. (If percentage > 60 I class, if percentage between 50&60 II class, if percentage between 35&50 III class, if percentage below 35 fail).
6. Write a program for generation of even and odd numbers up to 100 using while, do-while and for loop.
7. Write a program to solve the quadratic equation using Bisection method.
8. Write a program for integration of function using Trapezoidal rule.
9. Write a program for solving the differential equation using Simpson's $1/3^{rd}$ rule.

GAYATRI VIDYA PARISHAD COLLEGE FOR DEGREE AND PG COURSES (A)
B.Sc. PHYSICS SYLLUBUS UNDER CBCS
Semester –VI
W.e.f. 2017-18 Admitted batch
Paper –VIII-C: Electronic Instrumentation

Workload: 60 hours per semester **4hrs/week**
Credits: 3

Course Objectives:
Explain basic concepts and various parameters that are measurable in electronic instrumentation.
Explain the construction and working of various electronic instruments
Describe the bridge configurations and their applications.
Elaborate discussion about the importance of signal generators and analyzers in Measurement.

Unit – I (12Hours) CO1
1. Basics of measurements: Functional block diagram of an Instrumentation system, Instruments accuracy, precision, sensitivity, resolution range, errors in measurement

Unit -11 (10 Hours) CO2
2. PMMC Working, Galvanometer, principles of measurement of dc voltage and dc currents, ac current and resistance, Multimeter working.

Unit– III (14 Hours) CO3

3. CRO:Block diagram of basic CRO, construction of CRT, electron gun, electrostatic focusing and acceleration (only explanation), time base operation, synchronization, front panel controls, specifications of CRO and their significance.

Applications CRO: Measurement of voltage ,dc and ac frequency , time period, special features of dual trace, digital storage oscilloscope, block diagram and principle of working.

Unit – IV (12 Hours) CO4

4. Digital Multimeterblock diagram and working, frequency and period measurement using universal counter, Digital frequency counter.

5. Digital instruments: Principle and working of digital instruments, working principle of digital voltmeter.

Unit – V (12 Hours) CO5

6. Block diagram of Standard Signal generator, pulse generator, function generator-working, Distortion, wave analyzers, Frequency selective wave analyzers

7. Bridges: Block diagram, working of basic LCR bridge – specifications – block diagram and working.

Course Outcomes:

After the completion of the course, Students will be able to

CO 1: Describe theories explaining the structure of atoms and the origin of the observed spectra, list different types of atomic spectra, identify atomic effect such as Zeeman Effect and Stark effect.

CO 2: Understand the dual nature of matter and the uncertainty relations.

CO 3: Understand and explain the differences between classical and quantum mechanics, understand the idea of wave function. Solve Schrodinger equation for simple potentials.

CO 4: Understand the size of nucleus and all its properties and different nuclear models. This course has led the students to understand interaction of various types of radiation with matter which they observe in their daily life.

CO 5: Demonstrate an understanding of the crystal lattice and how the main lattice types are described, knowledge of X-ray diffraction in crystals. Determine the structures of simple crystals. Knowledge of the super conductivity, types of super conductors, Meissner effect, applications of super conductors.

Reference Books :Cluster Elective Paper –VIII-A-3: ElectronicInstrumentation

Sl.No.	Author Name	Book Title	Publisher's Name	Place	Year
1.	B.L.Thereja	A text book in electrical technology	S.Chand&Co		
2.	Venugopal	Digital circuits and systems	Tata McGraw Hill		2011
3.		Digital Electronics	Cengage Learning		2012

Smart Class URL:

S.NO	CO	UNIT	URL
1	**CO1**	**I**	https://www.youtube.com/watch?v=xLjk5DrScEU
2	**CO2**	**II**	https://www.youtube.com/watch?v=bQGlmvjCFoo
3	**CO3**	**III**	https://www.youtube.com/watch?v=xugZ3oM1bPg
4	**CO4**	**IV**	https://www.youtube.com/watch?v=c5NeTnp_poA
5	**CO5**	**V**	https://www.youtube.com/watch?v=OBt0cIWTXbA

Elective Paper-VIII-C: Practical: Electronic Instrumentation
3hrs/Week

Minimum of 6 experiments to be done and recorded
1. Study the loading effect of a multimeter by measuring voltage across alow and high resistance.
2. Study the limitations of a multimeter for measuring high frequency voltage and currents.
3. Measurement of voltage, frequency, time period and phase angle using CRO.
4. Measurement of time period and frequency using universal counter/frequency counter.
5. Measurement of rise, fall and delay times using a CRO.
6. Measurement of distortion of a RF signal generator using distortion factor meter.
7. Measurement of R, L and C using a LCR bridge/ universal bridge.

GAYATRI VIDYA PARISHAD
COLLEGE FOR DEGREE AND PG COURSES (AUTONOMOUS)
III YEAR VI SEMESTER
Elective Paper-VIII(A)
SYLLABUS W.E.F 2015-16 Admitted Batch

Foundations of Data Science

4 Hours/Week
Credits: 3]

Course Objectives

- To understand different data science roles, exploring and managing data with different techniques
- To understand Knowledge of data organization, management, preservation, and reuse
- Knowledge of what statistical analysis techniques to choose, given particular demands of inference and available data
- Skills in scripting for data manipulation, analysis, and visualization using R, R-Studio, and a variety of add on packages

Course Outcomes

CO1: Able to learn data science process with different techniques such as cleaning,sampling etc.

CO2: Learn to apply hypotheses and data into actionable predictions by using cluster analysis.

CO3:Learn basics of R-language using R-studio.

CO4:Learn different types of Distributions using R.

CO5:Document and transfer the results and effectively communicate the findings using visualization techniques**.**

UNIT I **[CO1]**

INTRODUCTION TO DATA SCIENCE : Data science process – roles, stages in datascience project – working with data from files – working with relational databases – exploring data – managing data – cleaning and sampling for modelling and validation – introduction to NoSQL.

UNIT II **[CO2]**

MODELING METHODS : Choosing and evaluating models – mapping problems tomachine learning, evaluating clustering models, validating models – cluster analysis – K-means algorithm, Naïve Bayes – Memorization Methods – Linear and logistic regression – unsupervised methods.

UNIT III **[CO3]**

INTRODUCTION TO R Language: Reading and getting data into R – ordered andunordered factors – arrays and matrices – lists and data frames – reading data from files.

UNIT IV **[CO4]**

PROBABILITY DISTRIBUTIONS in R - Binomial, Poisson, Normal distributions. - Manipulating objects - data distribution.

UNIT V **[CO5]**

DELIVERING RESULTS : Documentation and deployment – producing effectivepresentations– Introduction to graphical analysis – plot() function – displaying multivariate data – matrix plots – multiple plots in one window - exporting graph - using graphics parameters in R Language. Case studies.

Reference Books

1.Nina Zumel, John Mount, “Practical Data Science with R”, Manning Publications, 2014.

2.Jure Leskovec, Anand Rajaraman, Jeffrey D.Ullman, “Mining of Massive Datasets”, Cambridge University Press, 2014.

3.Mark Gardener, “Beginning R - The Statistical Programming Language”, John Wiley & Sons, Inc., 2012.

4.W. N. Venables, D. M. Smith and the R Core Team, “An Introduction to R”, 2013.

5.Tony Ojeda, Sean Patrick Murphy, Benjamin Bengfort, Abhijit Dasgupta, “Practical Data Science Cookbook”, Packt Publishing Ltd., 2014.

6.Nathan Yau, “Visualize This: The FlowingData Guide to Design, Visualization, and Statistics”, Wiley, 2011.

7.Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, “Professional Hadoop Solutions”, Wiley, ISBN: 9788126551071, 2015.

Web links:

https://www.youtube.com/watch?v=X3paOmcrTjQ
https://www.youtube.com/watch?v=4R8nWDh-wA0
https://www.youtube.com/watch?v=eDrhZb2onWY
https://www.youtube.com/watch?v=psHrcSacU9Y
https://www.youtube.com/watch?v=iG995W0XefU&list=PLqzoL9-eJTNBf1PJKYyEgkbF_9WAlraTF

GAYATRI VIDYA PARISHAD COLLEGE for DEGREE and P.G. COURSES (AUTONOMOUS)
III YEAR VI SEMESTER
w.e.f 2015-16Admitted Batch

Foundations of Data Science Lab

3 Hours/Week
Credits: 2

Objectives :

- R is a well-developed, simple and effective programming language which includes conditionals, loops, user defined recursive functions and input and output facilities.
- R has an effective data handling and storage facility,
- R provides a suite of operators for calculations on arrays, lists, vectors and matrices.
- R provides a large, coherent and integrated collection of tools for data analysis.

Outcomes:

1) At end student will learn to handle the data through R.
2) Student will familiar with loading and unloading of packages.

I. Installing R and R studio

II. Basic Operations in r

1. Arthematic Operations
2. Comments and spacing
3. Logical Operators - <, <=, >, >=, = , !=, &&, 1

III.
1. Getting data into R, Basic data manipulation
2. Vectors, Materials, operation on vectors and matrices.

IV.
1. Basic Plotting
2. Quantitative data
3. Frequency plots
4. Box plots
5. Scatter plot
6.Categorial data
7. Bar charts
8. Pie charts

V. Loops and functions

1. if, if else, while, for break, next, repeat.
2. Basic functions- Print(), exp( ), Log( ), sqrt( ), abs( ), sin( ), Cos( ), tan( ), factorial( ), rand ().

GAYATRI VIDYA PARISHAD COLLEGE for DEGREE and P.G. COURSES (AUTONOMOUS)
III YEAR B.Sc :: VI SEMESTER
w.e.f 2015-16Admitted Batch
Elective Paper-VIII(B)
Big Data Technology

4 Hours/Week
Credits: 3

Course Objective:

- To understand the fundamental concepts of Big Data and Hadoop.
- To understand the Hadoop architecture and algorithms for Map Reduce.
- To apply Concepts of HDFS in Hadoop framework.
- To Understand HiveQL querying, HBase concepts and services in Zookeeper.

Course Outcome:

Able to

CO1: Understand Big Data analytics and Map Reduce techniques
CO2:Apply Hadoop techniques for Data handling.
CO3:Implement HDFS commands in Hadoop framework.
CO4:Handle different queries of HiveQL.
CO5:Apply different services of Zookeeper in HBase.

UNIT I [CO1]

INTRODUCTION TO BIG DATA:Introduction – distributed file system – Big Data and its importance, Four V's in bigdata, Drivers for Big data, Big data analytics, Big data applications. Algorithms using map reduce, Matrix-Vector Multiplication by Map Reduce.

UNIT II [CO2]

INTRODUCTION HADOOP : Big Data – Apache Hadoop & Hadoop EcoSystem – Moving Data in and out of Hadoop – Understanding inputs and outputs of MapReduce - Data Serialization.

UNIT- III [CO3]

HADOOP ARCHITECTURE: Hadoop Architecture, Hadoop Storage: HDFS, Common Hadoop Shell commands , Anatomy of File Write and Read., NameNode, Secondary NameNode, and DataNode, Hadoop MapReduce paradigm, Map and Reduce tasks, Job, Tasktrackers - Cluster Setup – SSH & Hadoop Configuration – HDFS Administering – Monitoring & Maintenance.

UNIT-IV [CO4]

HIVE AND HIVEQL, HBASE: Hive Architecture and Installation, Comparison with Traditional Database, HiveQL - Querying Data - Sorting And Aggregating, Map Reduce Scripts, Joins & Subqueries,

UNIT-V [CO5]

HBase concepts- Advanced Usage, Schema Design, Advance Indexing - Zookeeper – how it helps in monitoring a cluster, HBase uses Zookeeper and how to Build Applications with Zookeeper.

Reference Books :

1. Boris lublinsky, Kevin t. Smith, Alexey Yakubovich, "Professional HadoopSolutions", Wiley, ISBN: 9788126551071, 2015.

2 .Big Data Black Book(Covers Hadoop 2, Map Reduce, Hive, Yarn, Pig & Data Visualization)-Dream Tech Publications

3.Chris Eaton, Dirk derooset al. , "Understanding Big data ", McGraw Hill, 2012.

4. Tom White, "HADOOP: The definitive Guide" , O Reilly 2012.

5. Vignesh Prajapati, "Big Data Analytics with R and Haoop", Packet Publishing 2013.

6. Tom Plunkett, Brian Macdonald et al, "Oracle Big Data Handbook", Oracle Press, 2014.

7. Jy Liebowitz, "Big Data and Business analytics",CRC press, 2013.

Web Links:

- https://www.edureka.co/hadoop
- https://www.youtube.com/watch?v=xM9xHLUXrAY
- https://www.youtube.com/watch?v=m9v9lky3zcE
- https://www.youtube.com/watch?v=VRD775iqAko
- https://www.youtube.com/watch?v=OoEpfb6yga8

GAYATRI VIDYA PARISHAD COLLEGE for DEGREE and P.G. COURSES (AUTONOMOUS)
III YEARB.Sc :: VI SEMESTER
w.e.f 2015-16Admitted Batch

Elective Paper-VIII (B)

BIG DATA TECHNOLOGY LAB

3 Hours/Week
Credits: 2

Objectives :

- Understand what Hadoop is
- Understand what Big Data is
- Learn about other open source software related to Hadoop

Outcomes:

i) Get help on the various Hadoop commands
ii) Observe a Map-Reduce job in action

1. Implement the following Data Structures in Java

a) Linked Lists

b) Stacks

c) Queues

d) Set

e) Map

2. (i) Perform setting up and Installing Hadoop in its three operating modes: Standalone

Pseudo distributed

Fully distributed

(ii) Use the web based tools to monitor your Hadoop setup.

3. Implement the following file management tasks in Haddop.

Adding files and directories

Retrieving files

Deleting files

GAYATRI VIDYA PARISHAD COLLEGE for DEGREE and P.G. COURSES (AUTONOMOUS)
III YEAR VI SEMESTER
Admitted Batch w.e.f 2015-16
Elective Paper-VIII(C)
Project Work

3 Hours/Week
Credits:2

CO1: Apply the student's knowledge and implementation skills in the in computer science for the project course, and apply this to a specific project topic in that area.

CO2:deepen their knowledge of computing through undertaking the project.

CO3: Learn any specific technical skills required by their topic, and apply them to the project work.

CO4: Learn relevant project-related skills, including project management and oral and written communication, and apply these to the project work.

CO5: Learn Manual Testing of the Project.

PROJECT & VIVA-VOCE

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 2 hours/week for one (semester VI) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project. The initiation of project should be with the project proposal. The synopsis approval will be given by the project guides.

The project proposal should include the following:

- Title
- Objectives
- Input and output
- Details of modules and process logic
- Limitations of the project
- Tools/platforms, Languages to be used
- Scope of future application

The Project work should be either an individual one or a group of not more than three members and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.

B.Sc –Mathematics, Physics, Computer Science (MPCs)
Programme Specific Outcomes

PSO1. Effectively utilizing the knowledge of computing principles and Mathematics theory to develop sustainable solutions to current and future computing problems and also knowledge of general Physics like sound, wave mechanics, friction, forces and laws of motion and use of mathematics and also create interest towards the area of research.

PSO2. Be able to demonstrate basic knowledge in the core areas of Physics (Classical Mechanics, Waves & Acoustics, Optics & Lasers, Thermodynamics, Electricity Magnetism & Electronics, and Modern Physics). Be versatile in laboratory techniques in using modern as well as conventional apparatus.

PSO3: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, and multimedia and big data analytics for efficient design of computer-based systems of varying complexity. They develop the ability to employ modern platforms in creating innovative career paths to be an entrepreneur and a zest for higher studies.