SHRI RGP GUJARATI PROFESSIONAL INSTITUTE, INDORE

CLASS: BCA II YEAR

SUBJECT: DATA COMMUNICATION AND COMPUTER NETWORK

ASSIGNMENT QUESTIONS

Q1**.** What is computer network? Explain different types of computer network?
Q2. Explain network topology with their advantages and disadvantages?
Q3. What is transmission media? Write short note on different types of transmission media?
Q4. What is switching? Explain different types of switching.
Q5. What is Multiplexing? Explain different types of Multiplexing

Prof. Shabista Quraishi

Subject Incharge

SHRI RGP GUJARATI PROFESSIONAL INSTITUTE, INDORE

CLASS:BCA II YEAR

SUBJECT: DATABASE MANAGEMENT SYSTEM USING PL/SQL

ASSIGNMENT QUESTIONS

Q1 a. What is DBMS? Explain advantages, disadvantages and characteristics of DBMS.

b. Explain View of Data.

Q2 a. What is Data Models. Explain in detail.

b. Explain the different types of database languages.

Q3 a. Explain the role of DBA and Database Users.

b. Explain Overall System Structure in detail.

Q4 a. What is ER Model? Explain in detail.

b. Explain the different symbols used in ER model.

Q5 a. What is attribute in ER Model. Explain.

b. Explain Extended features of ER model in detail.

PROF ZAHIRA NOOR QURAISHI

SUBJECT INCHARGE

Shri RGP Gujarati Professional Institute

Class: BCA II Year 2026

Subject:- Artificial Intelligence

Assignment questions

Q.1 Explain Pingala's binary concepts and algorithmic thinking in AI.

Q.2 Explain the introduction & overview of Artificial Intelligence.

Q.3 Explain Wumpus world problem in AI.

Q.4 Explain BFS & DFS with examples.

Q.5 Explain A* and AO* algorithm in AI.

Prof. Shweta Goswami

Subject incharge

Shri RGP Gujarati Professional Institute

Class: BCA II Year 2026

Subject: Software Engineering

Assignment Questions

1. What is the Evolving Role of Software? Explain the four eras of software evolution.

2. Explain the Changing Nature of Software. What are the different categories of software?

3. What is Layered Technology in Software Engineering? Explain with a neat diagram.

4. What is a Process Framework? Explain the 5 framework activities and umbrella activities.

5. Explain the following Process Models in detail with advantages and disadvantages:

   a) The Waterfall Model

   b) Incremental Process Model (Incremental and RAD Model)

   c) Evolutionary Process Models (Prototyping and Spiral Model)

   d) The Unified Process (UP)

Dr. Neelima Choukse

Subject Incharge

Shri RGP Gujarati Professional Institute

Class: BCA II Year 2026

Subject: Python Programming
Theory Assignment

1. Explain the history, features, and application areas of Python. Also describe the general structure of a Python program with a suitable example.
2. Discuss Python data types and type conversion with suitable programs
3. Explain all major categories of Python operators with examples and precedence
4. Explain the creation, indexing, slicing, and immutability of strings. Also discuss any 10 commonly used built-in string functions and methods with examples.
5. Explain identifiers, keywords, statements, expressions, and indentation in Python.
6. Explain Python input/output statements and formatted output with example.
7. Explain identifiers, keywords, statements, expressions, and indentation in Python.

Dr. Swati Verma

Subject Incharge

Shri RGP Gujarati Professional Institute

Class: BCA II Year 2026

MDC-Web Designing Assignment

1. What is a Domain Name? Explain the process of domain name registration.
2. Explain the common problems involved in website maintenance.
3. What is an HTML table? Explain the tags <TABLE>, <TR>, <TH>, and <TD> with a suitable example.
4. Write short notes
   - <A HREF> tag
   - <A NAME> tag
   - Image links
   - <CAPTION> tag
   - ALIGN attribute
5. What are HTML frames? Explain the SRC, FRAMEBORDER, HEIGHT, and WIDTH attributes with suitable examples and explain how to create HTML frames with two or more rows and two or more columns. Write suitable HTML programs.
6. What is CSS (Cascading Style Sheets)? Explain its importance and advantages in web designing and explain the three methods of introducing CSS into an HTML document with suitable examples:1) Inline CSS 2) Internal CSS 3) External CSS

Prof. Geetam Vadalia

Subject incharge

Shri RGP Gujarati Professional Institute

Class: BCA II Year 2026

Vocational-Web Designing Using PHP Assignment

1. Explain web clients and web servers. Describe how a web browser communicates with a web server with a suitable example.
2. What is HTTP (Hypertext Transfer Protocol)? Explain its features and the HTTP request-response model with a suitable diagram.
3. Write an HTML program to create a simple webpage containing a heading, paragraph, image, hyperlink, and colour background.
4. Explain JavaScript and its importance in web development. Discuss the script element, functions with examples.
5. Discuss CSS styling and JavaScript together. Write an HTML program that uses CSS for styling and JavaScript to display a message.

Prof. Geetam Vadalia

Subject incharge

SHRI RGP GUJARTI PROFESSIONAL INSTITUTE, INDORE

Assignment

Course: BCA (Second Year) **Subject:** Optimization Techniques.

Instruction: (i) Attempt all the questions.

(ii)Submit your handwritten or typed solutions on or before the due date.

Q1. Define Linear Programming and explain its standard mathematical form. State the four fundamental components of an LPP: Decision Variables, Objective Function, Constraints, and Non-negativity Restrictions.

Q2. Solve the following Linear Programming Problem using the Graphical Method:

Maximize $Z = 40x_1 + 30x_2$

$$\text{Subject to the constraints}: 2x_1 + x_2 \leq 1000$$
$$x_1 + x_2 \leq 800$$
$$x_1 \leq 400 \qquad x_1, x_2 \geq 0$$

Determine the coordinates of all corner points of the feasible region, evaluate the objective function at each point, and state the optimal solution and maximum value of Z.

Q3. Solve the following Linear Programming Problem using the Simplex Method:

$$\text{Maximize } Z = 5x_1 + 10x_2 + 8x_3$$

Subject to the constraints:

$$3x_1 + 5x_2 + 2x_3 \leq 60$$
$$4x_1 + 4x_2 + 4x_3 \leq 72$$
$$2x_1 + 4x_2 + 5x_3 \leq 100$$
$$\text{and } x_1, x_2, x_3 \geq 0$$

Q4. Solve the following Linear Programming Problem using the Two-Phase Simplex Method:

$$\text{Min}. Z = x_1 + x_2$$
$$\text{subject to the constraints}: 2x_1 + x_2 \geq 4,\ x_1 + 7x_2 \geq 7,\ x_1, x_2 \geq 0.$$

Q5. (a) Discuss the contributions of Dr. Prasanta Chandra Mahalanobis to Indian quantitative techniques and optimization.

(b) Explain the contributions of Dr. Calyampudi Radhakrishna (C. R.) Rao to statistical theory and Optimization.