

HELLO ALL,

KINDLY CONSIDER THE FOLLOWING ASSIGNMENT QUESTIONS CLASSWISE AND SUBJECT WISE. FOR ANY QUERY , CONTACT YOUR CLASS MENTOR

FYBSCIT

Environmental Management & Sustainable Development –I

All the Students of FY-BSC.IT and FY-BSC.CS Sem -I, are hereby informed that as a part of your curriculum for Environment Management and Sustainable Development, all the students must submit a hand written assignment consisting of 4 to 5 pages on the given topic . It can consist information in the form of pictures, diagrams, paper cuttings, charts/graphs etc. Viva will be conducted on the same topic. The list of Student's Roll numbers with their respective topics is given below:

Roll no. Topics

1-5 Classification Of Natural resources

6-10 Sustainable Development

11-15 Disaster management- Types of disasters and its mitigation strategies

16-20 Population growth-Causes and impact on environment, human health and society

21-25 Acid rain- Causes, effects and measures to curb acid rain

26-30 Energy Resources

31-35 Environmental movements in India

36-40 Global environmental issues

41-45 Pollution: Impact of sectorial processes on Environment

46-50 Biogeographic zones of India

51-55 Mega diversity hotspots in India

56-60 Endangered and Endemic species of India

Communication Skills in English I

This is to inform all FY B.SC. IT/CS students that the internal assessment (20 marks) for the course Communication Skills in English -I will be evaluated on the following criteria:

1. Letter Writing: - **10 marks**

Types of Letter options (any THREE):

- A. Job Application
- B. Job Acceptance
- C. Resignation Letter
- D. Job Offer Letter
- E. RTI Application
- F. Applications for duplicate documents (I-cards / mark sheet, etc.)

Note: Letter can be of any format- Block, Modified Block or Semi Block.

2. Viva based on submitted assignment: - **5 Marks**

3. Attendance: - **5 Marks**

Submission for FY BSC. CS on:

Time: During Lecture hours.

Submission for FY BSC. IT on:

Time: During Lecture hours

Note -

1. Students have to be present in person for the submission in formal attire.
2. Each letter will be written on a separate page. Submission of projects or assignments is to be done on proper A4-size paper. The first page will be the certificate
The second, third and fourth pages will be the letter
All pages need to be stapled before submission
3. A Google link will be provided to the students on the day to upload their Certificate and Letter.
4. If the student fails to present himself on the given date and time, he will be marked ABSENT for the said subject.
5. Any Submissions after the above-mentioned date and time will not be accepted and entertained under any circumstances.

Entrepreneurship Management

Answer the following (any 5)

- A. Explain the various types of Entrepreneurs
- B. Write a note on Women Entrepreneurs and its problems and its policies to be implemented give a real based example of any 1 Women Entrepreneurs (Case Study)
- C. Explain the SWOT analysis of any one company (Dominoz, Tata Motors, Zomato, Amul)
- D. Explain the advantages and disadvantages of Outsourcing and Franchise along with 1 case study
- E. Short note on SMEs
- F. What is diversification and its types. Explain it with Real world Example
- G. Explain the Components of an ideal business plan
- H. Explain any 5 Entrepreneurship Training and Development centers in India.

Database Management System

KINDLY CONTACT SUBJECT TEACHER FOR THE ASSIGNMENTS.

1. Indian Constitution

Assignment Questions

- 1) Explain the key elements of the Indian Constitution.
- 2) What is Preamble? Write the components of Preamble.
- 3) Short note on features of Constitution.
- 4) Write a note on Fundamental Rights and explain any one article in brief.
- 5) What does Article 17 of Fundamental Rights deals with.
- 6) Write note on Fundamental Duties and explain any 5 duties in brief.
- 7) What are Directive Principles of State Policy.
- 8) What are the Powers of the Supreme Court of India.
- 9) Write the functions of the High Court.
- 10) Short note on Judicial Activism.

Indian Knowledge System

FYBSc.I.T. - Semester I - ASSIGNMENT - 15 marks

(10 Marks - Presentation

5 Marks - Viva)

TOPIC SELECT ANY ONE TOPIC FOR PRESENTATION AND VIVA

1. Medicine
2. Alchemy
3. Mathematics
4. Logic
5. Art of Governance
6. Krishi Shastra
7. Astronomy
8. Architecture
9. Natyashastra
10. Vastu Shastra

Instructions for IKS presentation

1. PPT should be clear and visible.
2. 1 student would be making a presentation on 1 topic and would be asked viva on the same.
3. Content, examples, images should not be repeated in projects even if the topics chosen are the same.
4. Detailed content on the chosen topic should be covered.
5. Topic should be selected only from the above mentioned list.
6. Add Scan Code or Link of the Video reference, if any.
7. Minimum 10 and maximum 15 slides are to be prepared.
8. Maintain a formal and respectful tone throughout the presentation.
9. Slides must be as per following Structure:
 - i. The first slide must contain
 - Name of the subject
 - Semester
 - Roll numbers and Name of the student
 - Academic year 2026-2027
 - ii. The second slide must contain the title of the topic.
 - iii. Third must contain the contents covered in the presentation.
 - iv. Rest of the slides must contain relevant and new information from varied sources - Textbooks, Websites, Research papers, Newspapers (paste screenshots / clips of news papers - if possible)
 - v. Presentation must end with following slides-
 - Examples of usage of these Knowledge systems in today's Life
 - Conclusion
 - References - Names of the books with authors / Webpage-urls

Programming in C

Assignment 1

1. List the main characteristics of C programming language. Explain the structure of a simple C program with an example.
2. Design a flowchart to illustrate the process of finding maximum of two numbers in C programming.
3. Explain the purpose of processor directives in C programming.
4. Write a C program that takes two integers as input and prints their sum.

Assignment 2

1. Explain if else structure with an example.
2. Write a program in C to find the greatest of two numbers using for loop.
3. Give the structure of switch case with proper syntax.
4. Explain the difference between while and do while with an example.

SYBSCIT

Operating System

ASSIGNMENT1

- Q1. Calculate WT, TAT, AWT and ATAT for the given processes using FCFS Scheduling algorithm.
- Q2. Calculate WT, TAT, AWT and ATAT for the given processes using SJF Scheduling algorithm.
- Q3. Calculate WT, TAT, AWT and ATAT for the given processes using SRTF Scheduling algorithm.
- Q4. Calculate WT, TAT, AWT and ATAT for the given processes using Priority Scheduling algorithm.
- Q5. Calculate WT, TAT, AWT and ATAT for the given processes using RR Scheduling algorithm.

ASSIGNMENT2

- 1. Compare **contiguous memory allocation** methods (fixed vs variable partitions).
- 2. Compare different **disk scheduling algorithms** (FCFS, SSTF, SCAN).
- 3. Differentiate between **deadlock prevention** and **deadlock avoidance**.
- 4. Define a **deadlock**. What are the four necessary conditions for deadlock?
- 5. Explain paging in memory management.

Python Programming

Theory:

- 1. What are comments in Python? Distinguish between comments and Docstrings?
- 2. Write a short note on tuple data type in Python.
- 3. Explain Garbage collection in Python.
- 4. Write a short note on features of Python.
- 5. Describe the following:
 - a. break statement
 - b. continue statement
 - c. pass statement
 - d. assert statement
 - e. return statement.
- 6. Explain the difference between a Function and a Method.

7. Explain the concept of Random accessing of binary files.
8. Write a note on Numpy arrays.

Applied Mathematics

Marks: 05

1. Express the following in polar and exponential form:

i) $2 + 2\sqrt{3}i$ ii) $-1 - i\sqrt{3}$ iii) $-3+3i$ iv) $1-i$

2. i) Find all the cube roots and fourth roots of unity.

ii) Find all the fifth and sixth roots of unity.

3. Evaluate using De Moivre's Theorem:

i) $(1 + i)^8 + (1 - i)^8$

ii) $(1 + i)^{12} + (1 - i)^{12}$

iii) $(1 + i)^6 + (1 - i)^6$

iv) $(3 + i)^4 + (3 - i)^4$

4. Solve the following:

i) If $3\sinh x - 2\cosh x = 2$ then find $\tanh x$

ii) If $5\sinh x - \cosh x = 5$ then find $\tanh x$

iii) If $4\sinh x - 3\cosh x = 3$ then find $\tanh x$

iv) If $5\cosh x - 2\sinh x = 4$ then find $\tanh x$

5. Separate into real and imaginary parts:

i) $\sin^{-1}(e^i)$. ii) $\cos^{-1}(e^i)$

STATISTICAL METHODS

1. Define random experiment, sample point and sample space with examples.
2. Explain any four types of events.
3. State and prove the Addition Theorem for two events.
4. If $P(A)=0.6$, $P(B)=0.5$, $P(A \cap B)=0.2$, find $P(A \cup B)$
5. Explain Classical, Empirical and Axiomatic definitions of probability.
6. Define conditional probability and derive its formula.
7. If $P(A)=0.4$, $P(B)=0.7$, $P(A \cap B)=0.3$, find $P(A|B)$ and $P(B|A)$.
8. State and prove the Multiplication Theorem.
9. Define independent events and explain pairwise and mutual independence.
10. State and prove the Addition Theorem for three events.
11. A bag contains 5 red and 3 blue balls. Two balls are drawn without replacement. Find the probability that both are red.
12. State and prove Bayes' Theorem.
13. Explain mutually exclusive, exhaustive and complementary events.
14. State and prove the Multiplication Theorem for two events.
15. A die is thrown twice. Find the probability that the sum is 8.
16. A factory has two machines producing 60% and 40% of the products. Their defective rates are 2% and 5%, respectively. If an item is found defective, find the probability that it was produced by the second machine.

Financial Literacy

Assignment Activity: Field Survey Visit to a Financial Institution

Title of the Assignment

Field Survey and Study of a Financial Institution

Assignment Question

Visit any one Financial Institution (Bank, Insurance Company, Mutual Fund Office, Stock Broking Firm, NBFC, Microfinance Institution, Credit Cooperative Society, Post Office Banking Service, etc.) and conduct a survey to understand its functioning, products and services, customer service practices, and contribution to the financial system.

Guidelines for the Survey

1. Select any recognized financial institution.
2. Obtain prior permission from the institution, (wherever required).
3. Prepare a questionnaire before visiting.
4. Dress in formal attire and maintain professional behaviour.

Based on the Visit prepare a **comprehensive report** covering the following aspects:

Report Format

The report should include the following:

1. Cover Page
2. Certificate (if prescribed by the department)
3. Acknowledgement
4. Index
5. Introduction
6. Objectives of the Study
7. Research Methodology
8. Survey Questionnaire
9. Analysis and Findings
10. Observations
11. Learning Outcomes
12. Suggestions
13. Conclusion
14. Bibliography/References
15. Annexure (Photographs/Brochures)

Report Format:

The Field Project Report must be: ○ Typed on A4 size, Times New Roman, font size 12, 1.5 spacing. ○ Minimum 20 pages. ○ Spiral bound



Prahladrai Dalmia Lions College of Commerce and Economics

Sundar Nagar, Malad(west), Mumbai ,400064

ISO 2001:2018 Certified

NAAC Accredited (3rd Cycle) 'A Grade'

FIELD PROJECT

Date - _____

TO WHOMSOEVER IT MAY CONCERN

This is certified that the following students of **BSc. (Information Technology)**, 2nd Year / Semester III) from (Prahladrai Dalmia Lions College, affiliated to the University of Mumbai) are required to visit a company as a part of their **Field Visit Project** assigned under the University of Mumbai curriculum.

List of students:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

Data Structures

KINDLY CONTACT SUBJECT TEACHER FOR THE ASSIGNMENTS.

Hindi

Marks- 20

1. मौखिक, लिखित और सांकेतिक भाषा में क्या भेद है ? तीनों का विस्तार पूर्वक वर्णन कीजिए।
2. भारतीय संविधान में अनुच्छेद 343 के अंतर्गत हिंदी की क्या स्थिति है ? विस्तृत उत्तर लिखिए ।

TYBSCIT

1. Artificial Intelligence Applications and Jira

1. What is Artificial Intelligence (AI)? Explain the foundations of AI and discuss its major goals and applications.
2. Explain the state of the art in Artificial Intelligence. Discuss any five modern applications of AI with suitable examples.
3. Discuss the benefits and risks of Artificial Intelligence. How can the risks associated with AI be minimized?
4. What is an intelligent agent? Explain the concepts of agents, environments, sensors, and actuators with a suitable example.
5. Explain rationality in intelligent agents. What factors determine whether an agent behaves rationally?
6. Explain the nature of task environments. Discuss the different types of environments with suitable examples.
7. Explain the structure of intelligent agents. Describe simple reflex agents, model-based agents, goal-based agents, and utility-based agents.
8. What is a problem-solving agent? Explain the different steps involved in problem formulation and problem solving.
9. Explain uninformed search strategies. Compare Breadth-First Search (BFS) and Depth-First Search (DFS) based on completeness, optimality, time complexity, and space complexity.
10. Explain informed (heuristic) search strategies. Describe the working of Greedy Best-First Search and A search with suitable examples.
11. What is a heuristic function? Explain the properties of a good heuristic function. How does a heuristic improve the efficiency of search?
12. Explain basic probability notation used in AI. Discuss conditional probability, joint probability, and marginal probability with examples.
13. State and explain Bayes's Rule. How is it used for reasoning under uncertainty? Illustrate with a suitable numerical example.
14. What is a Naive Bayes model? Explain its assumptions, working, and applications in Artificial Intelligence.
15. What are Bayesian Networks? Explain their structure and semantics. Discuss exact inference, approximate inference, and causal networks in Bayesian networks.

IKS in Information Technology

- A. Explain the concept of Pramana in Indian philosophy. Discuss the four important means of knowledge—Pratyaksha, Anumana, Upamana, and Shabda—with suitable examples.
- B. Compare the epistemological approaches of Nyaya, Vedanta, and Mimamsa. How do these schools differ in their understanding of valid knowledge?
- C. Discuss how Indian Knowledge Systems relate to modern Information Technology through structured knowledge representation and systematic reasoning.
- D. Explain the relevance of Indian Knowledge Systems to modern computing, particularly in algorithmic thinking, data representation, knowledge management, and artificial intelligence.
- E. Describe the development of the decimal place-value system in ancient India and explain why it is important for modern computation.

- F. Explain the philosophical and mathematical significance of zero (Shunya) and discuss its importance in modern computing.
- G. Describe Brahmagupta's contributions to mathematics, especially his rules involving zero, and explain their historical importance.
- H. Explain how Pingala's Chandas Shastra demonstrates ideas similar to binary representation.
- I. Discuss the relationship between combinatorics in Pingala's Chandas Shastra and modern algorithmic thinking.
- J. Evaluate the relevance of ancient Indian mathematical and philosophical ideas for contemporary computing and interdisciplinary research.

DOT Net Core and Progressive Web Application

1. Write a short note on delegate.
2. Describe the ASP.NET Core request lifecycle.
3. Explain CLR in detail.
4. What is exception handling in C#? Explain its purpose.
5. What is middleware in ASP.NET Core?
6. What is a Progressive Web Application (PWA)? Explain its evolution, characteristics, and advantages over traditional web applications.
7. Explain the lifecycle of a Service Worker in detail, including registration, installation, activation, and fetching.
8. Why is HTTPS required for Progressive Web Applications? Explain its importance in PWA security.
9. Explain PWA security and optimization techniques. Discuss HTTPS, CORS, JWT authentication, performance, accessibility, and Lighthouse testing.
10. What are caching strategies in PWA? Explain Cache First, Network First, and Stale-While-Revalidate strategies.