Demonstration of Project work (Learners of 1st year 2nd semester)

Lab work of Digital Logic Design course

A project was done by the learners

Learners in outdoor games

EVALUATION PROCEDURE

To complete a course a learner shall be required to go through an evaluation procedure. The performance of a learner in each course (Theoretical, Practical/ Laboratory/ Sessional) shall be evaluated based on a scheme of continuous assessment and semester final examination. The 40% marks are considered pass of a course provided that student(s) must appear in the semester final examination of a course(s) and must obtain 10% marks of that course(s) of the semester final examination.

For theory courses the continuous assessment shall be evaluated through a set of quizzes, class tests, class evaluation, class participation, homework assignment, case study and seminar/presentation;

- For laboratory courses, the continuous assessments shall be evaluated by the performance of the learner during laboratory hours, class participation, assignments, class test, notebook on experiments, viva-voce during laboratory hours and quizzes.

Distribution of Marks

Theory Courses

(i) Total one hundred marks are allotted for each course. Thirty percent (30%) of the marks shall be allotted for continuous assessment and seventy percent (70%) for semester final examination. The distribution of marks for each course is as follows:

Category	Marks%
Class Attendance	5%
Assignment/Case study	10%
Quizzes/Class test	15%
Semester Final Examination	70%
Total	100%

(ii) The number of assignment/case study of a course shall be at least three (3) in each course. Average marks shall be considered as final assignment marks.

(iii) At least two midterm/quizzes/class tests shall be conducted for each course. Average marks shall be considered as final midterm/quizzes/class test marks and added to the final score.

(iv) The basis of awarding marks for class attendance shall be as follows:

Attendance	Marks
90% and above	5
80% to less than 90%	4
70% to less than 80%	3
60% to less than 70%	2
50% to less than 60%	1
Less than 50%	0

Laboratory Courses

(i) Total one hundred marks are allotted for each course. Forty percent (40%) of the marks shall be allotted for continuous assessment and sixty percent (60%) for semester final examination. Distribution of marks for each course is as follows:

Category		Marks%
Class attendance		10%
Lab performance		10%
Assignment/case study		10%
Quizzes/class test		10%
Semester Final Examination		60%
Problem-solving/Lab test	40	
Viva-voce	10	
Notebook on experiment/Lab report	10	
Total		100%

(v) Number of assignment/case study of a course shall be at least three (3) in each course. Average marks shall be considered as final assignment marks.

(vi) At least two midterm/quizzes/class tests shall be conducted for each course. Average marks shall be considered as final midterm/quizzes/class test marks and added to the final score

(ii) Basic of awarding marks for class attendance shall be as follows:

Attendance	Marks
90% and above	10
85% to less than 90%	9
80% to less than 85%	8
75% to less than 80%	7
70% to less than 75%	6
65% to less than 70%	5
60% to less than 65%	4
55% to less than 60%	3
50% to less than 55%	2
Less than 50%	0

Project Work

(i) The learners shall certify that the project was done by her/him and that has not been submitted elsewhere or for any other degree or diploma

(ii) Total one hundred marks are allotted for Project Work. Distribution of marks is as follows:

Category	Marks%
Project Supervisor	30%
Evaluation of Project Work	40%
Presentation	30%
Total	100%

(iii) There shall be an evaluation committee for evaluating the project that shall consist of two members. The examination committee of the relevant semester shall recommend the names of the member for approval of the Vice-Chancellor. This approval will be reported to the Academic council. The evaluation committee shall be constituted as follows.

Serial	Category	Position
1.	Chairman of the examination committee of the relevant semester	Chairman
2.	One expert member and not below the rank of an Associate Professor	Member

(iv) If a member is unable to accept the appointment or has to relinquish his appointment before conducting the project evaluation, the Vice-Chancellor shall appoint another member in his place on the recommendation of the Examination Committee of the relevant semester. The appointment will be also reported to the Academic Council.

Comprehensive Viva Voce

(i) Total one hundred marks are allotted for Comprehensive Viva Voce.

(ii) There shall be an Examination Board for conducting the Comprehensive Viva-Voce that shall consist of at least five members.

Continuous Assessment Report

(i) The respective course teacher/tutor shall conduct the in-course mid-semester/class test/class performance/assignment respectively.

(ii) All class tests, assignments, presentations; class performance will be evaluated by the course teacher or faculty of BOU. At the end of the syllabus of each course, s/he shall calculate the total number of continuous assessment, class participation marks and prepare a marks sheet. S/he shall submit the same to the chairman of the respective examination committee as well as to the Controller of the Examination of BOU before the start of the semester final examination.

(iii) The course teacher shall also submit the class attendance report with the register/documents to the chairman of the respective examination committee.

Semester Final Examination

Semester Final Examination will be conducted by Bangladesh Open University.

Pattern of Question Paper

The question shall be set including short type, problem-solving and analytical (depending on the nature of the course) and have to answer 5 out of 7 questions.

Time: 3 Hours Marks: 70

5 out of 7 - 5×14 marks = 70 marks

Laboratory Question

Distribution of the laboratory works among the learners will be done by the external and internal examiner during the examination with the help of the question paper supplied by the respective examination committee.

Time: 3 Hours Marks: 60

Re-evaluation of Answer Script

Re-evaluation of any answer script shall not be allowed.

Grading System

Each course has a certain number of credits, which describes its corresponding weight. A learner's Performance is measured by the number of credits completed satisfactorily and by the weighted average of the grade points earned. A minimum grade point average (GPA) is essential for satisfactory progress. A minimum number of earned credits also have to be acquired to qualify for the degree. Letter grades and corresponding grade points are given as follows.

Numerical Grade	Letter Grade	Grade Point
80% or above	A+	4.0
75% to less than 80%	A	3.75
70% to less than 75%	A-	3.5
65% to less than 70%	B+	3.25
60% to less than 65%	B	3.0
55% to less than 60%	B-	2.75
50% to less than 55%	C+	2.5
45% to less than 50%	C	2.25
40% to less than 45%	D	2.0
Less than 40%	F (Fail)	0.0

Calculation of Cumulative Grade Point Average (CGPA)

A learner will get an individual GP for every completed course. In choosing of completion of a number of courses, the 'Grade Point Average' (GPA) of those completed courses will be calculated by using the following formula where the individual GP of courses and the respective credit of those courses will be taken into consideration.

The GPA is calculated as follows:

$$GPA = \frac{\sum(Credits\ passed \times grade\ point\ value)}{Total\ credit\ of\ all\ courses\ attempted}$$

Upon successful completion of the program requirements, the CGPA of the learner will be calculated by using the following formula.

$$CGPA = \frac{\sum(Credits\ of\ courses\ passed \times grade\ point\ earned\ in\ the\ course)}{Total\ credit\ of\ the\ program}$$

Repeat/ Improvement

The repeat/improvement course(s) will be guided by the following rules.

(a) Learner earning 'F' grade in any course shall be required to improve the grade when offered in the subsequent semester(s), since achieving a passing grade ('D') by paying the necessary re-examination fee(s).

(b) A learner earning a 'B-' (B minus) grade or below may also choose to improve the grade when offered in the subsequent semester(s) by paying also necessary re-examination fee(s). The following rules will apply in these regards:

(i) Improvement opportunities shall be once only for each course. Otherwise, the learner shall have to pay twice the normal re-examination fee for a course. However, improvement of a course shall not be allowed after graduation.

(ii) In the case of failure to improve her/his grade after the course improvement examination, the previous grade shall remain valid.

(c) In both the cases stated in (a) & (b), the learner shall not require to submit assignments/quizzes/class tests, if submit once.

(d) Learners having 'F' grade in any course/courses or having courses/courses still incomplete will get an opportunity for registration of maximum 12 credits from the previous semester(s) in subsequent semester(s). on the contrary, the outgoing learners having 'F' grade in maximum 20 credits or having course(s) still incomplete, may be allowed to register for the subsequent semester(s) to complete the degree.

Requirement for obtaining 'B.Sc in CSE Degree

(i) Complete 148 credits successfully;

(ii) Obtain a minimum grade of 'D' in each course;

(iii) Secure a minimum 'Cumulative Grade Point Average(CGPA)' of 2.5;

(iv) Complete the program within eight academic years of her/his first admission year in the program.

Detail Syllabus

First Year First Semester

COURSE CODE	COURSE TITLE	CREDIT
ENG1131	**Communicative English**	**3.0**

Listening - Introducing learners to GIE - Types of listening - Listening to audio (verbal & sounds); Listening and responding to video lectures/talks; Listening to specific task-focused audio tracks; Watching videos/documentaries and responding to questions based on them; Listening to different accents, Listening to Speeches / Presentations, Listening to broadcast & telecast from Radio & TV;
Speaking - Speaking about one's place, important festivals etc. – Introducing oneself, one's family/friend; Describing a simple process (filing a form, etc.) - Asking & answering questions - Telephone skills – Telephone etiquette; Role-play – Simulation - Group interaction - Speaking in formal situations (teachers, officials, foreigners); Responding to questions - Different forms of interviews - Speaking at different types of interviews; Giving impromptu talks, Making presentations on given topics;
Reading - Skimming a reading passage – Scanning for specific information - Note-making; Critical reading - Finding key information in a given text - Sifting facts from opinions; Reading and interpreting visual material; Making inference from the reading passage - Predicting the content of a reading passage; Email communication - Reading the attachment files having a poem/joke/proverb - Sending their responses through email;
Writing - Free writing on any given topic (My favourite place / Hobbies / School life, etc.) - Sentence completion - Autobiographical writing (writing about one's leisure time activities, hometown, etc.); Biographical writing (place, people) - Lab descriptions (general/specific description of laboratory experiments) - Definitions - Recommendations; Jumbled sentences - Coherence and cohesion in writing - Channel conversion (flowchart into process) - Types of paragraph (cause 10 & effect / compare & contrast / narrative / analytical) - Informal writing (letter/e-mail/blogs) - Paraphrasing; Interpreting visual materials (line graphs, pie charts etc.) - Essay writing – Different types of essays; Creative writing, Poster making;
Grammar - Prepositions - Reference words – Wh - questions - Tenses (Simple); Use of imperatives - Subject-verb agreement; Tenses (Past) - Use of sequence words - Adjectives; Adverbs – Tenses – future time reference; Direct and indirect speech;

Vocabulary - Word formation - Word expansion (root words / etymology); Compound words - Word Association; Different forms and uses of words, Cause and effect words; Single word substitutes - Use of abbreviations & acronyms; Lexical items (fixed / semi fixed expressions);

Books Recommended:

(i) Mindscapes: English for Technologists and Engineers, Orient Black Swan, 2012.
(ii) S.P. Dhanavel, English and Communication Skills for students of Science and Engineering. Oriented Black Swan, Chennai, 2011
(iii) Pickett, Nell Ann, Ann A.Laster and Katherine E.Staples. Technical English: Writing, Reading and Speaking. New York: Longman, 2001.
(iv) Bailey, Stephen. Academic Writing: A practical guide for students. New York: Rutledge, 2011.

COURSE CODE	COURSE TITLE	CREDIT
PHY1132	**Wave, Optics and Thermodynamics**	**3.0**

Waves: Waves on a String, Transverse and longitudinal waves, The wave equation, Phase velocity, The sine wave, Power transmission, Superposition principle, Interference, Standing waves and Resonance, Sound waves, Wave speed (without derivation), Displacement and pressure waves, Beats, Doppler effect for sound waves.

Optics: Huygen's Principle (eg. in Refraction), The electromagnetic wave, Coherence, Young's experiment, Intensity in double slit interference, Thin film interference (including wedge films and Newton's rings), The Phasor Method, Single slit diffraction, The diffraction grating. Total internal reflection: mechanism of wave propagation and applications.

Heat and Thermodynamics: Temperature, Heat and the First Law Measuring temperature, Constant Volume gas thermometer, Ideal gas temperature, Measurement of thermodynamic temperature, Absorption of heat by solids and liquids, Molar specific heat, Heat and Work, Calculation of work done by an ideal gas at constant temperature, Differential form of First Law of Thermodynamics and application to selected cases, Kinetic Theory of Gases, RMS speed, pressure, translational kinetic energy and pressure, Adiabatic equation of an ideal gas, Entropy and the Second law of Thermodynamics, Heat engines and refrigerators

Books Recommended:

(i) Walker, J., & Halliday, D. (2008). Fundamentals of physics (8th ed.). Hoboken, NJ: Wiley.
(ii) Tipler, P., & Mosca, G. (2008). Physics for scientists and engineers (6th ed.). New York, NY: W.H. Freeman.

COURSE CODE	COURSE TITLE	CREDIT
BUS1123	**Introduction to Business**	**2.0**

The Business: Its Nature and Scope: Meaning of Business, Characteristics of Business, Objectives of Business, Requisites of a Successful Business, Scope of Business, Difference between Business and Profession, Iner-relationship between Industry, Commerce and Trade.

Ownership Structure: Proprietorship, Partnership, Company, Cooperative, Selection of an Appropriate Form of Ownership Structure, Ownership Pattern in Small-Scale Enterprises in Bangladesh.

General and Human Resource Management: Meaning of Management, Characteristics of Management, Difference between Management and Administration, Scope of Management, Functions of Management, Management Process, Manpower Planning, Motivation, Job Recruitment, Selection, Training and Development, Remuneration and Benefits.

Financing of Enterprise: Need for Financial Planning, Sources of Finance, Capital Structure, Term-Loans, Sources of Short-term Finance, Capitalization, Venture Capital, Export Finance., Working Capital- Significance of Working Capital, Assessment of Working Capital, Factors Determining Requirements of Working Capital, Sources of Working Capital, Management of Working Capital.

Production and Operation Management: Investment Analysis, Plant Location, Plant Layout, Product Design, Production Design, Quality Control, Small Business Technology,Inventory Management- Concept of Inventory, Motive of Holding Inventories, Benefits of Holding Inventories, Objectives of Inventory Management, Models of Inventory Management.

Marketing Management: Concept of Marketing, Problems of Marketing, Market Assessment, Market Segmentation, Marketing Mix, Branding and Packaging, pricing Policy, Distribution Channels or Methods of Marketing.

Accounting: Meaning and Process of Accounting, Users and Uses of Accounting, Distinction between Book-keeping and Accounting; Accounting Profession, Conceptual Framework of Accounting; Generally Accepted Accounting Principles(GAAP), Basic Accounting Equation, Accounting Cycle, The Account, Double Entry System, Debit and Credit Procedures, Steps in the Recording Process, Financial Statements, Cost and Management Accounting.

Text Books:

(i) Khanka, S. S. (2004). *Entrepreneurial Development* (4th Edition). New Delhi: S. Chand & Company Ltd.

(ii) Weygandt, J.J. Kieso, P.D. and Kimmel, D.E.(2015).*Accounting Principles*(12th Edition). John Wiley & Sons Inc.
(iii) H. Garrison, R., W. Noreen, E., & C. Brewer, P. (2010). Managerial Accounting (13th ed.). McGraw Hill.
(iv) Weygandt, J., & Kimmel, P. (n.d.). Accounting principles (11e [edition]. ed.).
(v) Larson, K. (1993). Fundamental accounting principles (7th Canadian ed.).

COURSE CODE	COURSE TITLE	CREDIT
MAT1134	**Differential and Integral Calculus**	**3.0**

Functions and Models: Exponential Functions, Inverse Functions and Logarithms

Limits and Derivatives: The Tangent and Velocity Problems, The Limit of a Function, Calculating Limits Using the Limit Laws, The Precise Definition of a Limit, Continuity, Limits at Infinity; Horizontal Asymptotes, Derivatives and Rates of Change, The Derivative of a Function

Differentiation Rules: Derivatives of Polynomials and Exponential Functions, The Product and Quotient Rules, Derivatives of Trigonometric Functions, The Chain Rule, Implicit Differentiation, Derivatives of Logarithmic Functions, Rates of Change in the Natural and Social Sciences, Exponential Growth and Decay, Related Rates, Linear Approximations and Differentials, Hyperbolic Functions

Applications of Differentiation: Maximum and Minimum Values: The Mean Value Theorem, How Derivatives Affect the Shape of a Graph, Indeterminate Forms and L'Hospital's Rule, Summary of Curve Sketching, Optimization Problems, Antiderivatives.

Integrals: Areas and Distances, the Definite Integral, the Fundamental Theorem of Calculus, Indefinite Integrals and the Net Change Theorem, the Substitution Rule

Applications of Integration: Areas between Curves, Volume, Volumes by Cylindrical shells, Work, Average value of function

Books Recommended:

(i) Anton, H., & Bivens, I. (2012). Calculus: Early transcendentals. (10th ed.). Hoboken, NJ: John Wiley & Sons.
(ii) Das, B., & Mukherjee, B. (1949). Differential Calculus (50th ed.). U. N. DHUR & Sons Private.
(iii) Das, B., & Mukherjee, B. (1977). Integral calculus: Including differential equations (23rd ed.). Calcutta: U.N. Dhur.
(iv) Ayres, F., & Mendelson, E. (n.d.). Schaum's outlines calculus (Sixth ed.).

COURSE CODE	COURSE TITLE	CREDIT
EEE1135	**Electricity, Magnetism and Electrical Circuit**	**3.0**

Electrical Charge and Coulomb's Law: Introduction, charge, conductors and insulators, Coulomb′s Law

The Electric Field: Fields, the E field, field from point charges, fields from charge distributions, force on charges, electric dipole in an E field

Gauss's Law: Flux of a vector field, electric flux, gauss′s law, applications of Gauss's law

Electric Potential: Electric potential energy, potential/field relationships, potential due to point charges and distributions.

The Magnetic Field: B fields, force on moving charge, force on a current, magnetic dipole, Biot-Savart law and applications, Ampere′s law and applications.

Magnetic Properties of Matter: Magnetization, magnetic materials, bar magnet, magneto motive force, magnetic flux, magnetic circuit, comparison with electrical circuit.

Circuit Principles: Circuit concept, open and short circuit, series and parallel circuits with characteristics. Circuit laws: KVL, KCL, Voltage & Current divider rules and network theorems: Thevenin's theorem, Norton's theorem, Superposition theorem, Maximum power transfer theorem.

AC fundamentals: Equations of alternating voltages and currents, cycle, time period, frequency and amplitude of a wave; phase difference; RMS and average values; AC through resistance, Inductance and capacitance only. Series LRC circuit; Resonance in LRC circuit; impedance & calculation, resonance curve, bandwidth of resonance circuit; parallel ac circuit, simplification of parallel ac circuit. admittance calculation, power calculations, frequency response, and resonance.

Books Recommended:

(i) Halliday, D., & Resnick, R. (2002). Physics (latest ed.). Part-II, New York, Wiley
(ii) Electric circuits, By Joseph Edminister and Mahmood Navi, Schaum's outlines, Tata Mc Grew-Hall, 2012
(iii) Electrical Technology, Vol. 1: Basic Electronics, B.L. Theraja and A.K. Theraja, 2012
(iv) Electrical Engineering, B.L. Theraja and A.K. Theraja, 2012