BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-V :SUMMER : 2023
SUBJECT : INTRODUCTION TO THE INTERNET TECHNOLOGIES

Day : Wednesday

Time : 02:00 PM-05:00 PM

Date : 3/5/2023

S-18787-2023

Max. Marks : 60

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N.B.:
1) **Q.No.4** from Section-I is **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Solve **ANY TWO** from **Q. No.1** to **Q. No.3** in **Section-I.**
4) Solve **ANY TWO** from **Q. No.5** to **Q. No.7** in **Section-II.**
5) Answers to both sections should be written in **SAME** answer book.

SECTION-I

Q.1 **a)** Explain in brief concept of web server and web browser.   **(06)**

      b) Explain the cols span and row span in table tag with proper example.   **(06)**

Q.2 **a)** What is CSS? Explain types of CSS with syntax and example.   **(06)**

      b) List and explain the built in functions in Java Script.   **(06)**

Q.3 **a)** How to display web page from sever to client browser?   **(06)**

      b) What is Domain? Explain the process of domain registration.   **(06)**

Q.4 Write short notes on **ANY THREE** of the following: **(12)**

      a) Frame tag
      b) Differentiate between Internet and Intranet
      c) Types of alert
      d) Uses of Java Script
      e) Conditional statements in Java Script

SECTION-II

Q.5 Write a Java Script program to print factorial of given number   **(12)**

Q.6 Design a web page for user registration using input tags.   **(12)**

Q.7 Design a web page to demonstrate various types of list tags in HTML.   **(12)**

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-V : SUMMER : 2023
SUBJECT : OBJECT ORIENTED ANALYSIS & DESIGN

Day : Saturday   Time : 02:00 PM-05:00 PM

Date : 6/5/2023   **S-18788-2023**   Max. Marks : 60

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N.B.:
1) **Q. No. 4** is **COMPULSORY.**
2) Attempt **ANY TWO** questions from **Q.1** to **Q.3**
3) Attempt any **TWO** questions from **Q.5** to **Q.7.**
4) Figures to the right indicate **FULL** marks.
5) Answer to both the sections should be written in **SAME** answer book.

SECTION – I

Q.1 a) Explain static dimension of RUP.   **[06]**

b) Explain various relationships used in UML.   **[06]**

Q.2 a) Write a brief use case for Hospital Management System.   **[06]**

b) Draw a Sequence Diagram for attending a seminar online.   **[06]**

Q.3 a) Explain following concepts of activity diagram with example: **[06]**
   i) Fork   **ii)** Join   **iii)** Swimlanes

b) Explain Component Diagram with suitable example.   **[06]**

Q.4 Write short notes on **ANY TWO** of the following: **[12]**

a) Object Orientation

b) Actors

c) Package Diagram

d) Advantages of UML

SECTION – II

Q.5 List activities in admission process. Draw activity diagram with swimlanes for   **[12]**
admission process for MCA course in government institute.

Q.6 Identify use cases and draw use case diagram for filing examination form   **[12]**
online.

Q.7 Draw class diagram for online library management system.   **[12]**

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Day : Tuesday

Time : 02:00 PM-05:00 PM

Date : 9/5/2023

S-18789-2023

Max. Marks : 60

N.B.:

1) **Q. No.4** from Section-**I** is **COMPULSORY**.
2) Answer **ANY TWO** questions from **Q. 1, Q. 2,** and **Q.3** in **Section-I.**
3) Answer **ANY TWO** questions from **Q. 5, Q. 6,** and **Q.7** in **Section-II.**
4) All questions carry **EQUAL** marks.
5) Answer to both the sections should be written in the **SAME** answer book.
6) Draw neat and labelled diagrams **WHEREVER** necessary.

SECTION-I

Q.1   Answer the following: **(6 x 2 = 12 marks)**

a) Explain MS.NET framework. Bring out importance of CLR.
b) Discuss the difference of value and reference type.

Q.2   Answer the following: **(6 x 2 = 12 marks)**

a) How to declare interface? Explain in detail the implementation of interface with suitable example.
b) Explain in detail data types available in C#.NET.

Q.3   Explain the following: **(6 x 2 = 12 marks)**

a) What is meant by control array? Explain its use?
b) Explain the working of garbage collection in .NET.

Q.4   Write short notes on **ANY THREE** of the following: **(4 x 3 = 12 marks)**

a) Collection Object
b) Constructor & their types
c) Delegate
d) COM

SECTION-II

Q.5   Answer the following: **(6 x 2 = 12 marks)**

a) Write a C# program to sort the given array elements.
b) Write a C# program to demonstrate operator overloading.

Q.6   Answer the following: **(6 x 2 = 12 marks)**

a) Write a C# program to find the factorial of a given number.
b) Write a C# program to print transpose of matrix.

Q.7   Explain the following: **(6 x 2 = 12 marks)**

a) Write a C# program to find display multiplication table given number.
b) Write a C# program to demonstrate use of copy constructor.

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Day : Friday   Time : 02:00 PM-05:00 PM

Date : 12/5/2023   **S-18790-2023**   Max. Marks : 60

N.B.

1) **Q.4** from Section – I is **COMPULSORY**.
2) Attempt **ANY TWO** questions from Q.1 to Q.3 from Section – I .
3) Attempt **ANY TWO** questions from Q.5 to Q.7 from Section – II .
4) Figures to the **RIGHT** indicate **FULL** marks.
5) Answers to both the sections should be written in the **SAME** answer book.
6) Draw neat and labelled diagram **WHEREVER** necessary.

SECTION – I

Q.1   Represent the following graph diagrammatically and explain in short: **(12)**
a) Subgraph   **b)** Bipartite graph   **c)** Undirected graph.

Q.2   a) Draw a diagram for $G = G(V,E)$ for   **(06)**

$$V = \{a,b,c,d\}, \quad E = \left[\{a,b\},\{b,d\},\{b,c\},\{c,d\},\{a,c\},\{a,d\}\right]$$

b) Let G is a connected planar graph with 25 vertices and 60 edges. Find the   **(06)** number of regions in G.

Q.3   What is Isomorphism? Consider the following graphs and identify whether   **(12)** given graphs are Isomorphic or not:
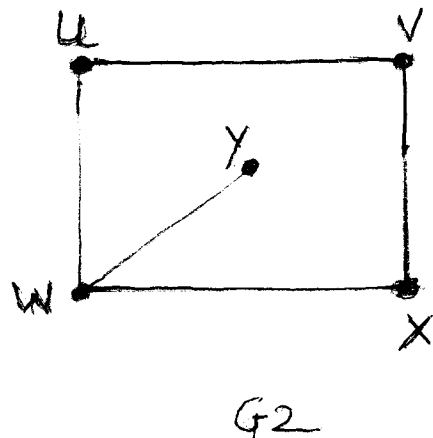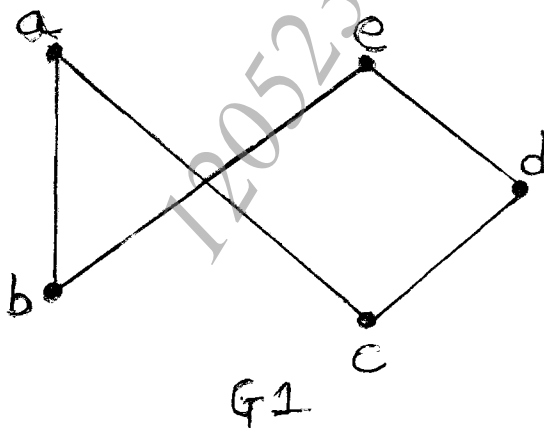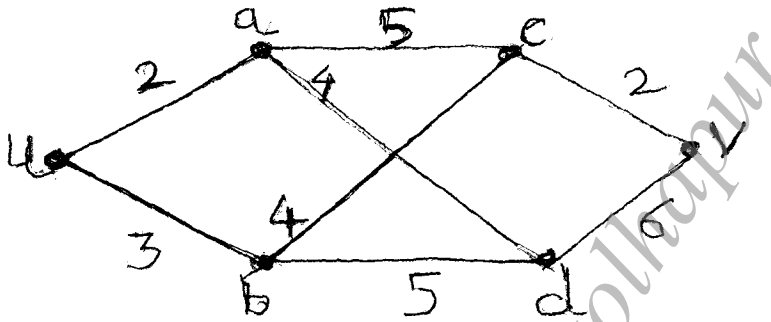

Q.4   Write short notes on **ANY TWO** of the following: **(12)**
   a) Vertex Coloring and upper bonds
   b) Seating arrangement problem
   c) Maximum Bipartite Matching

P.T.O.

SECTION – II

Q.5 State and explain Fleury's algorithm . Using Fleury's algorithm, find the **(12)** Euler's circuit for the graph given below:
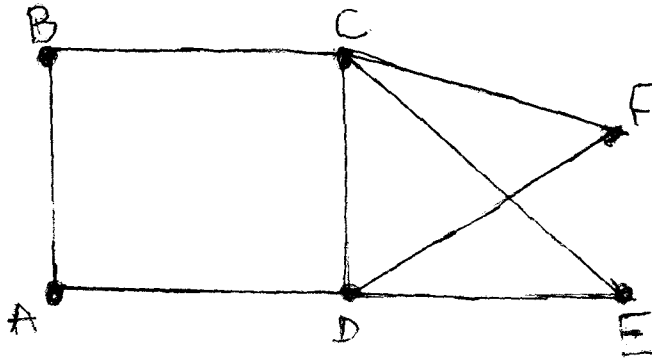
Q.6 Find the shortest path from vertex 'u' using Dijkstra's algorithm. **(12)**

Q.7 a) What is Planar Graph? Check whether $K_{2,3}$ is a Planar Graph or not. **(06)**

b) State and explain Floyde's algorithm. **(06)**

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Day : Monday   Time : 02:00 PM-05:00 PM

Date : 15-05-2023   **S-18791-2023**   Max. Marks : 60

N.B :
1) Q. No. 4 from **Section – I** is **COMPULSORY**.
2) Answer **ANY TWO** questions from **Q. No. 1, 2, 3** in **Section – I**.
3) Answer **ANY TWO** questions from **Q. No. 5, 6, 7** in **Section – II**.
4) All questions carry **EQUAL** marks.
5) Answers to both sections should be written in **SAME** answer book.
6) Draw a labeled diagram **WHEREVER** necessary.

SECTION - I

Q.1   Answer the following **(6 marks x 2 = 12 marks)**

    a) What is the concept of e-commerce? Elaborate the broad goals of e-commerce.
    b) What are the different types of EDI? State the advantages of EDI.

Q.2   Answer the following **(6 marks x 2 = 12 marks)**

    a) Explain in detail Business-to-Business (B2B) & Consumer-to-Consumer (C2C) business model of e-commerce.
    b) Explain in detail process of e-payment system.

Q.3   Answer the following **(6 marks x 2 = 12 marks)**

    a) Differentiate between e-commerce and traditional commerce.
    b) Explain e-cash and debit card payment system of e-commerce.

Q.4   Write short notes on **ANY THREE** of the following: **(4 marks x 3 = 12 marks)**

    a) Viruses
    b) Application gateways
    c) Mobile commerce
    d) Online marketing
    e) eBay.com
    f) Smart card

SECTION - II

Q.5   Answer the following **(6 marks x 2 = 12 marks)**

    a) Explain in detail e-commerce in Banking.
    b) Write the concept and importance of Digital Signature.

Q.6   Answer the following **(6 marks x 2 = 12 marks)**

    a) Explain in detail various security threats of e-commerce security.
    b) What is Cryptography? Explain in detail types of Cryptography.

Q.7   Answer the following **(6 marks x 2 = 12 marks)**

    a) What is Firewall? Explain in detail functions of Firewall.
    b) Explain in detail Applications of e-commerce in Online Publishing.

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Day : Monday

Time : 02:00 PM-05:00 PM

Date : 15-05-2023

S-22704-2023

Max. Marks : 60

N.B :
1) **Q. No. 4** from **Section – I** is **COMPULSORY.**
2) Solve **Any TWO** from **Q.No.1,2,3** in **Section – I.**
3) Solve **Any TWO** from **Q.No.5,6,7** in **Section – II**.
4) Figures to the right indicate **FULL** marks.
5) Answers to both sections should be written in **SAME** answer book.

SECTION - I

Q.1 **a)** Explain Michael Porter's five forces analysis in detail. **(06)**

   b) Define Big Data. Explain Data Scientist roles and responsibilities. **(06)**

Q.2 **a)** How does Big Data improve decision making process? **(06)**

   b) Discuss the case study of how does 'Amazon' use Big Data to increase product performance. **(06)**

Q.3 **a)** Explain Unintelligent Use Experience in detail. **(06)**

   b) How Big Data architecture work explain with suitable diagram. **(06)**

Q.4 Write short note on **ANY THREE** of the following: **(12)**
   a) Business Intelligence
   b) Weka
   c) Map Reduce
   d) Data Warehouse
   e) Business Transformation
   f) Ramification

SECTION - II

Q.5 **a)** Explain Big Data Envisioning process in detail. **(06)**

   b) Discuss importance of Apache Hadoop for Big Data Analysis. **(06)**

Q.6 **a)** Elaborate Data Analytics Life Cycle in detail. **(06)**

   b) What is KPI? Elaborate how Big Data Analytics improve Customer Engagement. **(06)**

Q.7 **a)** How does Big Data can power a new customer experience? **(06)**

   b) Discuss how Big Data impacts business growth. **(06)**

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Day : Monday   Time : 02:00 PM-05:00 PM

Date : 15-05-2023   **S-22708-2023**   Max. Marks : 60

N.B.

1) **Q. 4 From SECTION – I is COMPULSORY.**
2) Answer any **TWO** questions from Q. 1, 2, 3 in **SECTION - I**
3) Answer any **TWO** questions from Q. 5, 6, 7 in **SECTION – II**
4) **All Questions carry equal marks**.
5) Answer to both sections should be written in **SAME** answer book.
6) Draw a labeled diagram wherever necessary.

SECTION – I

Q. 1 Answer the following : **(6 Marks x 2= 12 Marks)**   (12)

a) What does Database Encryption and Decryption mean?
b) What is Information Security? What is the importance of information security in an organization?

Q. 2 Answer the following: **(6 Marks x 2= 12 Marks)**   (12)

a) What is equipment failure? How you can prevent equipment failure?
b) Discuss different Secure Coding Techniques with suitable example.

Q. 3 Answer the following: **(6 Marks x 2= 12 Marks)**   (12)

a) Describe Authentication and Authorization process with suitable example.
b) Discuss necessity of fire protection in IT industries.

Q. 4 Write a short note on **ANY THREE** of the following: **(4 Marks x 3= 12 Marks)**   (12)

a) Network Threats
b) ISO 27001
c) VPN
d) Database Security
e) Data Integrity

SECTION - II

Q. 5 Answer the following: **(6 Marks x 2= 12 Marks)**   (12)

a) What is ITIL? Discuss ITIL Framework.
b) Discuss how to manage Windows Operating System security.

Q. 6 Answer the following: **(6 Marks x 2= 12 Marks)**   (12)

a) What are the different steps to secure web application?
b) What is confidentiality? Discuss steps to manage confidentiality in information security?

Q. 7 Answer the following: **(6 Marks x 2= 12 Marks)**   (12)

a) Define WLAN, What are the security issues in WLAN?
b) What is continuous security testing? What are some common things to test during security testing?

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