

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-IV :SUMMER : 2023
SUBJECT : COMPUTER NETWORKS

Day : Tuesday
Date : 2/5/2023

S-18777-2023

Time : 02:00 PM-05:00 PM
Max. Marks : 60

N.B.

- 1) **Q. No. 4** from Section-I is **COMPULSORY**.
 - 2) Attempt **ANY TWO** questions from Q.No. 1 to Q. No. 3 in Section – I.
 - 3) Attempt **ANY TWO** questions from Q.No. 5 to Q. No. 7 in Section – II.
 - 4) Figures to the **RIGHT** indicate **FULL** marks.
 - 5) Answers to both the sections should be written in **SAME** answer book.
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SECTION – I

- Q.1** a) Define computer network. Give the applications of it. (06)
b) Differentiate between synchronous and asynchronous transmission. (06)
- Q.2** a) Explain Link state routing protocol with its merits and demerits. (06)
b) Explain the following terms: (06)
i) POP
ii) FTP
- Q.3** a) Give the various design issues associated with wireless sensor network. (06)
b) Differentiate between TCP and UDP. (06)
- Q.4** Write short notes on **ANY THREE** of the following : (12)
a) Bandwidth.
b) Wireless LAN.
c) Broadcast Address.
d) Domain Name Services.
e) Bluetooth.

SECTION – II

- Q.5** Explain the OSI reference model in detail. (12)
- Q.6** What do you mean by classful addressing? Explain IP address classes in detail. (12)
- Q.7** As a Network engineer, you are assigned task of designing local area network of 150 computers. Give the minimum requirement to build this network. Which topology will you prefer and why? (12)

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)

B.C.A. Sem-IV :SUMMER : 2023

SUBJECT : SOFTWARE TESTING

Day : Thursday

Time : 02:00 PM-05:00 PM

Date : 4/5/2023

S-18778-2023

Max. Marks : 60

N.B.:

- 1) **Q. No. 4** from **SECTION-I** is **COMPULSORY**.
 - 2) Attempt any **TWO** questions from Q. No. 1, 2 and 3 in Section –I.
 - 3) Attempt any **TWO** questions from Q. No. 5, 6 and 7 in Section –II.
 - 4) Figures to the right indicate **FULL** marks.
 - 5) Answers to both the sections should be written in **SAME** answer book.
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SECTION-I

- Q.1** Why software testing is necessary? Explain software testing process. (12)
- Q.2** a) Define terms 'Verification' and 'Validation'. (06)
b) Explain various techniques of verification. (06)
- Q.3** Distinguish between the following: (12)
i) Black Box and White Box Testing
ii) Testing and Debugging
- Q.4** Write short notes on any **TWO** of the following: (12)
a) Testing of real time systems
b) Unit Testing
c) Testing patterns
d) Equivalence partitioning

SECTION-II

- Q.5** Explain various approaches of Integration Testing. (12)
- Q.6** What is Risk Management? Explain role of testing in Risk Management? (12)
- Q.7** Explain Basis Path Testing of white Box Testing Technique. (12)

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-IV :SUMMER : 2023
SUBJECT : JAVA PROGRAMMING

Day : Monday

Time : 02:00 PM-05:00 PM

Date : 8/5/2023

S-18779-2023

Max. Marks : 60

N.B.

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

SECTION – I

- Q.1** List and explain features of Java. (12)
- Q.2** What do you know about exception handling? Explain it with suitable example. (12)
- Q.3** Define interface. Give an example where interface can be used to support multiple inheritance. (12)
- Q.4** Write short notes on **ANY THREE** of the following : (12)
- a) JVM
 - b) Access Modifiers.
 - c) Packages in Java.
 - d) Abstract and final Keywords.
 - e) BufferedReader and BufferedWriter.

SECTION – II

- Q.5** What is a thread? Explain life cycle of a thread in detail. (12)
- Q.6** a) Explain following AWT controls: (06)
i) Button ii) Label iii) Scrollbar
- b) Write a java program to find out sum of digits of given number. (06)
- Q.7** Define class and object. Explain them with an example using java code. (12)

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)

B.C.A. Sem-IV :SUMMER : 2023

SUBJECT : OPERATIONS RESEARCH

Day : Thursday

Time : 02:00 PM-05:00 PM

Date : 11/5/2023

S-18780-2023

Max. Marks : 60

N.B.:

- 1) Q. No. 4 from Section – I is **COMPULSORY**.
- 2) Attempt **ANY TWO** questions from Q. No. 1 to Q. No. 3 from Section – I.
- 3) Attempt **ANY TWO** questions from Q. No. 5 to Q. No. 7 from Section – II.
- 4) Figures to the right indicate **FULL** marks.
- 5) Answers to both the sections should be written in **SAME** answer book.
- 6) Use of non-programmable calculator is **ALLOWED**.

SECTION – I

Q. 1 Explain the origin and historical development of Operations Research. (12)

Q. 2 Find optimum solution of following L.P.P. by Graphical Method. (12)

Minimize $Z = 3x + 2y$

subject to :

$$-2x + y \leq 10$$

$$x \leq 2$$

$$x + y \leq 4$$

$$x, y \geq 0$$

Q. 3 Five machines can do any of the five required jobs with different profits resulting from each assignment as shown below: (12)

Machine					
Job	A	B	C	D	E
I	30	37	40	38	40
II	40	24	27	21	36
III	40	32	33	30	35
IV	25	38	40	36	36
V	29	62	41	34	39

Workout the assignment so as to maximize the optimum output.

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

- a) Decision tree
- b) Degeneracy in transportation problem
- c) limitations of Operations Research

P. T. O.

SECTION – II

Q. 5 Find the I. B. F. S. of following transportation problem by using: (12)

- i) North-West Corner Method (NWCM)
- ii) Vogel's Approximation Method (VAM)

Sources	Destination				Capacity
	A	B	C	D	
I	9	12	9	6	70
II	7	3	7	7	60
III	6	5	9	11	90
Demand	70	50	70	30	

Q.6 Consider the following profit table: (12)

	N ₁	N ₂	N ₃	N ₄
S ₁	30	10	10	8
S ₂	40	-15	5	7
S ₃	50	20	-6	10

Determine the optimum decision under:

- i) Maximax Criterion
- ii) Laplace Criterion

Q. 7 a) Explain Network Analysis Techniques in brief. (12)

- b) Discuss the various steps of Hungarian Method

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BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE)
B.C.A. Sem-IV :SUMMER : 2023
SUBJECT : ENTREPRENEURSHIP DEVELOPMENT

Day : Saturday

Time : 02:00 PM-05:00 PM

Date : 13-05-2023

S-18781-2023

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) Answer to both the sections should be written in the **SAME** answer book.

SECTION – I

- Q.1** What are the functions of an entrepreneur? (10)
- Q.2** What are the various factors favourable for women entrepreneurship in India? (10)
- Q.3** How will you use environmental analysis for business opportunity identification? (10)
- Q.4** Write short notes on any **TWO** of the following: (10)
- a) Intellectual property rights
 - b) Role of SIDBI
 - c) Elevator pitch (10)

SECTION – II

- Q.5** Design a business plan for setting up a Book Cafe in your city. (15)
- Q.6** Discuss the Start-up and Make-in-India programs. (15)
- Q.7** What is the role of DIC in the development of entrepreneurship? (15)

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