

**B.C.A. SEM-IV (2014 Course) CBCS : WINTER - 2018**  
**SUBJECT: COMPUTER NETWORKS – I**

Day: Thursday  
Date: 15/11/2018

**W-2018-1836**

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 100

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**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 separate answer book.
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**SECTION-I**

- Q.1** What is Computer Network? Explain in detail advantages and structure of computer network. (15)
- Q.2** Discuss various layers of OSI Model with its functions. (15)
- Q.3** Define and explain different types of Network – LAN, MAN, WAN. (15)
- Q.4** What is Bluetooth? Explain architecture and applications of Bluetooth. (15)
- Q.5** Explain uses of Hubs, Repeaters and Bridges in computer network. (15)
- Q.6** What is Internet? Discuss uses of Internet Information Server (IIS) and World Wide Web (WWW). (15)
- Q.7** Write short notes on any **THREE** of the following: (15)
- a) E-mail
  - b) Token Bus
  - c) Wireless LAN
  - d) Mode of communication
  - e) Search engines

**SECTION-II**

- Q.8** What is network security? Explain network security devices used in computer network. (20)
- Q.9** Discuss with examples wired and wireless media used in computer network. (20)
- Q.10** Explain different switching techniques with its advantages and disadvantages. (20)

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**B.C.A. SEM-IV (2014 Course) CBCS : WINTER - 2018**

**SUBJECT : SOFTWARE TESTING**

Day : Saturday  
Date : 17/11/2018

**W-2018-1837**

Time : 10.00 AM TO 01.00 PM  
Max. Marks : 100

**N. B. :**

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

**SECTION - I**

- Q. 1** a) Define software. Give the importance and characteristics of it. (08)  
b) List and explain the role of each member involved in the software development. (07)
- Q. 2** a) What is software testing? Discuss the need of the software testing. (08)  
b) Discuss the testing during planning phase. (07)
- Q. 3** Explain the V testing model in detail. Mention it's merits and demerits. (15)
- Q. 4** a) Describe the testing process in brief. (07)  
b) Differentiate between: (08)  
i) Verification and Validation  
ii) Bug and Defect
- Q. 5** What do you mean by basis path testing? Explain in detail. (15)
- Q. 6** What is debugging? Explain the need of it and describe the debugging process. (15)
- Q. 7** Write short notes on **ANY TWO** of following: (15)  
a) Prototyping model  
b) Software Inspection  
c) Unit testing

**SECTION - II**

- Q. 8** What is the Black box testing? How it differs from white box testing? Explain Equivalence partitioning and boundary value analysis. (20)
- Q. 9** What is the risk? Discuss various types of risks with example. (20)
- Q. 10** a) What do you mean testing patterns? Explain in brief. (10)  
b) Discuss the testing of client server applications. (10)

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**B.C.A. SEM-IV (2014 Course) CBCS : WINTER - 2018**  
**SUBJECT : JAVA PROGRAMMING**

**Day** : Wednesday  
**Date** : 21/11/2018

**W-2018-1838**

**Time** : 10.00 AM TO 01.00 PM  
**Max. Marks** : 100

**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) Answer to both the sections should be written in **SEPARATE** answer books.

**SECTION – I**

- Q.1** What is the functionality of switch statement? Explain switch statement with the help of appropriate example. (15)
- Q.2** What is an operator? Describe all types of operators available in JAVA. (15)
- Q.3** What is an Exception? How do we define a **try** and **catch** block? When a **finally** block is used and how it is used? (15)
- Q.4** Compare method overloading and overriding with the help of an example. (15)
- Q.5** What is an Applet? Explain Applet life cycle. (15)
- Q.6** What is Inheritance? What are the advantages of Inheritance? Explain different types of Inheritance. (15)
- Q.7** Write short notes on (**Any Three**) (15)
- i) Data Types in Java
  - ii) Garbage collection
  - iii) Java Virtual Machine
  - iv) Packages

**SECTION – II**

- Q.8** a) The numbers in a sequences: (10)
- 1      1      2      3      5      8      13      21
- are called Fibonacci numbers. Write a program to calculate and print first 'n' Fibonacci numbers.
- b) Write a Java program to read numbers from command line. Write a method to calculate sum of positive numbers only. Display calculated sum. Also display how many numbers were positive? (10)
- Q.9** What is an Interface? Write an example where Interface can be used to support multiple inheritance. Develop a standalone Java program for the example. (20)
- Q.10** Write a Java Applet that reads user name from HTML parameters and display Hello message accordingly. (20)

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**B.C.A. SEM-IV (2014 Course) CBCS : WINTER - 2018****SUBJECT: STATISTICS**

Day: Saturday  
Date: 24/11/2018

**W-2018-1839**

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 100

**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 **SEPARATE** answer book.
- 4) Use of non-programmable **CALCULATOR** is allowed.
- 5) Graph should be drawn on **GRAPH PAPERS** only.

**SECTION-I**

**Q.1** Discuss scope of statistics in (15)  
i) Economics ii) Computer Sciences iii) Business Management

**Q.2 a)** Differentiate: Primary Data sources and Secondary Data sources. (07)

**b)** Calculate Mean and Mode for the following data: (08)

Score	No. of students
Less than 5	1
Less than 10	3
Less than 15	9
Less than 20	17
Less than 25	27
Less than 30	36
Less than 35	38

**Q.3** Construct Frequency Polygon with reference to the Histogram for the following data: (15)

Classes	10-15	15-20	20-25	25-30	30-40	40-60
Frequency	7	19	27	15	12	12

**Q.4** From the data given find  $\sigma_x$ ,  $\sigma_y$  and decide which Batsman is more consistent. (15)

Batsman A	35	54	52	53	56	52	51	49
Batsman B	108	107	105	106	104	103	104	101

**Q.5 a)** Write a brief note on properties of regression coefficient. (08)

**b)** Prepare suitable frequency distribution table for the data provided below: (07)  
15, 20, 22, 24, 27, 25, 15, 19, 26, 30, 10, 15, 20, 23, 26, 27, 30, 22, 26, 18, 15, 17, 21, 11, 22, 26, 27, 29, 21, 18.

**Q.6** Define mode with their merits and demerits and compute mode value for data (15)  
given below:

Sales	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	6	7	13	26	12	06

**P. T. O.**

**Q.7** Write short notes on any **THREE** of the following: **(15)**

- a) Pie diagram
- b) Discrete and continuous variables
- c) Applications of Time Series
- d) Relative measures of dispersion

**SECTION - II**

**Q.8** Estimate below mentioned statistical instruments  $\bar{x}, \bar{y}, Cov(x, y)$ , coefficient of standard deviation for  $x$  and  $y$ . **(20)**

Marks in I <sup>st</sup> year	25	28	35	31	36	29	38
Marks in II <sup>nd</sup> year	43	46	49	36	32	31	30

**Q.9** From the following table calculate the coefficient of correlation by Karl Pearson's method. **(20)**

X	6	2	10	4	8
Y	9	11	X	8	7

Arithmetic mean of X and Y series are 6 and 8 respectively.

**Q.10** From the data given below find: **(20)**

- i) The two regression coefficient
- ii) The two regression equations.
- iii) The coefficient of correlation between the marks in Economics and statistics
- iv) The most likely marks in statistics when marks in economics are 30.

Marks in Economics	25	28	35	32	31	36	29	28	34
Marks in Statistics	43	46	49	41	36	32	31	30	33

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