Hall Ticket No: **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(AUTONOMOUS)

II/IV B. Tech II- Semester Regular Examinations April – 2017

Computer Graphics & Multimedia

(IT)

Time: 3 hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered at one place only

UNIT-I

1. Explain Bresenhams Line Drawing Algorithm with example. (12M)

(OR)

2.
   i. Explain two dimensional geometric transformations with neat sketch. (6M)
   ii. Explain two dimensional clipping with example. (6M)

UNIT-II

3.
   i. Explain three dimensional geometric transformations with neat sketch. (6M)
   ii. Explain about Animations. (6M)

(OR)

4. Explain three dimensional object representations. (12M)

UNIT-III

5.
   i. Explain Multimedia system architecture. (6M)
   ii. Explain about multimedia data interface standards and multimedia databases. (6M)

(OR)

6.
   i. Explain multimedia applications. (6M)
   ii. Explain and how to defining objects for multimedia systems. (6M)

UNIT-IV

7.
   i. Explain Data and file format standards. (6M)
   ii. Explain Multimedia I/O technologies. (6M)

(OR)

8.

i. Explain about compression and decompression. (6M)
ii. Explain about storage and retrieval technologies. (6M)

UNIT-V

9.

i. Discuss about Hypermedia messaging. (6M)
ii. Explain integrated document management. (6M)

(OR)

10.

i. Explain multimedia authoring & user interface. (6M)
ii. Explain Distributed multimedia systems. (6M)

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Hall Ticket No: **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(AUTONOMOUS)

II/IV B. Tech II- Semester Regular Examinations April – 2017

Computer Networks

(IT)

Time: 3 hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered at one place only

UNIT-I

1. What does the acronym OSI stand for? Describe the architectural design of OSI model. (12M)

(OR)

2. Explain the IEEE 802 Reference model with relevant frame formats. (12M)

UNIT-II

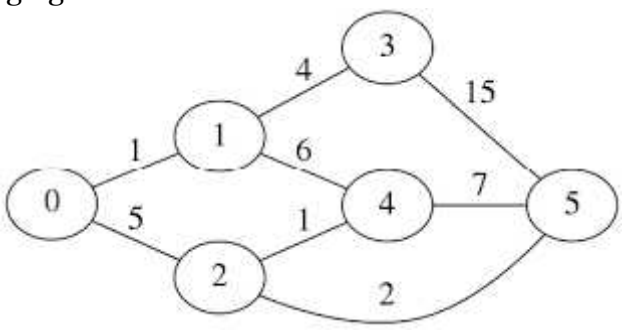
3 a)Explain the operation of packet switching using an sample network. (6M)

b) Discuss various congestion control mechanisms. (6M)

(OR)

4 a)Describe the routing strategies in detail with examples (6M)

b)What is the use of least cost algorithm? Apply Dijkstra's routing algorithm to the sample network in the following figure: (6M)



UNIT-III

5 a) Identify different IP services and explain the IPV4 header format (8M)

b) Explain Encapsulation, fragmentation and reassembling protocol functions (4M)

(OR)

6. Discuss the functions and message format of Border Gateway Protocol. (12M)

UNIT-IV

7 a) What is flow control in TCP Credit Allocation mechanism using an example. (10 M)

b)What is meant by Retransmission strategy in TCP (2M)

(OR)

8 a) Identify different TCP services and explain the TCP header format (8M)

b) Discuss window management strategy in TCP congestion control (6M)

UNIT-V

9 a)Explain the overview of SMTP with its connection setup (6M)

b) Abbreviate MIME and explain its functionality (6M)

(OR)

10.Explain the overview of HTTP and its General structure of HTTP messages with its header fields in detail. (12M)

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Hall Ticket No: **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(AUTONOMOUS)

II/IV B. Tech II- Semester Regular Examinations April – 2017

Information System Design

(IT)

Time: 3 hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered at one place only

UNIT-I

1. a) Explain various Types of Information. (4 M)
   b) Discuss various functions in an organization. (8 M)

(OR)

2. a) List out the qualities of Information. (4M)
   b) Write about the Information Requirements of various managements . (8M)

UNIT-II

3. a) Justify the term ‘‘Software is Developed or Engineered’’ . (2 M)
   b) List several software process paradigms. Explain how both waterfall model and prototyping model can be accommodated in the spiral process model. (10 M)

(OR)

4. a) Differentiate Software Engineering Methods, Tools and Procedures (2 M)
   b) Define Process Maturity. Explain different process maturity levels of CMM/SEI (10 M)

UNIT-III

5. a) What are Functional and Non-Functional Requirements? (2 M)
   b) Explain the tasks of Requirement Engineering. (10M)

(OR)

6. a) Write about various Analysis model approaches. (2 M)
   b) Describe Requirement Analysis . (10 M)

UNIT-IV

7. a)Write about Design Process and Quality. (4 M)
   b) Explain the concepts of Software designing. (8 M)

(OR)

8. a) State three golden rules of User Interface Design. (4 M)
b) Describe the steps in User Interface Analysis and Design. (8 M)

UNIT-V

9. a)Write about Black box and White box testing. (4 M)
b) List and Explain different types of Testing done during the testing phase. (8 M)

(OR)

10. a) Define Path Testing Give an example of Path Testing. (4 M)
b)Explain various factors involved in Software Quality Product Metrics (8M)

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Hall Ticket No: **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES

(AUTONOMOUS)

II/IV B. Tech II- Semester Regular Examinations April – 2017

Operating Systems

(IT)

Time: 3 hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered at one place only

UNIT-I

1. a) Define operating system and discuss the various types of operating systems. (8M)
   b) Define process and explain various states of a process with the help of a neat diagram. (4M)

(OR)

2. a) Describe the following system calls in detail (8M)
   (i)Fork () (ii) wait() (iii)Read() (iv) write()
   b) Explain the various types of multithreading models. (4M)

UNIT-II

3. a) Explain producer consumer problem using semaphores (8M)
   b) Five jobs 1 through 5 have arrived at similar time with burst times of 2,4,2,6 and 3 respectively. Their priorities are given as 3,2,1,4 and 5 respectively, with 1 being highest priority and 5 being lowest priority. Calculate the completion time, average waiting time and average turnaround time for the below algorithms.
   (i)FCFS (ii) Priority (4M)

(OR)

4. Explain bankers algorithm for deadlock avoidance along with an example. (12M)

UNIT-III

5 a) Explain about dynamic storage allocation strategies in contiguous memory allocation scheme. (8M)
   b) Discuss between internal and external fragmentation (4M)

(OR)

6. a) Explain paging as a memory management scheme with the help of a neat diagram (8M)
   b) Explain the following page replacement algorithms with an example. (4M)
   (i)FIFO (ii)LRU

UNIT-IV

7	a) Discuss about various types of directory structures	(8M)
	b) Explain briefly about file access methods	(4M)

(OR)

8	a) Classify various types of file allocation methods	(8M)
	b) Describe about Virtual file system	(4M)

UNIT-V

9	a) Explain about different types of disc scheduling algorithms.	(8M)
	b) Discuss the various levels of RAID	(4M)

(OR)

10.	a) Explain about Access Matrix as a model of protection	(8M)
	b) Write a short note on Domain of protection	(4M)

Hall Ticket No: **Question Paper Code :**

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
II/IV B. Tech I- Semester Regular Examinations Oct - 2016
(Regulations: R15)
PROBABILITY, STATISTICS & QUEUING THEORY
(IT)

Time :3hours **Max Marks:60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT - I

1 (a) State and prove Addition theorem and Multiplication theorem of probability for two events. (6M)

(b) There are two bags A and B. The bag A contains n white and 2 black balls and bag B contains 2 white and n black balls. One of the two bags is selected at random and two balls are drawn from it without replacement. If both the balls drawn are white and the probability that the bag A was used to draw the ball is $\frac{6}{7}$, find the value n? (6M)

(OR)

2 (a) A random variable X has the following probability distribution.

x	0	1	2	3	4	5	6	7
P(x)	0	k	2k	2k	3k	k^2	$2k^2$	$7k^2+k$

Find (i) the value of k, (ii) P(1.5<X<4.5/X>2), (iii) P(X<6), P(X≥6)(iv) the smallest value of λ for which $P(X \le \lambda) > ½$. (6M)

(b) A continuous Random Variable X has a pdf $f(x) = kx^2e^{-x}, x \ge 0$.

Find (i) k (ii) Variance (6M)

UNIT-II

3 (a) Out of 800 families with 4 children each, how many families would be expected to have (i) 2 boys and 2 girls, (ii) at least one boy, (iii) at most two girls and (iv) children of both sexes. Assume equal probabilities for boys and girls.

(b) Show that for Poisson Distribution the mean and variance are same

(OR)

4 (a) X is a normal variate with mean 30 and S.D. 5. Find the probabilities that

(i)P($26 \le X \le 40$) (ii) P($X \ge 45$) (iii) $P(|X - 30| > 5)$. (6M)

(b) If X has uniform distribution in (0, 2) and Y has exponential distribution with parameter λ,

find λ such that P(X<1) = P(Y<1). (6M)

UNIT-III

5 (a) Derive the normal equations for the fitting of a straight line. (6M)

(b) Fit a second degree parabola to the following data using the method of least squares

X	1	2	3	4	5	6	7	8	9
Y	2	6	7	8	10	11	11	10	9

(6M)

(OR)

6 (a)Find the coefficient of correlation between X and Y using the following data: (6M)

X	5	10	15	20	25
Y	16	19	23	26	30

(b) In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible: Variance of X=1. The regression equations are $3x + 2y = 26$ and

$6x + y = 31$.What were (i) the mean values of X and Y? (ii) the standard deviation of Y? and (iii) the correlation between X and Y? (6M)

UNIT-IV

7 (a) Explain (i) Null Hypothesis, (ii) Alternative Hypothesis (iii) Critical Region,

(iv)Level of Significance (v) One-tailed test (vi) Two-tailed test (6M)

(b) The mean height and the standard deviation height of 8 randomly chosen soliders are 166.9 and 8.29 cm respectively. The corresponding values of 6 randomly chosen sailors are 170.3 and 8.50 cm respectively. Based on this data, can we conclude that the soliders are, in general, shorter than sailors? (6M)

(OR)

8 (a) A cubical die is thrown 9000 times and a throw of 3 or 4 is observed 3240 times. Show that the die cannot be regarded as an unbiased one, and find the extreme limits between which the probability of a throw of 3 or 4 lies. (6M)

(b) Two samples drawn from two different populations gave the following results:

	Size	Mean	SD
Sample-I	100	582	24
Sample-II	100	540	28

Test the hypothesis, at 5% level of significance, that the difference of the means of the population is 35. (6M)

UNIT-V

9 (a) Explain the characteristics of a queueing model. (6M)

(b) Arrivals at a telephone booth are considered to be Poisson with an average time of 12min. between one arrival and the next. The length of a phone call is assumed to be distributed exponentially with mean 4min. (6M)

(i) Find the average number of persons waiting in the system.

(ii) What is the probability that a person arriving at the booth will have to wait in the queue?

(OR)

10 (a) For (M/M/1): (∞/FIFO) queueing model, in the steady state case, obtain the average queue length in terms of the relevant parameters ^{a} *and* «. (6M)

(b) The local one-person barber shop can accommodate a maximum of 5 people at a time (6M)

(4 waiting and 1 getting hair-cut). Customers arrive according to a Poisson distribution with mean 5 per hour. The barber cuts hair at an average rate of 4 per hour.

(i) What percentage of time is the barber idle?

(ii) What fraction of the potential customers are turned away?

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