

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

Day : Friday

Time : 10:00 AM-01:00 PM

Date : 1/12/2023

**W-18787-2023**

Max. Marks : 60

**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) Differentiable between Internet and Intranet? Explain the applications of Internet. (06)
- b) Define domain? Explain various types of domain. (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) Discuss the structure of table tag with their attributes and example. (06)
- b) Explain various types of protocols. (06)
- Q.4** Write short notes on **ANY THREE** of the following: (12)
- a) Frame Tag
- b) <H1> to <H6>
- c) <img> tag
- d) Uses of Java Script
- e) Hyperlink

**SECTION-II**

- Q.5** Write a Java Script programme to display multiplication table of given number. (12)
- Q.6** Design a web page to demonstrate external CSS. (12)
- Q.7** Design a web page to demonstrate text formatting tags. (12)

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**BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)**

**B.C.A. Sem-V : WINTER : 2023**

**SUBJECT : OBJECT ORIENTED ANALYSIS & DESIGN**

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 04-12-2023

**W-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** What is object orientation? Explain following concepts: [12]  
i) Class ii) Object iii) Inheritance iv) Polymorphism
- Q.2** a) Write a brief use case for online recruitment process for multinational company. [6]  
b) Draw Sequence Diagram for ordering process in grocery shop. [6]
- Q.3** What is Interaction Modeling? Explain Component Diagram with suitable example. [12]
- Q.4** Write short notes on **ANY TWO** of the following: [12]  
a) Advantages of UML  
b) Relationships used in UML  
c) Actors  
d) Deployment Diagram

**SECTION – II**

- Q.5** Draw activity diagram for online shopping [12]  
Note : Customer can search or browse items, view specific item, add it to cart, view and update shopping cart, do checkout.  
User can view shopping cart at any time.
- Q.6** Design scenario and draw use case diagram for getting license for two wheeler. [12]
- Q.7** Draw class diagram for 'Health Insurance Policy'. The policy should cover job – based coverage, self coverage and benefits. [12]

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**BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)**  
**B.C.A. Sem-V : WINTER : 2023**  
**SUBJECT : C# PROGRAMMING**

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 6/12/2023

**W-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) What are the data providers in ADO.NET framework?
- b) Explain the usages of For...Each loop with example in C#.

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

- a) Explain in detail windows form control? Discuss the various form event and control with example.
- b) Discuss method overloading with example.

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

- a) What is custom exception and how to raise in C#?
- b) Explain the characteristics and application of C#.

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

- a) Nesting of classes in C#
- b) Data adapter
- c) CLR
- d) Collection object

**SECTION-II**

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

- a) Using try, catch, and final block, write a program in C# to demonstrate various types of errors.
- b) Write a C# program to display prime number from 1 to 50.

**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 sort an array in ascending order.
- b) Write a C# program to demonstrate use of copy constructor.

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Day : Friday

Time : 10:00 AM-01:00 PM

Date : 8/12/2023

W-18790-2023

Max. Marks : 60

N.B.

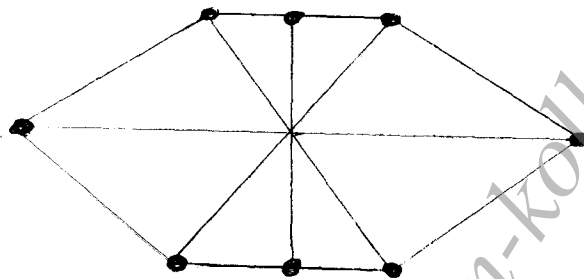
- 1) Attempt **ANY Three** questions from Section-I and **ANY TWO** questions from Section – II.
- 2) Figures to the right indicate full marks.
- 3) Answer to both the sections should be written in **SAME** answer book.

SECTION – I

Q.1 Write Prim's Algorithm for finding minimal spanning tree with suitable example. (10)

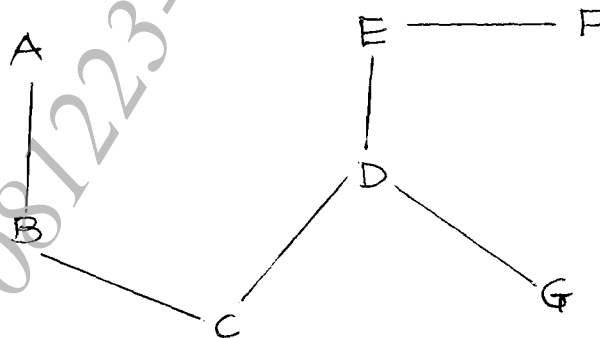
Q.2 a) By giving a suitable example differentiate between a simple graph and multi-graph. (05)

b) Find the minimum numbers of colors needs to paint the graph shown below (05)



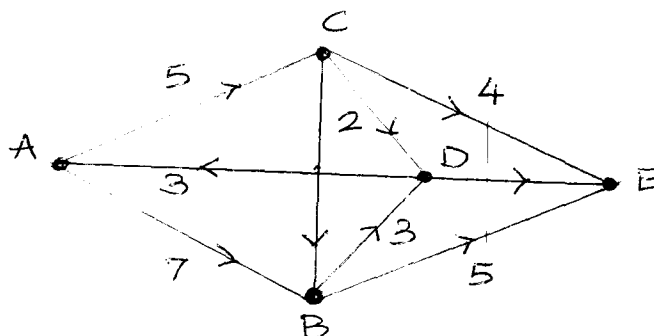
Q.3 Perform a Breadth-first-search of the following graph. Where E is the starting node (10)

- a) Use clockwise ordering from top.
- b) Use anticlockwise ordering from top.



Q.4 a) Write and discuss 'Konigsberg Bridge' problem. (05)

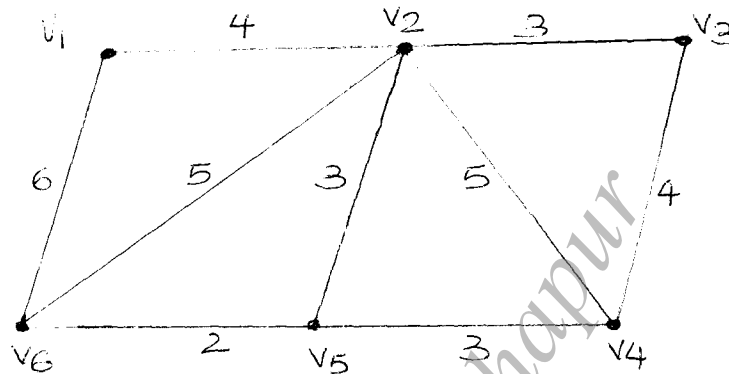
b) Find the value of the maximum flow of the graph given (Capacities is given along each edge.) (05)



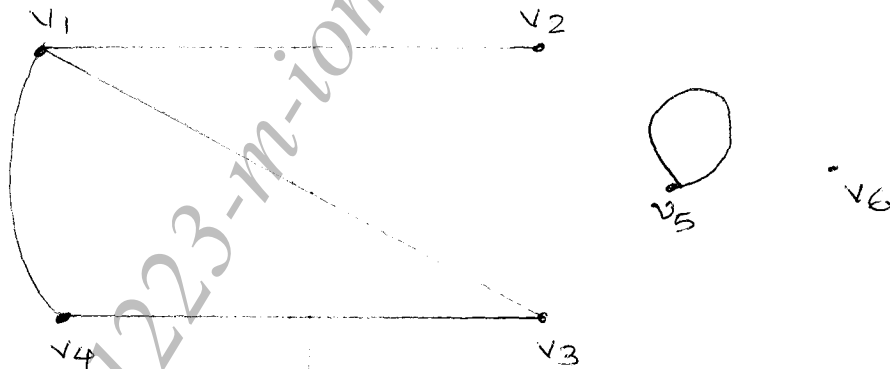
- Q.5** Write short notes on **ANY TWO** of the following: (10)
- Walk
  - Path
  - Circuit

**SECTION - II**

- Q.6** Write Kruskal's Algorithm to find minimal spanning tree (07)  
AND  
Find the minimal spanning tree using Kruskal's algorithm (08)



- Q.7** a) Define Bipartite and Complete bipartite graphs with the help of suitable examples. (07)  
b) Find the set of vertices, the sets of edges and the degree of each vertex for the graph given below- (08)



- Q.8** a) Suppose that in a group of 5 people A,B,C,D & E the following pairs of people are acquainted with each other (07)
- A & C
  - A & D
  - B & C
  - C & D
  - C & E
- i) Draw a graph G to represent this situation  
ii) List the vertex set and edge set using set notation.
- b) What do you mean by a 'planar graph'? Check whether  $K_{2,3}$  is a planar graph. (08)

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)  
B.C.A. Sem-V : WINTER : 2023  
SUBJECT : E-COMMERCE

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 11/12/2023

W-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 e-Commerce? Explain the categories of e-Commerce.
  - b) What is EDI? Explain in detail various types of EDI.
- Q.2 Answer the following (6 marks x 2 = 12 marks)
- a) Explain various limitations of traditional payment system.
  - b) Write the difference between e-Commerce and traditional Commerce.
- Q.3 Answer the following (6 marks x 2 = 12 marks)
- a) Explain Business-to-Business (B2B) business model of e-Commerce with suitable diagram and example.
  - b) What is Internet? Explain in detail it's advantages.
- Q.4 Write short notes on ANY THREE of the following: (4 marks x 3 = 12 marks)
- a) Mobile commerce
  - b) Smart card
  - c) Denial of service attacks
  - d) e-Commerce in banking
  - e) Online publishing
  - f) National Electronic Fund Transfer (NEFT)

SECTION - II

- Q.5 Answer the following (6 marks x 2 = 12 marks)
- a) What is SSL? Explain in detail the role of secure socket layer (SSL) for secure payment.
  - b) Explain in detail various risks in e-payment system.
- Q.6 Answer the following (6 marks x 2 = 12 marks)
- a) What is Cryptography? Explain in detail types of cryptography.
  - b) What is eBay? How the eBay has been expanded explain in detail.
- Q.7 Answer the following (6 marks x 2 = 12 marks)
- a) What is Firewall? Explain in detail functions of Firewall.
  - b) Write the requirement of Digital Signature. How to create a digital signature?

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)  
B.C.A. Sem-V : WINTER : 2023  
SUBJECT : INTRODUCTION TO BIG DATA

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 11/12/2023

W-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 Value Chain Analysis with an appropriate example. (06)
- b) What is Business Intelligence? Explain Big Data Business model. (06)
- Q.2 a) Define Big Data. Discuss Data Scientist roles and responsibilities in detail. (06)
- b) Explain Business Transformation and Imperatives with an example. (06)
- Q.3 a) Compare the features of Apache Hadoop Vs. Map Reduce. (06)
- b) Explain Big Data Strategy document in detail. (06)
- Q.4 Write short note on ANY THREE of the following: (12)
- a) R
  - b) KPI
  - c) Business Intelligence
  - d) Weka
  - e) DSS
  - f) Organizational Roles

SECTION - II

- Q.5 a) Justify how Big Data Envisioning process is important in detail. (06)
- b) How Big Data helps to improve Customer Engagement in organization. (06)
- Q.6 a) Draw diagram of Data Analytics Life Cycle and explain it. (06)
- b) Discuss Michael Porter's five forces analysis. (06)
- Q.7 a) Discuss the case study of how does 'Myntra' use Big Data to increase product sale. (06)
- b) Elaborate how Big Data impacts business growth. (06)

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**BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)**

**B.C.A. Sem-V : WINTER : 2023**

**SUBJECT : INFORMATION SECURITY CONCEPTS**

Day : Monday

Time : 10:00 AM-01:00 PM

Date : 11/12/2023

**W-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) Discuss how to manage Linux Operating System Security.
  - b) What do you mean by Database Security? Discuss different Database Security Techniques.
- Q. 2** Answer the following: **(6 Marks x 2= 12 Marks)** (12)
- a) What is an equipment failure? Discuss any two examples of equipment failure?
  - b) What is ITIL? Why ITIL is required in an organization to managing risk.
- Q. 3** Answer the following: **(6 Marks x 2= 12 Marks)** (12)
- a) What is the difference between Authentication vs Authorization?
  - b) Define Physical Security, What are Physical Security Threats?
- Q. 4** Write a short note on **ANY THREE** of the following: **(4 Marks x 3= 12 Marks)** (12)
- a) Vulnerability
  - b) ITIL Framework
  - c) WLAN Security
  - d) Network Security
  - e) Data Availability

**SECTION - II**

- Q. 5** Answer the following: **(6 Marks x 2= 12 Marks)** (12)
- a) How you can protect IT infrastructures of your organization from threats, prepare your security planning accordingly.
  - b) Illustrate importance of Secure Coding Techniques.
- Q. 6** Answer the following: **(6 Marks x 2= 12 Marks)** (12)
- a) What is cyber-attack? Discus impact of cyber-attack on confidential database.
  - b) Define Firewall, Describe its working to protect internal network.
- Q. 7** Answer the following: **(6 Marks x 2= 12 Marks)** (12)
- a) What is continuous security testing? Why it is essential?
  - b) Define IT Act 2000 and also discuss its impact on cyber fraud.

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