2016

Time : 3 hours

Full Marks : 80

The questions are of equal value.

*Answer **all** questions.*

(COMPUTER GRAPHICS & MULTIMEDIA)

1. (a) Explain the three basic 2D-transformations.

OR

(b) Explain line clipping algorithm with suitable example.

2. (a) What are the components of Multimedia System ? In what format are these data stored in a computer ?

OR

(b) Explain morphing in Multimedia with suitable example.

Scanned with CamScanner

3. (a) What is HTTP ? How does it work ? Give appropriate example.

(b) Write short notes on the following :

(i) IP address

(ii) Internet Service Provider

OR

(c) What are HTML tags ? List the commonly used HTML commands.

(d) Write an HTML document to provide a form that collect name and telephone numbers.

4. (a) Explain the features available in Adobe Photoshop.

OR

(b) Write short notes on the following :

(i) Healing brush tool

(ii) Filtering

Scanned with CamScanner

2016

Time : 3 hours

Full Marks : 80

The questions are of equal value.

*Answer **all** questions.*

(SOFTWARE ENGINEERING AND UML)

1. (a) Compare the classical water model of software development with that of iterative waterfall model.

OR

(b) Compare the prototype model with evolutionary model indicating their applicability to different software development scenarios.

2. (a) What are the major issues in managing software development projects ? Write the

Scanned with CamScanner

significance of project planning and scheduling.

OR

(b) What are the risks confronted in a Software Project ? How to deal with software project risks ?

3. (a) What is the significance of Software Design ? Distinguish between cohesion and coupling.

OR

(b) Distinguish between use case diagram and interaction diagram in UML. Draw an interaction diagram for an online ticket booking scenario.

4. (a) Explain the need for Software Testing ? Discuss on different software testing strategies.

OR

Scanned with CamScanner

(b) Write short notes on any **two** of the following :

(i) Software reliability and quality management

(ii) CMM

(iii) User-interface design

Scanned with CamScanner

2016

Time : 3 hours

Full Marks : 80

The questions are of equal value.

*Answer **all** questions.*

(DATA COMMUNICATION AND COMPUTER NETWORK)

1. (a) What is meant by network topology ? Discuss different types of network topologies.

   (b) Explain how communication takes place in connectionless networks.

   OR

   (c) Distinguish between switched and non-switched circuits.

   (d) Explain the following terms :

   (i) Channel speed

Scanned with CamScanner

(ii) Analog wave forms

(iii) TDMA

(iv) Bit rate

2. (a) Explain the function of the application and physical layers of the OSI model.

(b) Distinguish between Character and Bit Protocols.

OR

(c) Explain different Binary Synchronous control formats.

(d) Write short notes on the following :

(a) Layered protocol

(b) HDLC

3. (a) Discuss on the primary attributes of LAN.

(b) Distinguish between Token ring and Token bus.

OR

(c) Explain different LAN topologies and the associated protocols.

Scanned with CamScanner

(d) Write short notes on the following :

(a) IEEE LAN standard

(b) Packet routing

(c) Broad band

(d) Message switching

4. Write short notes on any **four** of the following :

(a) IP datagram

(b) TCP segment

(c) UDP

(d) File transfer

(e) Sockets

(f) Features of TCP

Scanned with CamScanner

2016

Time : 3 hours

Full Marks : 80

The questions are of equal value.

*Answer **all** questions.*

(OPERATION RESEARCH)

1. Determine the values of x_1 and x_2 so as to maximize :

$$z = 2x_1 + x_2$$

Subject to the constraints

$$x_1 + 2x_2 \leq 10$$

$$x_1 + x_2 \leq 6$$

$$x_1 - x_2 \leq 2$$

$$x_1 - 2x_2 \leq 1$$

$$x_1, x_2 \geq 0$$

OR

Scanned with CamScanner

Find the duality of the following and hence solve for x_1 and x_2 :

Minimize $z = x_1 + x_2$

Subject to the constraints

$$2x_1 + x_2 \geq 4$$

$$x_1 + 7x_2 \geq 7$$

$$x_1 , x_2 \geq 0$$

2. A salesman has to visit five cities A, B, C, D and E. The distance between the five cities are given. Find the shortest route for the salesman.

To

From	A	B	C	D	E
A	–	7	6	8	4
B	7	–	8	5	6
C	6	8	–	9	7
D	8	5	9	–	8
E	4	6	7	8	–

OR

Scanned with CamScanner

What is integer progarmming problem ? Explain the Branch and Bound Technique of solving it.

3. Solve the following two-person zero sum game.

Player B

Player		B_1	B_2	B_3
	A_1	1	8	3
	A_2	6	4	5
	A_3	0	7	2

OR

Find the sequence that minimize the total elapsed time :

Job	Machine I	Machine II
A	4	6
B	8	3
C	3	7
D	6	2
E	7	8
F	5	4

Scanned with CamScanner

4.

Activity	Normal Time (Days)	Crash Time (Days)	Normal Cost (Rs.)	Crash Cost (Rs.)
1 – 2	20	17	600	720
1 – 3	25	25	200	200
2 – 3	10	8	300	440
2 – 4	12	6	400	700
3 – 4	5	2	300	420
4 – 5	10	5	300	600

Draw the network and shorten the activity step by step until the shortest duration is reached.

OR

Draw Network. Find critical path and different floats for the following :

Activity	Duration (days)
1 – 2	3
2 – 4	16

Scanned with CamScanner

Activity	Duration (days)
2 – 3	6
3 – 4	8
2 – 5	10
4 – 5	5
5 – 6	3

5. Write short notes on any **two** of the following :

   (a) Assumptions and limitations of L. P. P.

   (b) PERT

   (c) Pure game and Mixed game

   (d) Assumptions for a job sequencing problem

Scanned with CamScanner