

**Subject : Introduction to the Internet Technologies**

Day : Monday  
Date : 07/11/2016



Time : 02.00 PM TO 05.00 PM  
Max Marks : 100 Total Pages : 1

**N.B.**

- 1) Attempt any **FOUR** questions from Section – I and any **TWO** questions from Section – II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.

**SECTION – I**

- Q.1** Distinguish between Internet and Intranet. Explain the need of HTML with its features. (15)
- Q.2** Explain <FRAMESET> and <Frame> tag in detail with example. (15)
- Q.3** Explain following HTML5 elements: (any three) (15)  
<ROOT>  
<HEAD>  
Footers  
Navigation
- Q.4** What is a cookie? Explain cookies in Java script with suitable example. (15)
- Q.5** Explain with example Date and Math objects in Java Script. (15)
- Q.6** Explain following tags with example: (15)  
i) List ii) Image map iii) Anchor

**SECTION – II**

- Q.7** Write a code for creating following external style sheet 8 (20)  
i) Text having arial font, font-size 20, Italic style  
ii) Border of paragraph must be blue color  
iii) Set hyperlink without underline  
iv) Character spacing 10 pixels
- Q.8** Design HTML form for accepting book publisher details and validate any four fields using Java Script. (Assume suitable structure.) (20)
- Q.9** Design following table structure: (20)

<u>Date of Journey</u>	<u>From to Place</u>		<u>K.M.</u>	<u>Mode</u>	<u>T.A</u>	<u>D.A.</u>	<u>Total</u>
10/8/2017	Sangli –Pune	Pune-Sangli	500	Bus	700	115	815

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**Subject : Object Oriented Analysis & Design**

Day : Wednesday  
Date : 09/11/2016



Time : 02.00 PM TO 05.00 PM  
Max Marks : 100 Total Pages : 1

**N. B. :**

- 1) Solve **ANY FOUR** questions from Section – I.
- 2) Solve **ANY TWO** questions from Section – II.
- 3) Figures to the right indicate **FULL** marks.

**SECTION - I**

- Q. 1** Explain the following concepts: (15)
- i) Encapsulation      ii) Inheritance      iii) Polymorphism  
iv) Abstraction      v) Class
- Q. 2** a) What is Inception? What are Three kinds of actors in use case diagram? (08)  
b) How to evolve use cases and other specifications in iterations? (07)
- Q. 3** a) How are requirements organized in UP artifacts? (08)  
b) Explain relationship between SSP and use cases with example. (07)
- Q. 4** Illustrate use-case diagram. Explain generalization, include and extends relationship in use case diagram. (15)
- Q. 5** What is class diagram? What are various associations between classes? Explain each association with example. (15)
- Q. 6** What is requirement gathering? Describe the UML diagrams used in requirement gathering. (15)
- Q. 7** Write short note on **ANY THREE** of the following: (15)
- a) Pre and Post condition
  - b) Interfaces
  - c) Multiplicity
  - d) Qualifiers
  - e) CRC Card

**SECTION – II**

- Q. 8** Draw activity diagram for Order Management System. (20)
- Q. 9** Draw use case diagram for Recruitment System of a Multinational Company. (20)
- Q.10** Draw sequence diagram for Hotel Management System. (20)

**Subject : C# Programming**

Day : Friday

Date : 11/11/2016



Time : 02.00 PM TO 05.00 PM

Max Marks : 100 Total Pages : 1

**N.B.:**

- 1) Attempt **ANY FOUR** questions from Section – I and attempt **ANY TWO** questions from Section – II.
- 2) Answers to both the sections should be written in the **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks .

**SECTION – I**

- Q.1 Discuss features of C # programming under Dot Net Framework. [15]
- Q.2 Define term ‘Constructor’ and discuss their types with applicability. [15]
- Q.3 Write a comparative note on: [15]
- a) Partial class and Sealed class
  - b) Value type and Reference type
- Q.4 Discuss term ‘Inheritance’ along with its type and suitable example. [15]
- Q.5 Discuss implementation of OOPS concepts in C # programming. [15]
- Q.6 Write a note on ‘Operator Overloading’ with suitable example. [15]
- Q.7 Write note on **ANY THREE** of the following: [15]
- a) Loops in C #
  - b) Jagged Array
  - c) Indexers
  - d) Abstract class

**SECTION – II**

- Q.8 Write a C # Program to demonstrate implementation of ‘Interface’ [20]  
(*Make necessary assumption*).
- Q.9 Using Try, Catch and Finally block. Write a program in C # to demonstrate [20]  
various types of error.
- Q.10 a) Write a C # Program to sort 10 Integers/elements with the help of a method [10]  
*Sort ()*.
- b) Write C # Program to check whether a number is Palindrome or not. [10]

**Subject : Combinotrics & Graph Theory**

Day : Tuesday  
Date : 15/11/2016



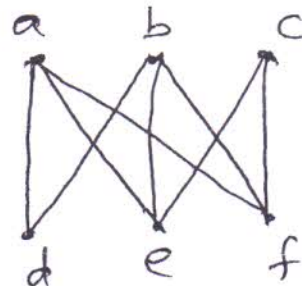
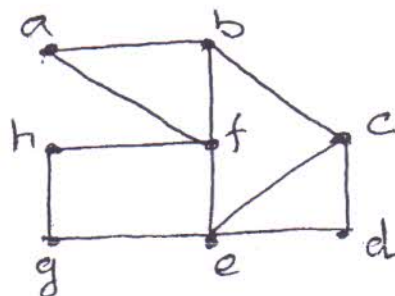
Time : 02.00 PM TO 05.00 PM  
Max Marks : 100 Total Pages : 2

**N.B.:**

- 1) Attempt **ANY FOUR** from Section-I & **ANY TWO** from Section-II.
- 2) Use of non programmable scientific **CALCULATOR** is allowed.

**SECTION - I**

- Q.1** Write axioms of probability. If  $P(A) = 0.35$ ,  $P(B) = 0.75$  and  $P(A \cup B) = 0.65$ , find [15]  
 i)  $P(A \cap B)$  if A and B are independent events  
 ii)  $P(A \cap B)$  if A and B are dependent events  
 iii)  $P(\overline{A \cap B})$  if A and B are dependent events.
- Q.2** Find n in each of the following equations: [15]  
 i)  $P(n, 2) = 72$   
 ii)  $P(n, 4) = 840$   
 iii)  $2P(n, 2) + 50 = P(2n, 2)$
- Q.3** Write a note on probability density function of continuous random variable. [15]  
 Five cards are numbered from 1 to 5. Two cards are drawn at random. If X denotes the sum of the numbers drawn,  
 a) find the distribution of X  
 b) find mean.
- Q.4** Represent the following graphs diagrammatically and explain in short: [15]  
 a) Multigraphs      b) Sub graphs      C) Isomorphic graphs  
 d) Complete graphs      e) Planner graphs
- Q.5** State whether the following graphs are Eulerian and or Hamiltonian [15]  
 with proper explanation.

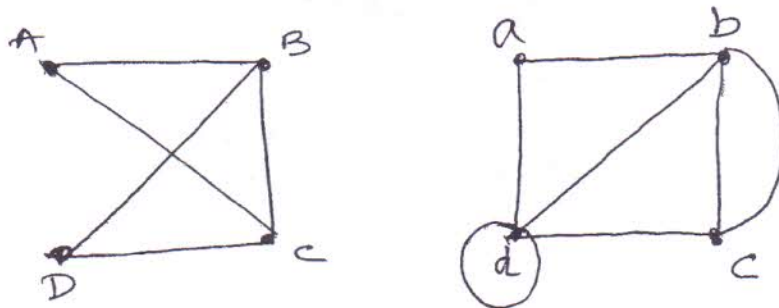


- Q.6** Write short notes on: [15]  
 a) Colouring of graphs  
 b) Crossing of river problem  
 c) Inclusion - Exclusion Principle

P.T.O.

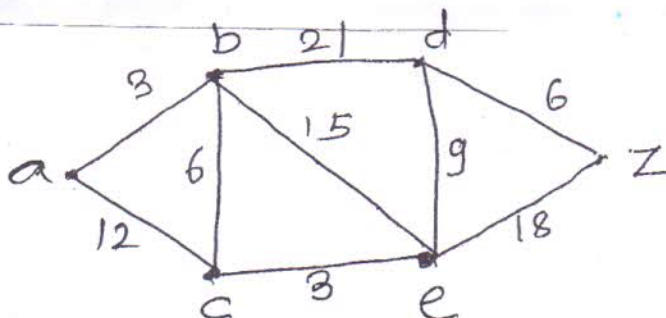
## SECTION - II

- Q.7 a) Find the adjacency matrix A of each of the following graph: [10]



- b) Consider the following addresses which are in random order: [10]  
 1.1, 2.2.1, 2.2.2, 3.2, 2.2.1.1, 3.2.1.1, 3.1, 3.2.1.1, 1.1.1, 1.2.1, 3.1.1, 3.2.2.  
 a) Place the above addresses in lexicographic order.  
 b) Draw the corresponding ordered rooted tree.

- Q.8 Write Dijkstra's algorithm. Compute the shortest distance between source 'a' and destination 'z' using Dijkstra's algorithm from the following graph. [20]



- Q.9 a) An item is produced on three machines A, B and C. 50% of items are produced on machine A, 30% of items are produced on machine B and 20% of items are produced on machine C. The chances of an item to be produced as defective on these A, B, and C machines are 3%, 1.5% and 2% respectively. An item produced on any one of these machines is randomly selected and it is found to be defective. What is the probability that it is produced on machine B? [10]
- b) In Pune ladies club, 60% of the members play tennis, 40% play golf and 20% play both tennis and golf. A member is chosen at random. [10]  
 a) Find the probability that she plays neither tennis nor golf.  
 b) Given that she plays tennis, find the probability that she plays golf.  
 c) Given that she plays golf, find the probability that she plays tennis.

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