R15

Code No: R15A0514

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June/July 2024

Computer Networks

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	Draw Architecture of Internet	**[2M]**
b	List the merits and demerits of mesh topology.	**[3M]**
c	Compare Guided and Unguided transmission media	**[2M]**
d	List the key requirements for wireless LANs.	**[3M]**
e	Why is IPv6 preferred over IPv4?	**[2M]**
f	List out the advantages and disadvantages of circuit switching	**[3M]**
g	Explain the structure of TCP Header format	**[2M]**
h	Define SCTP?	**[3M]**
i	What is the importance of DNS?	**[2M]**
j	Explain how the firewall works	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Explain the functions of various layers in ISO-OSI reference model.	**[10M]**
	OR	
3	Discuss about unguided transmission media.	**[10M]**

SECTION-II

4	What is the need of Flow control? Explain the common approaches for flow control in data link layer	**[10M]**
	OR	
5	Find the minimum Hamming distance for the following case: Detection and correction of 3 errors	**[10M]**

SECTION-III

6	Demonstrate the working of Multiple Access Protocols	**[10M]**
	OR	
7	Discuss flow control mechanism using Sliding window protocol	**[10M]**

SECTION-IV

8	Explain in detail about UDP Internet Transport Protocol	**[10M]**
	OR	
9	Compare and Contrast the UDP and TCP headers.	**[10M]**

SECTION-V

10	Write short notes on Electronic Mail and the SMTP Protocol	**[10M]**
	OR	
11	Demonstrate URL and explain about its components.	**[10M]**

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R15

Code No: R15A0513

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June/July 2024

Operating Systems

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 70**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

1). a	What is a kernel?	**[2M]**
b	Differentiate between parallel and distributed system.	**[3M]**
c	Write any two classical problems of synchronization?	**[2M]**
d	Describe different process states.	**[3M]**
e	Write the difference between internal and external fragmentation	**[2M]**
f	A system with a 32-bit logical address space, if the page size is 4KB, then the page table may consists of how many entries?	**[3M]**
g	Define boot block. How it initiated from disk	**[2M]**
h	What are the various attributes that are associated with an opened file	**[3M]**
i	What is deadlock?	**[2M]**
j	List the goals and principles of protection	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	a) Discuss about the evolution of operating system	**[7M]**
	b) What are the differences between batch processing and Real time processing system	**[3M]**

OR

3	a)Explain the purpose of system calls and discuss the system calls related to process control and communication in brief	**[7M]**
	b) Compare Multi programmed and time shared.	**[3M]**

SECTION-II

4	Why is round robin algorithm considered better than first come first serve algorithm? Take three processes that arrive at the same time in the following order and the time quantum is 2 ms. Process Burst Time P1 10 P2 5 P3 2 Draw Gantt chart and calculate average turnaround and waiting time using Round Robin Scheduling Algorithm without Switching	**[10M]**

OR

5 a) Write the solution to Dining Philosophers problem using Monitors **[5M]**

b) Explain the Round Robin scheduling algorithm with a suitable example **[5M]**

SECTION-III

6 Consider the following page reference string: 1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1,2, 3, 6, frame size 3.How many page faults would occur for the LRU replacement **[10M]**

OR

7 Explain the following: i) Paging **[5M]**

ii) Segmentation **[5M]**

SECTION-IV

8 Explain the following disk scheduling algorithm with proper diagram:

a) FCFS **[4M]**

b) SSTF **[3M]**

c) SCAN. **[3M]**

OR

9 What are the objectives of file management systems? Explain the file system **[10M]**

SECTION-V

10 Consider the table given below for a system, find the need matrix and the safety sequence, using Banker's algorithm. **[10M]**

Resource – 3 types

A – (10 instances)

B – (5 instances)

C – (7 instances)

Process	Allocation	Maximum	Available
	A B C	A B C	A B C
p0	0 1 0	7 5 3	3 3 2
p1	2 0 0	3 2 2	
p2	3 0 2	9 0 2	
p3	2 1 1	2 2 2	
p4	0 0 2	4 3 3	

OR

11 a)What is deadlock? Explain the conditions that lead to deadlock. **[5M]**

b)Explain the protection mechanism illustrating the use of protection domain and access control list. **[5M]**

R15

Code No: R15A0065

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June/July 2024

Management Science

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	Discuss the Nature and scope of Management.	**[2M]**
b	What is the importance of management science?	**[3M]**
c	Write a note on control charts	**[2M]**
d	Demonstrate the Marketing strategies of PLC	**[3M]**
e	Outline the Functions of HRM	**[2M]**
f	What is Performance Appraisal? Give suitable examples.	**[3M]**
g	Tell about Project Cost Analysis	**[2M]**
h	Write a short note on Network Analysis.	**[3M]**
i	Write note on Project Management	**[2M]**
j	Define Float, Free Float and Total for Project activity.	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Name the motivation theories and explain the two factor theory of motivation in detail.	**[10M]**
	OR	
3	Explain the Fayol's Principles of Management.	**[10M]**

SECTION-II

4	What is organizational chart and explain any one of them with suitable Diagram.	**[10M]**
	OR	
5	What is Marketing Mix and explain with suitable examples	**[10M]**

SECTION-III

6	Briefly explain the various steps in manpower planning process and distinguish between wage and salary.	**[10M]**
	OR	
7	Write short notes on Recruitment, Selection, Training and Development.	**[10M]**

SECTION-IV

8 A project has the following time schedule **[10M]**

Activity	Time in Months	Activity	Time in Months
1-2	2	3-6	5
1-3	2	4-6	3
1-4	1	5-8	1
2-5	4	6-9	5
3-6	8	7-8	4
---	----	8-9	3
Construct PERT Network and compute Critical Path and its duration.			

OR

9 Briefly explain various steps in Programme Evaluation and Review Technique and how do you identify Critical path. **[10M]**

SECTION-V

10 List out the steps in corporate planning and explain. **[10M]**

OR

11 Classify the Vision, Mission and Goals of Organization. **[10M]**

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R15

Code No: R15A0517

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June/July 2024

Computer Graphics

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	Define aspect ratio. Give one example of an aspect ratio.	**[2M]**
b	What is DDA? What are the disadvantages of DDA algorithm?	**[3M]**
c	What is Polygon clipping.	**[2M]**
d	Write short notes on active and passive transformations?	**[3M]**
e	Explain shear transformation	**[2M]**
f	Categorize the 3D object representations?	**[3M]**
g	Define scan line method.	**[2M]**
h	What are the advantages of BSP tree method.	**[3M]**
i	Discuss about direct motion specification.	**[2M]**
j	Define computer graphics animation.	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Explain the following Video Displays Devices (a) refresh cathode ray tube(b)raster Scan Displays (c) Random Scan Displays (d) Color CRT Monitors	**[10M]**
	OR	
3	Write down and explain the midpoint circle drawing algorithm. Assume 10 cm as the radius and co-ordinate as the centre of the circle.	**[10M]**

SECTION-II

4	Explain the following composite transformations (i)Translation (ii)Rotation	**[10M]**
	OR	
5	Explain Cyrusbeck line clipping algorithm.	**[10M]**

SECTION-III

6	Write short notes on Bezier curve and spline.	**[10M]**
	OR	
7	With suitable examples explain all 3D transformations	**[10M]**

SECTION-IV

8	Write short notes on the following visible surface detection methods. (i)Back face detection(ii)Depth –Buffer method.	**[10M]**

OR

9	Explain depth sorting method with example.	**[10M]**

SECTION-V

10	Discuss key frame systems in computer graphics	**[10M]**

OR

11	Discuss about computer animation languages.	**[10M]**

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R15

Code No: R15A0512

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B.Tech I Semester Supplementary Examinations, June/July 2024

Compiler Design

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART-A (25 Marks)

1). a	What is a preprocessor? Mention its objectives	**[2M]**
b	Construct parse tree and syntax tree for 4-6/3*5+7	**[3M]**
c	What are the actions performed by Shift reduce parser?	**[2M]**
d	Give the specification of the YACC parser generator.	**[3M]**
e	What is three-address code? Give an example.	**[2M]**
f	Write in detail about the sub-division of run-time memory	**[3M]**
g	What are the applications of DAG?	**[2M]**
h	What is significance of lookahead operator in LR parsing?	**[3M]**
i	Write an algorithm for constructing a basic block	**[2M]**
j	Construct DAG for the following basic block: T1=A+B T2=C+D T3=E – T2 T4=T1– T3	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Explain the various phases of a compiler in detail. Also write down the output for the following expression after each phase a: =b*cd.	**[10M]**
	OR	
3	Illustrate the functionality of different phases of a compiler. Indicate the input and output of each phase of a high-level language statement "a := b * c + 45.0”.	**[10M]**

SECTION-II

4	Write a YACC program for desk calculator.	**[10M]**
	OR	
5	Find the First and Follow sets for the following grammar. E -> TA A -> +TA / ε T ->FB B -> *FB / ε F ->(E) / id	**[10M]**

SECTION-III

6	Translate the given expression into quadruples, triples and indirect triples (a+b)*(c+d)+(a*b/c)*b+60.	**[10M]**

OR

7	Distinguish Synthesized and inherited attributes in semantic analyzers.	**[10M]**

SECTION-IV

8	What is an activation tree? When will we use activation trees in storage organization? Explain with an example.	**[10M]**

OR

9	Explain the use of symbol table in compilation process. List out the various attributes for implementing the symbol table.	**[10M]**

SECTION-V

10	What are the issues in code generation process? Explain in detail.	**[10M]**

OR

11	Generate the code for the following expression: w = (a – b) + (a – c) + (a – c)	**[10M]**

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