R15

Code No: R15A0507

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Supplementary Examinations, April 2023

Java Programming

(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 briefly about recursion.	**[2M]**
b	What is method overriding?	**[3M]**
c	Differences between multitasking and multithreading.	**[2M]**
d	List some of the classes available in collection?	**[3M]**
e	Explain in brief about layout manager.	**[2M]**
f	Discuss briefly about streams.	**[3M]**
g	List different types of access specify.	**[2M]**
h	What is thread priority?	**[3M]**
i	Define character streams.	**[2M]**
j	What is an event?	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Discuss in detail about inheritance. Also write its benefits	**[10M]**
	OR	
3	What is a method? How a method is used in the class? Explain.	**[10M]**

SECTION-II

4	What is inheritance? Explain different types of inheritance	**[10M]**
	OR	
5	Explain the usage of Abstract classes and methods.	**[10M]**

SECTION-III

6	How the priorities can be assigned to threads? Explain with example?	**[10M]**
	OR	
7	What is synchronization? Explain with suitable example.	**[10M]**

SECTION-IV

8	Explain the difference between: i) Vector and Array List. ii) Enumeration and Iterator.	**[10M]**
	OR	
9	Explain in detail about the types of drivers in JDBC.	**[10M]**

SECTION-V

10	Explain about layout manager? With an example?	**[10M]**
	OR	
11	Explain in brief about events and event sources	**[10M]**

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R15

Code No: R15A0509

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Supplementary Examinations, April 2023

Database Management Systems

(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 are the levels of Abstractions?	**[2M]**
b	Why data models are required?	**[3M]**
c	"Relational algebra is procedural and tuple relational calculus is non-procedural language". Justify.	**[2M]**
d	Write notes on correlated sub queries.	**[3M]**
e	Define second Normal form.	**[2M]**
f	List the problems caused by redundancy.	**[3M]**
g	What do you mean by serialiazability of a schedule ?	**[2M]**
h	What is the significance of remote backup system?	**[3M]**
i	What is meant by secondary index?	**[2M]**
j	How to compute the disk access time ?	**[3M]**

PART-B (50 MARKS)

SECTION-I

2 a) List various categories of database users and discuss their interfaces to DBMS. **[5M]**
b) Write about query processor. **[5M]**

OR

3 a) With an example explain the concept of class hierarchy. **[5M]**
b) What is E-R Model? Draw an E-R Diagram for any online shopping system **[5M]**

SECTION-II

4 Consider the following database schema to write queries in relational Algebra .
Supplier (sid ,sname , scity)
Parts (pid ,pname , pcolor)
Supply (sid, pid, cost)
a) Find the names of suppliers who supply green colour parts **[3M]**
b) Find the supplier who supplies at least two parts. **[3M]**
c) Find the least cost "Nuts" and the details of the supplier. **[4M]**

OR

5 Explain the following Operators in SQL with examples.

i) SOME **[2M]**

ii) EXISTS **[2M]**

iii) UNIQUE **[2M]**

iv) ALL **[2M]**

v) IN **[2M]**

SECTION-III

6 What is meant by closure of F? where F is the set of functional dependencies. Explain computing F^+ with suitable examples. **[10M]**

OR

7 a) Differentiate between FD and MVD. **[5M]**

b) Explain the problems related to decomposition. **[5M]**

SECTION-IV

8 a) Explain the Time Stamp-Based Concurrency protocol? **[5M]**

b) Explain multiple granularity. **[5M]**

OR

9 What is lock management? Explain the lock based protocols. **[10M]**

SECTION-V

10 Explain the cluster index ,primary and secondary indexes with examples. **[10M]**

OR

11 What is indexing? Explain what are the differences between tree based index and Hash based index. **[10M]**

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R15

Code No: R15A0510

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Supplementary Examinations, April 2023

Computer Organization

(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	Give an example each of Zero-address, One-address, two-address and three-address instruction.	**[2M]**
b	Write about Logical and Bit Manipulation Instructions.	**[3M]**
c	What is multi processors system.	**[2M]**
d	What are the functions of typical I/O interface?	**[3M]**
e	Explain the terms Hit Ratio and Miss ratio.	**[2M]**
f	What is a bootstrap loader? Explain about the functions of bootstrap loader.	**[3M]**
g	Define paging and segmentation.	**[2M]**
h	What are the functions of flag registers in 8086 microprocessor?	**[3M]**
i	Define cache memory	**[2M]**
j	What are assembler directives?	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	a) Explain different functional units of a digital computer.	**[5M]**
	b) Mention the four types of operations to be performed by an instruction in a computer. What are the basic types of instruction formats? Give examples	**[5M]**
	OR	
3	a) What is an addressing mode? List the different types of addressing modes.	**[5M]**
	b) Explain index addressing mode with example program.	**[5M]**

SECTION-II

4	Explain about Source-initiated transfer using handshaking and Destination-initiated transfer using handshaking with a neat diagram.	**[10M]**
	OR	
5	What is the difference between isolated I/O and memory advantages and disadvantages of each?	**[10M]**

SECTION-III

6	Explain in detail about associative mapping technique.	**[10M]**
	OR	
7	Explain about Virtual Memory with the implementation details.	**[10M]**

SECTION-IV

8	Explain about the concept of segmented memory with a neat diagram. Explain its Advantages.	**[10M]**
	OR	
9	Write the special functions of general purpose registers	**[10M]**

SECTION-V

10	Write an ALP program to find transpose of a 3×3 matrix.	**[10M]**
	OR	
11	Describe with the neat diagram the architecture of 8086 Microprocessor	**[10M]**

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R15

Code No: R15A0061

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Supplementary Examinations, April 2023

Managerial Economics and Financial Analysis

(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	Why is demand forecasting important?	**[2M]**
b	Explain Law of demand.	**[3M]**
c	Explain out of pocket cost.	**[2M]**
d	Define Least cost combination of inputs.	**[3M]**
e	What is partnership deed?	**[2M]**
f	Define market.	**[3M]**
g	Define Cash Budget.	**[2M]**
h	What is the importance of financing in business?	**[3M]**
i	Explain accounting rate of return.	**[2M]**
j	Define capital.	**[3M]**

PART-B (50 MARKS)

SECTION-I

2	Examine the Nature and scope of Managerial economics.	**[10M]**
	OR	
3	Explain how do you measure elasticity of demand. Illustrate. How do you interpret the different types of elasticity?	**[10M]**

SECTION-II

4	Analyze the Internal and External Economies of Scale.	**[10M]**
	OR	
5	A company makes a single product with a sale price of Rs. 15 per unit and variable cost Rs. 9 per unit. Fixed cost is Rs.1,00,000. Evaluate: i. BEP (units and Rs) ii. P/V ratio iii. What number of units will need to be sold to achieve a profit of Rs.50, 000 iv. What level of sales will achieve a profit of Rs. 40,000	**[10M]**

SECTION-III

6	Discuss the Features of Perfect competition.	**[10M]**
	OR	
7	What are the features of a sole trader form of organization? Explain.	**[10M]**

SECTION-IV

8 Examine the different Methods and sources of raising finance. **[10M]**

OR

9 Prepare the Formats for preparation of Final Accounts (Trading Account, Profit and Loss Account and Balance Sheet). **[10M]**

SECTION-V

10 Explain different methods of capital budgeting. **[10M]**

OR

11 Form the following information calculate **[10M]**

i. Current ratio
ii. Quick ratio
iii. Gross profit
iv. Net profit ratio

Particular	Amount	Particular	Amount
Cash	1,50, 000	Bills payable	35,000
Prepaid expenses	10,000	Bank overdraft	25,000
Bank	25,000	Net profit	35,000
Closing stock	30,000	Sales	2,00,000
Debtors	20,000	Gross profit	50,000
Creditors	25,000		

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R15

Code No: R15A0506

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Supplementary Examinations, April 2023

Formal Language and Automata Theory

(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 Alphabet	**[2M]**
b	Compare NFA & DFA	**[3M]**
c	List any 5 identity rules for regular sets	**[2M]**
d	State Pumping lemma for Regular Sets	**[3M]**
e	Define Chomsky Normal Form (CNF).	**[2M]**
f	How do we say that the given grammar is ambiguous?	**[3M]**
g	Define PDA.	**[2M]**
h	Explain the acceptance of PDA.	**[3M]**
i	Define turning machine. How a TM accepts a language?	**[2M]**
j	State Arden's theorem	**[3M]**

PART-B (50 MARKS)

SECTION-I

2 Define NFA with epsilon with an example. **[10M]**

OR

3 Find DFA equal to NFA described by the following state transition table ,intital state =p, f={q,s} **[10M]**

States	0	1
p	q,s	q
q	r	q,r
r	s	p
s	-	p

SECTION-II

4 Convert the R.E. = (a|b)* into DFA **[10M]**

OR

5 Show that $\{a_n b_{2n} | n>0\}$ is not a regular set, using pumping lemma **[10M]**

SECTION-III

6 Construct right-linear and left-linear grammars for the following regular expression. **[10M]**
0* (1(0+1))*

OR

7 What is meant by ambiguous grammar? Test whether the grammar is ambiguous or not. **[10M]**
S A | B
A aAb | ab B abB | ϵ

SECTION-IV

8 Obtain PDA to accept all strings generated by the language $\{a_n b_m a_n \mid m, n\ 1\}$ **[10M]**

OR

9 Construct CFG, G=({S,A,B}, {a,b},P,S) with production set P as **[10M]**
S →aAbB; A→ Ab/b ; B →Ba/a to CNF

SECTION-V

10 Explain about Chomsky hierarchy of languages. **[10M]**

OR

11 Design Turing Machine to increment the value of any binary number by one. The output should also be a binary number with value one more the number given. **[10M]**

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