Code No.: **50H12**

MR15 - 2015-16 Batch

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Engineering Economics And Accountancy**

Branch: **Common for EEE, ECE and CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. Define the linkages of managerial economics with other disciplines
2. Give a brief note on 'Marginal Rate of technical Substitution'
3. What is Oligopoly Competition?
4. What is Internal Rate of Return (IRR)?
5. Write about profitability ratios

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. a. Managerial Economics is multi – dimensional discipline, explain. [5M]
   b. Explain the quantitative methods of Demand Forecasting. [5M]
2. a) Discuss the salient feature and significance of managerial economics. [5M]
   b) Define Demand? Why the Demand curve slopes downwards from left to right? [5M]
3. a) Differentiate Increasing, Decreasing and Constant returns to scale of production? [3M]
   b) Explain least cost combination of inputs [4M]
   c) Explain graphical representation of breakeven point [3M]
4. a. Explain Cobb- Douglas production function [5M]
   b. A company makes a product with a selling price of Rs.35 per unit and Variable cost of Rs.20 per unit. The fixed costs for the period are Rs.45, 000, what is the required output level to make a target profit of Rs.15, 000. [5M]
5. a) What is monopoly? Explain the features and causes of monopoly competition. [5M]
   b) Distinguish between Perfect competition and monopoly [5M]
6. a) Explain how perfect competition under monopoly. [5M]
   b) Define Perfect competition? Explain its features? [5M]
7. Explain the Methods of Capital Budgeting. [10M]
8. a) Define accounting Cycle. [5M]
   b) What are the advantages of double entry book - keeping system? [5M]

Code No.: **50522**

MR15 - 2015-16 Batch

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Compiler Design**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. Define regular grammar and regular expression.
2. Write the difficulties of backtracking in Top-down parsing.
3. Draw abstract syntax tree with the expression of a=b*-c + b*-c
4. State the criteria of code optimization transformations?
5. Illustrate the expression of a=b+c and generate the machine code sequence.

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Describe the role of regular expressions in lexical analysis phase of compiler and write regular expression for C language (i) Identifier (ii) Signed integers (iii) Floating point numbers
2. a) Write a C program to conduct an experiment to swap the two numbers and find the lexemes, tokens in your code fragment?

   b) Explain in detail about the structure of LEX program.
3. Check whether the following grammar is LL(1) or not?

   E ->E+T |T
   T ->T*F |F
   F->(E) | id
4. a) Consider the following grammar (8M)

   S -> 0A/1B/0/1
   A-> 0S/1B/1
   B-> 0A/1S

   Construct the left most derivation and parse tree for the following sentences

   i) 0101 ii) 1100101

   b) Consider the following grammar (2M)

   E -> E+E/E*E/ E/E / E-E/a/b

   Construct the right most derivation in the sentences of input string a+b*a+b
5. Write the quadruple, triple and indirect triple for the expression

   -(a*b) + (c+d)-(a+b+c+d)
6. Explain the S-attributed and L-attributed grammars with suitable example.
7. a) Explain about the local optimization with the help of DAG.

   b) Discuss in detail about the natural loops, dominators, reducible flow graphs
8. Explain about generating code from DAG's in detail

Code No.: **50449**

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Embedded System Design**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. Define general computing
2. What is the difference between RISC and CISC processors?
3. List out different examples of RTOS employed in embedded product development.
4. How the increasing need for time critical response for tasks/event is addressing in embedded applications?
5. What is an RTOS?

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Explain the different classifications of embedded systems. Give an example for each [10M]
2. What are the Characteristics of Embedded system? [10M]
3. a) Discuss about the various memories used in Embedded system [5M]

   b) Explain Big-endian versus Little-endian processor/controller. [5M]
4. a) Difference between microprocessor and microcontroller. [5M]

   b) Explain instruction pipe lining. [5M]
5. a) Describe the role of real time clock in embedded system. [5M]

   b) Describe the role of watchdog timer in embedded system with examples [5M]
6. a) Describe the advantages and drawbacks of assembly language based development [5M]

   b) Describe the role of reset circuit in embedded system. [5M]
7. a) What is an operating system? Give a Brief note on the various types of operating systems [5M]

   b) Discuss about the Various Tasks performed by an operating system [5M]
8. a) Define task and explain various states of task in detail. [5M]

   b) List out the services of real time operating system in embedded system [5M]

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Principles of Communication Engineering**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. What is Amplitude Modulation? Write the formulae for modulation index of an AM signal?
2. Define PSK.
3. What is slope overload distortion?
4. Define multiple access techniques?
5. Describe any one of the light detector used in optical fiber?

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Explain the principle of Angle Modulation. Derive and explain phase deviation, Modulation Index, frequency deviation and percent modulation? [10M]
2. a) Write short notes on Transmitter [5M]
   b) Write short notes on Band width [5M]
3. Explain the principle of FSK with neat sketches? [10M]
4. For a BPSK modulator with a carrier frequency of 70 MHz and an input bit rate of 10 Mbps, determine the maximum and minimum upper and lower side frequencies, draw the output spectrum, determine the minimum Nyquist bandwidth, and calculate the baud. [10M]
5. Draw and explain the functional block diagram of Delta Modulation system? [10M]
6. a) Explain the quantization process in PCM. [5M]
   b) Explain the concept of adaptive delta modulation with neat sketch. [5M]
7. Discuss in details about TDMA and CDMA in wireless communication system with suitable block diagram. [10M]
8. Write the advantages and disadvantages of optical communication system. [10M]

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **COMPUTER GRAPHICS**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. List the types of video display devices and graphics monitors
2. What are clipping operations? Briefly explain.
3. Give examples for quadric surfaces.
4. Write matrix representation for 3D shearing transformation w.r.t Z-axis.
5. Define morphing.

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Describe about video graphic monitors and work stations.
2. a) Explain about the midpoint circle algorithm with an example
   b) Explain the DDA scan conversion algorithm?
3. a) Show that two successive 2D-translations about origin are additive.
   b) Compare Cyrus-beck algorithm with Cohen Sutherland line clipping algorithm.
4. a) Explain about cyrus-back line clipping algorithm.
   b) Describe viewing coordinate reference frame.
5. Explain basic illumination models.
6. Describe the polygon table's representation for polygon surface of a 3D object with an example.
7. a) Define Translation, rotation, scaling
   b) Define reflection andShear transformations with an example.
8. a) What are the steps involved in depth buffer algorithm?
   b) List and explain about the steps of animation.

Code No.: 50558

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Software Testing Methodologies**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. What do you mean by bug discovery?
2. What is transaction flow and data flow
3. What is equivalence class partitioning?
4. Define path expressions.
5. Write about testing process?

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Draw the Software Testing Life Cycle (STLC) and explain briefly.(10M)
2. a) What are the taxonomies of bugs? Explain.
   b) Explain about the some Dichotomies
3. a) Explain flow graph notational evolution and explain co-related independent predicates. 6M
   b) What is cyclomatic complexity how you will calculate? 4M
4. a) Explain about path testing?
   b) Explain about data flow testing?
5. Define a test case, test case design, test suite and explain black box testing approach to test case design?
6. a) Explain about system testing. 3M
   b) What is the role of invariants in class testing? Illustrate with an example 4M
   c) Differentiate between Re-testing and Regression testing. 3M
7. a) Differentiate between effective and exhaustive software testing.
   b) Demonstrate data flow anomalies and explain components of data flowmodel
8. Discuss node reduction algorithm

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **DISTRIBUTED COMPUTING**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. What are the Advantages of Distributed Systems?
2. Define marshalling and unmarshalling?
3. What is the goal of security? List the three broad classes of security threats?
4. Define multicast navigation?
5. Mention the locking rules for nested transaction?

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. a) List out different types of networks that are used to support distributed system? Explain them briefly.
   b) Explain briefly about internet protocols used in distributed systems?
2. a) Explain about Ethernet and ATM?
   b) Explain about WWAN and Wireless LAN?
3. a) What is meant by external data representation?
   b) Difference between object and distributed object.
4. a) What is meant by event ordering?
   b) Explain real time event ordering.
5. a) Explain how OS layer is important in provision of distributed infrastructure for applications and services?
   b) List out the components which provides Core OS functionality? Explain clearly any four.
6. a) Briefly explain about thread concept?
   b) Draw the diagram for file service architecture?
7. a) What are the major goals of Sun NFS?
   b) Explain Time stamp ordering in detail
8. Discuss in detail about deadlock and locking schemes in concurrency control

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Object Oriented Analysis and Design**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. What is the main advantage of Object oriented development?
2. Discuss include and extend stereotypes in use cases.
3. What is package? List the types of packages?
4. Write about state chart diagram?
5. Define a component and what are the stereo types apply to a component.

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. Explain about structural and behavioral things of UML with notation. [10M]
2. Briefly write about the extensibility mechanisms in UML? [10M]
3. a) What are behavioral things? Explain. [5M]
   b) Explain about use cases and actors and use cases and flow of events? [5M]
4. a) Draw a use case diagram for Passport Automation System. (5M)
   b) What is an activity diagram and explain modeling the workflow. (5M)
5. a) Explain about generalization with an example. [5M]
   b) Describe interfaces, types and roles with examples. [5M]
6. a) Draw the collaboration diagram for Library Management System. [5M]
   b) Draw the object diagram for any structural organization of any educational system. [5M]
7. a) Explain the modeling of inter process communication. (5M)
   b) Draw a state chart diagram for Book Bank Management System. (5M)
8. Enumerate the steps to forward and reverse engineering of a component diagram?

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER -2018

Subject: **Network Security**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2Mark=10 Marks**

1. What is the difference between passive and active security threats?
2. Define hash function?
3. What properties must a hash function have to be useful for message authentication?
4. Why does PGP generate a signature before applying compression?
5. What parameters identify an SA and provide what parameters characterize the nature of a particular SA?

PART-B

Answer any FIVE Questions of the following **5x 10 Marks= 50Marks**

1. a)Explain the various types of security attacks. [5M]
   b)What is hijacking? Explain about UDP hijacking? [5M]
2. a) Demonstrate how internet standards have been standardized by using RFC? [5M]
   b) Discriminate how buffer over flow is categorized under software weakness? [5M]
3. a) To apply a block cipher in a variety of applications, five modes of operation have been defined by NIST. Explain them. [5M]
   b) Explain model of conventional crypto system. [5M]
4. a) Explain about key management in detail. [5M]
   b) Explain the various key distribution methods? [5M]
5. a) Demonstrate RSA Public-Key Encryption Algorithm. Use one suitable example to for illustrating this algorithm. [5M]
   b) Describe the Elements of a general format of certificate. [5M]
6. a) Compare the features of SHA1 and MD5 algorithm. [5M]
   b) What is the role of compression function in hash function? Explain. [5M]
7. a) Illustrate S/MIME certificate processing. [5M]
   b) What are the characteristics of PGP? [5M]
8. a) Describe IPsec Architecture with a neat diagram. [5M]
   b) Provide the steps that occur for transfer of a transport-layer segment from the external host to the internal host. [5M]