Code No.: 50H12 | MR15

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-2019

Subject: **ENGINEERING ECONOMICS AND ACCOUNTANCY**

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

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What is Demand Function?
2. What are the key terms used in break even analysis.
3. What is Oligopoly Competition?
4. What is Internal Rate of Return (IRR)?
5. What do you mean by Ledger?

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a) Managerial Economics is multi – dimensional discipline, explain.
   b) Compare income elasticity and cross elasticity with the help of Suitable example?
2. a) State and explain 'Law of Demand' with Assumptions and Exceptions.
   b) Determine type of elasticity if I1= Rs100, I2=Rs 80, Q1=1000units and Q2=700units?
3. a) Define Production function and explain input/output relationship with two variables.
   b) Srikanth Enterprises deals in the supply of hardware parts of computer. The following cost data is available for 2 successive periods:

	Year 1(rs)	Year 2(rs)
Sales	50000	120000
Fixed cost	10000	20000
Variable cost	30000	60000

   Determine: a) BEP b) Margin of safety.
4. a) What is monopolistic competition? Explain its features briefly.
   b) What is demand oriented pricing. Explain each of them.
5. a) Write a note on pricing. List any 3 pricing methods
   b) Define Oligopoly. Discuss its features.
6. a) Compute NPV for the following two projects

Cash Flows	Project X(Rs.)	Project Y(Rs.)	PV Factor @10%
Initial Cost of Investment	50000	60000	1.00
1st Year	20000	30000	0.909
2nd Year	30000	40000	0.826
3rd Year	40000	50000	0.751

   b) Compute Profitability Index for the following two projects and rank best one.
7. a) Discuss briefly the changing business environment during post-Liberalization era.
   b) Explain the methods and sources of raising finance?
8. Explain the procedure for preparing Final accounts?

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **DISASTER MANAGEMENT**

Branch: **COMMON TO CE,CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What are socio economic hazards? Give an example.
2. What are various types of lightening?
3. Write about dilatency model for earth quake prediction.
4. Write a note on National Academy of Sciences in view of Disaster Management studies.
5. What is Disaster Awareness?

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. Explain the various types of Anthropogenic hazards.
2. a) Explain the impacts of near earth objects.
   b) Explain the impacts of meteoroids and Asteroids.
3. Explain causes and distribution of volcanoes and the hazardous effects of volcanic eruptions.
4. What is Emergency Operation Plan? Explain EOP with respective an Earth quake.
5. a) Write short notes on Role of meteorology in cyclone prediction.
   b) Write short notes on Risk analysis and assessments.
6. Enumerate the role of media in Disasters.
7. a) Write short notes on Environmental legislations in India.
   b) Write short notes on Cyclonic Disaster.
8. Explain about Uttarakhand flash Floods.

Code No.: 50540 **MR15**

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **DISTRIBUTED COMPUTING**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What are the different types of system model?
2. What is meant by client server communication?
3. What is execution environment?
4. What is name space?
5. List the properties of transaction.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a)What are the networking issues for distributed System.
   b) Explain about trends in a distributed systems.
2. a) Explain about Ethernet and ATM.
   b) Explain about WWAN and Wireless LAN.
3. a) What is group communication? Explain with example.
   b) Explain the interprocess communication in UNIX.
4. a) Explain digital signature.
   b) With suitable diagram explain the OS architecture.
5. a) Write short notes on System call trap.
   b) Write short notes on Role of group membership service.
6. a) Describe the design requirements for a system to synchronize the clocks in distributed systems?
   b) Briefly explain about name services and domain name system?
7. a) Describe the christian's method for synchronizing clocks.
   b) Explain about the network time protocol.
8. a) Write any four rules for committing the nested transaction.
   b) Explain how the transaction recovery can be made.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **SOFTWARE TESTING METHODOLOGIES**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. Write about bug prevention.
2. Define Control flow graph in testing.
3. Define random testing.
4. Differentiate paths and path products.
5. How can we represent nodes in graphs.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a) Explain the purpose of testing in detail and what are different types of testing methodologies. [6M]
   b) Differentiate between verification and validation. [4M]

2. a) Explain about software testing principles.
   b) Explain the need of testing in software development process.

3. a) Explain different strategies in data flow testing.
   b) Write about the applications of data flow testing.

4. a) Differentiate between functional and procedural testing. [6M]
   b) Explain path testing with example and what are its applications. [4M]

5. a) What is meant by domain testing? Discuss about Nice and Ugly domains.
   b) With a neat diagram, explain the schematic representation of domain testing.

6. a) Define State Testing? What is the impact of Bugs in State Testing.
   b) Reduce the following functions using
   K-Maps $F(A,B,C,D) = P(4,5,6,7,8,12,13)+d(1,15)$.

7. a) Explain about organizational issues in testing.
   b) Discuss about bug detection life cycle.

8. Explain about V-model for software development.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **PRINCIPLES OF COMMUNICATION ENGINEERING**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What is angle modulation? Define the two types of angle modulation.
2. Write the comparison among ASK,FSK,PSK,DPSK.
3. State Nyquist'ssampling theorem.
4. What is processing gain in spread spectrum techniques?
5. Write the advantages of satellite communication system.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. Explain about the band width requirement of amplitude modulation.

2. a) Write short notes on Demodulation.
   b) Write short notes on Efficiency.

3. With the help of diagrams, explain BPSK transmitter and receiver.

4. Elaborate on the drawbacks of delta modulation. Explain the modulation technique that was developed to overcome these drawbacks.

5. Explain the DS spread spectrum with coherent binary PSK.

6. a) Discuss in details about source coding of speech for wireless communication system with suitable examples.
   b) Discuss and state M- sequences.

7. Compare the satellite communication with optical communication.

8. Explain about detectors of optical communication system.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **OBJECT ORIENTED ANALYSIS AND DESIGN**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What is an adornment?
2. Define activity and use cases
3. What is relationship? List the types of relationships?
4. Write about call events?
5. What is a deployment diagram?

PART-B

Answer any FIVE questions of the following **5x10 M= 50M**

1. Write about conceptual model of the UML. Briefly.
2. a) Describe over view of UML.
   b) Discuss the importance of modeling.
3. Briefly write about Bank ATM system by using both Use case diagram and Activity diagram.
4. What are Interaction diagram? What are their common uses? Define semantic equivalence between Interaction diagrams.
5. a) Explain about the mechanism for modeling groups of elements.
   b) Discuss about modeling flow of control.
6. Define Event and Signal. What are four kinds of events which can be modeled by UML?
7. a) Explain types of events in UML.
   b) Draw the state chart diagram for Train Ticket Reservation System.
8. a) Draw a component diagram for Library Management System.
   b) Explain the basic elements of deployment diagram and give UML notations.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **NETWORK SECURITY**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. Explain about buffer overflow.
2. Briefly explain block cipher modes of operation.
3. Write about certificate authority.
4. What is S/MIME?
5. What is payload? Explain encapsulating security payload.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a) Explain the Model for Network Security.
   b) Explain with example, how to protect against Session Hijacking.
2. a) Demonstrate how internet standards have been standardized by using RFC.
   b) Discriminate how buffer over flow is categorized under software weakness.
3. a) Differentiate between HASH and MAC functions.
   b) Draw and explain DES algorithm with feistal cipher structure.
4. Describe AES with a neat sketch.
5. Explain Kerberos.
6. Compare the features of SHA1 and MD5 algorithm.
   b) What is the role of compression function in hash function? Explain.
7. Write general format of PGP message with a pictorial presentation and explain how PGP used for E-Mail security?
8. a) Explain what are the phases of viruses.
   b) What are the limitations of firewall.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **AIR POLLUTION& CONTROL**

Branch: **CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. Give some examples of natural air pollution.
2. Write about combustion of fuel and coal.
3. Write about the assumptions and limitations in Gaussian plume model.
4. What are the principles on which the Gaussian model is based?
5. What are the operating problems of control equipment?

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. Enumerate the effects of the air pollution on human health and vegetation.
2. a) Discuss the effects of toxic substances on human health.

   b) Explain effects of air pollution on atmosphere.
3. Which parameters are reduced or controlled while using natural gas as a fuel.
4. What is Lapse Rate? Discuss its significance.
5. With the neat sketch explain the working principle of Cyclone separator.
6. Discuss the air pollution dispersion modeling for predicting ambient air pollutant concentration.
7. Write the procedure for removes SOx and NOx emission by using wet method.
8. Explain General method of control of NOx emission by in-plant control measure.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **COMPUTER GRAPHICS**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. What is bit map and pix map?
2. Write any two viewing functions used in PHIGS- API.
3. Define B-Spline curves.
4. Define Viewport Clipping. Give example.
5. Differentiate object space method with image space method.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a) Describe working principle of plotter.
   b) Explain about random-scan displays with neat sketch.
2. a) Explain about the midpoint circle algorithm with an example.
   b) Explain the DDA scan conversion algorithm.
3. a) What is Line Clipping? Explain Cohen-Sutherland Line Clipping algorithm. [6M]
   b) Write notes on reflection and shear transformation [4M]
4. Explain the properties and design techniques of Bezier curves.
5. Explain the steps involved in transformation from world to viewing coordinates in 3D domain.
6. a) Write short notes on Transformation matrix for rotation about x axis.
   b) Write short notes on Transformation matrix for rotation about y axis.
7. a) Explain BSP Tree method.
   b) Discuss about Key-Frame systems.
8. a) Discuss various methods used to specify the object motion with suitable example.
   b) Define depth sorting and explain with example.

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III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2019

Subject: **COMPILER DESIGN**

Branch:**CSE**

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

PART – A

Answer ALL questions of the following **5x2M=10 M**

1. Write the analysis and synthesis model of compilation.
2. Write the structure of YACC .
3. Mention the list of 3- address code in intermediate code generator.
4. State the code optimization techniques .
5. Write the properties of code generations.

PART-B

Answer ANY FIVE questions of the following **5x10 M= 50M**

1. a) What is compiler? Explain about the front end and back end of the compiler.

   b) List out the common data structures in compilation.

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. Generate LL(1) Parsing table for grammar

   $E \rightarrow TE^1$

   $E^1 \rightarrow +TE^1 / \varepsilon$

   $T \rightarrow FT^1$

   $T^1 \rightarrow *FT^1 / \varepsilon$

   $F \rightarrow (E)/id$

   and parse the input string id+(id*id).

4. Construct predictive parsing table for the following grammar and write the preprocessing steps

   $S \rightarrow aABb$

   $A \rightarrow c|\epsilon$

   $B \rightarrow d|\epsilon$

   and parse the input string acdb.

5. a) Explain the procedure calls in intermediate code forms.

   b) Define Type Checker. Write down the specification of a simple Type Checker.

6. a) Give the properties of a transformation of code optimization.

   b) Explain the data flow analysis and its properties.

7. What are basic blocks? Explain the algorithm used to partition a sequence of three address statements in to basic blocks with the help of following code fragment, and show the basic blocks and the control flow within them.

```
begin
prod := 0;
i := 1;
do begin
prod:= prod + prod + a[i] * b[i];
i := i+1;
end
while(i<=20)
end
```

8. Compute the cost of following set of instructions.

   i) MOV a, R0
   ADD b, R0
   MOV R0, c
   MOV a, R0
   MOV a, R0
   ADD b, R0
   MOV R0, c

   ii) a = b+c generate the machine code and compute the cost of instructions