DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

QUESTION BANK

FOR

IV B.TECH I SEMESTER
(2017 – 18)

MALLA REDDY COLLEGE OF ENGINEERING &TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

(Affiliated to JNTU, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade, ISO 9001:2008 Certified)

Maisammaguda, Dhulapally, Secunderabad – 500100.

2017-18

INDEX

Code No: 117EG

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2017

MANAGEMENT SCIENCE

(Common to ECE, MMT)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	What is scalar chain principle?	[2]
b)	What are the advantages of narrow span of control?	[3]
c)	What are Therbligs?	[2]
d)	What are the control charts for inspection by attributes?	[3]
e)	Define HRD.	[2]
f)	What is job analysis? Why is it needed?	[3]
g)	What is crash time?	[2]
h)	What is cost slope? Mention its significance.	[3]
i)	What is the typical time horizon for long range planning?	[2]
j)	What is demotion? What would be its impact on workforce?	[3]

Part-B (50 Marks)

2.a) Describe Maslow's theory of motivation.
b) Define authority and responsibility. What is the relationship among them? [5+5]

OR

3. What are the various group of people to whom the business organization owe responsibility? Briefly describe the nature of each of them. [10]

4.a) Calculate the number of observations required for an accuracy of plus minus 5% and confidence level of 95%, if the average percentage of occurrence of an activity is 0.8.
b) Describe the following store records:
i) Goods Received Note ii) Invoice iii) Material Issue Requisition. [5+5]

OR

5.a) A company follows EOQ while planning for its requirement of materials. For particular item at EOQ, the inventory carrying cost is Rs5600/-. What is the total ordering cost?
b) What are the elements of marketing mix? Explain each of them briefly. [2+8]

6.a) Explain some of the on- the- job training methods.
b) What are the factors affecting compensation policy? [5+5]

OR

7.a) What are the steps involved while handling grievance?
b) What are the various incentives offered by employer to its staff? [5+5]

8. A small project is composed of 7 activities whose time estimates are listed below.

activity	Estimated time duration in weeks		
	optimistic	Most likely	pessimistic
1-2	1	1	7
1-3	1	4	7
1-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

Draw PERT diagram and represent the project completion time. [10]

OR

9. A project has the following time schedule:

Activity	Time in months	activity	Time in months
1-2	2	3-7	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. [10]

10.a) What is 'Bench marking' and what are its limitations?

b) What are the various elements in the corporate planning process? [5+5]

OR

11.a) What is the purpose of environmental scanning?

b) What is balance score card? [5+5]

---ooOoo---

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech II year – II Semester Examinations, Model Paper-1

MANAGEMENT SCIENCE

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

PART- A (25 Marks)

Answer all the questions **25 marks**

1. A) Define management.
   B) Explain concepts of management.
   C) Define HRD. What are the various activities in it?
   D) What is MBO? How it will be used in performance appraisal.
   E) Write about critical path.
   F) Explain rules for drawing networks.
   G) Define corporate planning process.
   H) Explain about micro environment.
   I) Explain any four features of Management.
   J) Define Process Control & Acceptance Sampling.

Section-B **5x10=50**

2. Define Management and explain the functions of Management**.**

Or

3. What is the importance of Management in the present business scenario?
4. Discuss the various Organizational Structures**.**

Or

5. Explain the Marketing Mix.

Or

6. What are the differences between PM and HRM?

Or

7. Explain the significance of manpower planning?
8. Differentiate between PERT and CPM?

Or

9. Explain the steps involved in probability of completing the project with in given time?
10. Explain the significance of environmental analysis?

Or

11. Explain the steps in Strategy formulation and implementation?

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech II year – II Semester Examinations, Model Paper-2

MANAGEMENT SCIENCE

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

PART- A (25 Marks)

Answer all the questions **25 marks**

1.

A. Differentiate Leader vs. manager.
B. Explain different types of leaderships.
C. Why is Management considered as both an Art & Science?
D. Determine EOQ.
E. What is induction? Explain its importance?
F. Differentiating training and development.
G. What is slack? Explain about it.
H. What is cost slope?
I. Goals vs. objectives.
J. Generic strategic alternatives.

Section-B **5x10=50**

2. Explain various principles of management.

Or

3. Explain different need levels in Maslow's motivation theory.
4. Explain the various Leadership Theories**.**

Or

5. Explain
   A) Functions of marketing.
   B) Importance of marketing mix.
6. What are the challenges faced by HR manager in the organization.

Or

7. What is job evaluation? Explain various methods of job evaluation.
8. Write about different time estimates.

Or

9. Write about different types of floats.

10. Explain about strategy variations.

Or

11. Explain different elements of corporate planning process

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech II year – II Semester Examinations, Model Paper-3

MANAGEMENT SCIENCE

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

PART- A (25 Marks)

Answer all the questions **25 Marks**

1. **A) M**anagement vs. administration.
   B) Theory-X Vs. Theory-Y
   C) Selling vs. marketing.
   D) Significance of ABC analysis.
   E) Define Process Control & Acceptance Sampling.
   F) Differentiate wages and salaries.
   G) Activity vs event.
   H) Explain about Quality Circles.
   I) Explain role of SBUs.
   J) Explain importance of programmes in strategic management.

Section-B **5x10=50 Marks**

2. Explain various social responsibilities of an organization.

Or

3. Explain various principles of organizing.
4. Explain various elements of promotion mix.

Or

5. Discuss about various types of plant layouts with its merits and demerits.
6. Define merit rating. Explain methods of merit rating.

Or

7. Define training. Explain various on-the job and off-the job training methods.
8. Draw a network for following data.

Activity	Preceding activity
A	------
B	------
C	A
D	A
E	B
F	C,D
G	D
H	D,E
I	F,G,H

Or

9. Explain significance of CPM.
10. Explain SWOT analysis.

Or

11. What is significance of strategic Alliances?

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech II year – II Semester Examinations, Model Paper-3

MANAGEMENT SCIENCE

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

PART- A (25 Marks)

Answer all the questions **25 Marks**

1.

A. Line organization vs. line and staff organization.
B. Staffing vs. Organizing.
C. Elements of promotion mix.
D. Write a short note about JIT (Just in Time).
E. Recruitment vs. selection.
F. Write a short note about succession strategy.
G. Vision vs. mission.
H. Goals vs. objectives.
I. Discuss about various factors in the macro environment.
J. Explain about diversification growth with examples.

Section-B **5x10=50**

2. Explain about different types of organizational structures with suitable examples.

Or

3. What is departmentation? Explain about different criteria for departmentation.
4. Explain significance of
   a) Control charts
   b) Accepting sampling.

Or

5. What are the various Job Evaluation Techniques?
6. What is compensation management?
   Explain about a) monetary benefits. b) Non-monetary benefits.

Or

7. Explain about role of job analysis.
8. Show the calculations of total cost at every stage of crashing.

Activity	Normal		Crash	
	Days	cost	Days	Cost
1-2	3	500	2	1000
1-3	2	750	1	1500
1-4	6	1400	4	2600
2-4	5	1000	3	1800
2-5	7	1150	6	1450

3-4	2	800	2	800
4-5	4	1000	2	2400

Or

9. Explain various steps involved in finding probability that the project can be completed in the given scheduled time.

10. What are the different strategies to improve sales?

Or

11. Explain the significance of strategic management in the competitive environment.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

B.Tech II year – II Semester Examinations, Model Paper-5

MANAGEMENT SCIENCE

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

PART- A (25 Marks)

Answer all the questions **25 Marks**

1.

A) Write about matrix organization.
B) Explain about team structure.
C) Explain about BPR.
D) What is importance of SQC?
E) Training vs. development.
F) Write about Job description.
G) Explain different rules for network drawing.
H) Write about different time estimates.
I) Bench marking.
J) Write about micro environment.

Section-B **5x10=50**

2. What are the various modern approaches to organization structures?

Or

3. What is the significance of organization structures in the business?

4. Explain different strategies to be followed in the different stages of PLC (product life cycle).

Or

5. Explain differences between control charts for variables and control charts for attributes.

6. Why HRM has such a significant role in present scenario.

Or

7. Explain different steps in selection process.

8.

Activity	Least time(days)	Greatest time(days)	Most likely time(days)
1-2	3	15	6
1-3	2	14	5
1-4	6	30	12
2-5	2	8	5
2-6	5	17	11
3-6	3	15	6
4-7	3	27	9

5-7	1	7	4
6-7	2	8	5

a) Draw network.

b) What is the probability that the project will be completed in 27 days.

Or

9. Draw the Network and Identify the Critical Path

Activity	1-2	1-3	1-5	2-3	2-4	3-4	3-5	3-6	4-6	5-6
Duration(in weeks)	8	7	12	4	10	3	5	10	7	4

10. Write about balanced score card.

Or

11. Explain the concept of Environmental analysis.

R13

Code No: 117FE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech IV Year I Semester Examinations, March - 2017
MICROWAVE ENGINEERING
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	Define dominant and degenerative modes of waveguide.	[2]	
b)	Write the equation of Q factor of Microstrip line.	[3]	
c)	Which is the dominant mode in circular waveguide?	[2]	
d)	What is post and what is the application of it?	[3]	
e)	Compare 'O' type and 'M' type tubes.	[2]	
f)	What are the limitations of conventional tubes?	[3]	
g)	How pi-mode is separated in Magnetron?	[2]	
h)	How LSA mode of Gunn diode is used to produce oscillations?	[3]	
i)	Why S-parameters are needed in Microwave frequencies?	[2]	
j)	Why an Isolator is needed in Microwave bench?	[3]	

Part-B (50 Marks)

2.a) Derive the field equations for Rectangular Waveguide in TE mode starting from Maxwell's equations.
b) Why TEM wave is not possible in Rectangular waveguide? [5+5]

OR

3.a) Draw the field line for the following modes of Rectangular waveguide
i) TE10 ii) TM11 iii) TM12 iv) TM22
b) Determine the impedance of Rectangular waveguide in TE and TM mode. [5+5]

4.a) What are the different types of Attenuators? Explain them with neat diagrams.
b) Draw the structure diagram of E-plane Tee and explain its characteristics. [5+5]

OR

5.a) Why Matched loads are needed in Microwave circuits? Explain its working with neat diagrams.
b) Explain the principle of Faraday rotation. [5+5]

6. Explain how velocity modulation is converted into current modulation with Applegate diagram and also derive the equation for output power efficiency. [10]

OR

7. Explain how TWT is increased gain by increasing the bunching of electrons and derive the equation of gain. [10]

8.a) Explain how 8-cavity cylindrical Magnetron is used to produce oscillations.
b) What are the applications of Magnetron oscillator? [5+5]

OR

9.a) Explain how Gunn diode is used in waveguide oscillator.
b) What are the different avalanche transit time devices? [5+5]

10. Draw the structure of Magic tee and write its characteristics and also derive its S-matrix. [10]

OR

11. Explain how a slot section is used to measure the frequency of a given microwave signal. [10]

---ooOoo---

196

R13

Code No: 117FE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November/December - 2016

MICROWAVE ENGINEERING

(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a) Calculate the group and phase velocities for an angle of incidence of 33^0. [2]

b) Explain how the excitation of modes is done in rectangular waveguide? [3]

c) What is Q Factor? [2]

d) Write short notes on Waveguide Irises. [3]

e) What are the limitations of conventional vacuum tubes at microwave frequencies? [2]

f) What is the principle of working of Backward Wave Oscillator? [3]

g) What are the disadvantages of strapping? [2]

h) A magnetron has a cathode radius of 2.5 mm and an anode radius of 5 mm. What is the cut-off potential if a 0.27-Wb/m^2 magnetic field is applied? [3]

i) What is Q of a Cavity Resonator? [2]

j) Why the S-parameters are used in microwaves? [3]

PART-B

(50 Marks)

2.a) Discuss the significance and advantage of dominant mode in rectangular waveguide.

b) A rectangular waveguide with a width of 4 cm and a height of 2 cm is used to propagate an electromagnetic wave in the TE10 mode. Determine the wave impedance, phase velocity, and group velocity of the waveguide for the wavelength of 6 cm. [5+5]

OR

3.a) Distinguish between TE and TM modes of the propagation in rectangular waveguide.

b) A wave of frequency 6GHz is propagated in a parallel plane waveguide separated by 3cm. Calculate i) the cut-off wavelength for the dominant mode. ii) Wavelength in the waveguide. iii) the group and phase velocities. iv) Characteristic wave impedance. [6+4]

4.a) A 20mV signal is fed to the series arm of a lossless Magic Tee junction. Calculate the power delivered through each port when other ports are terminated with a matched load.

b) Explain coupling probes and coupling loops. [4+6]

OR

5.a) Explain the working of a two-hole directional coupler with a neat diagram and derive the expression for the coupling and directivity of a two-hole directional coupler.

b) For a directional coupler, the incident power is 550 mW. Calculate the power in the main and auxiliary arm. The coupling factor is 30 dB. [6+4]

6. Explain in detail bunching process and obtain expression for bunching parameter in a two cavity klystron. [10]

OR

7.a) The parameters of a two-cavity klystron are given by V_b = 900 V, f = 3.2 GHz, and $d = 10^{-3}$ m. Determine electron velocity, transit angle, and beam coupling coefficient.

b) Explain the principle of working of Travelling Wave Tube. [3+7]

8.a) Derive the Hartree anode Voltage equation for linear magnetron.

b) A normal circular magnetron has the following parameters: Inner radius 0.15 m, outer radius 0.45 m, Magnetic flux density 1.6 milli weber/m^2. (i) Determine Hull cut-off voltage (ii) Determine the Hull cut-off magnetic flux density if the beam voltage is 4000 V. [6+4]

OR

9.a) Explain Gunn Effect using two-valley theory? Also explain several modes of operation and applications of Gunn diodes.

b) Give the classification of solid state microwave devices. [6+4]

10.a) Find the S matrix for a matched isolator having an insertion loss of 0.5dB and isolation of 25dB.

b) Explain the S-matrix representation of a multiport microwave network and its significance. [4+6]

OR

11.a) Describe the blocks of microwave bench and their features.

b) Calculate the VSWR of a transmission system operating at 15 GHz.TE$_{10}$ modes is propagating through the waveguide of dimensions 4.0 and 2.1 cm respectively. The distance between two successive minima is 1.5 mm. [7+3]

--ooOoo--

R13

Code No: 117BY

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2017

COMPUTER NETWORKS

(Common to ECE, EIE, BME)

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

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	How selective repeat protocol resolves issues of stop and wait protocol?	[2]
b)	What are the applications of Infrared waves?	[3]
c)	Mention some of the physical properties of Ethernet.	[2]
d)	Explain the function of repeaters.	[3]
e)	What are the metrics used by routing protocols.	[2]
f)	How does netid differ from a network address.	[3]
g)	Explain briefly about Crash recovery.	[2]
h)	Explain about Packet Fragmentation.	[3]
i)	What are the basic functions of email systems?	[2]
j)	What are the two main categories of DNS messages?	[3]

Part-B (50 Marks)

2.a)	Explain about the Coaxial Cable with neat sketch.	
b)	What is bit and byte stuffing explain with an example.	[5+5]

OR

3.a)	Explain the frame format of PPP.	
b)	Draw the layered architecture of the OSI reference model and write two services provided by each layer of the model.	[5+5]
4.a)	Explain the flow diagram of CSMA/CD.	
b)	Explain about the source routing bridge.	[5+5]

OR

5.a)	Explain about channelization protocols.	
b)	Explain the categories of standard Ethernet.	[5+5]
6.	Explain about the Distance Vector routing protocol with an example.	[10]

OR

7.	Explain about the Link State routing algorithm.	[10]
8.	Explain about DHCP.	[10]

OR

9.a)	Explain about CIDR.	
b)	Explain about RARP.	[5+5]
10.	Explain the various fields of the TCP header with the help of a neat diagram.	[10]

OR

11.a)	Explain about the window management in TCP.	
b)	Explain about HTTP request.	[5+5]

---ooOoo---

Code No: A70515 **R 13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech IV Year I Semester Examinations
Computer Networks
(Electronics Communication and Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 1

PART-A(Answer all the Questions)

1. a) Define Protocol, Interface and Peer entity. (2M)
   b) What is Piggybacking technique? (3M)
   c) Explain Token Ring briefly. (2M)
   d) Write Ethernet Cabling Standards. (3M)
   e) What is the purpose of TTL? (2M)
   f) Explain the channel allocation problem. (3M)
   g) Write the operational difference bridge and switch. (2M)
   h) Write short note on RTP. (3M)
   i) Explain the Class of IP addresses. (2M)
   j) Write the TCP header format. (3M)

PART-B

2. Explain ISO OSI Reference model with neat sketch.
   (OR) (10M)
3. Explain different kinds of Transmission Media.
4. Explain CSMA and CSMA/CD in detail.
   (OR) (10M)
5. a) Explain Data link layer Switching.
   b) Explain Collision Free Protocols.
6. Explain Dynamic Routing algorithms.
   (OR) (10M)
7. Explain Congestion Control algorithms.
8. a) Explain IPV4 header format.
   b) Explain DHCP.
   (OR) (10M)
9. a) Explain Transport layer Services.
   b) Explain Crash Recovery.
10. a) Explain UDP header format.
    b) Explain TCP Connection management modeling.
    (OR) (10M)
11. Explain the following
    a) FTP b) TELNET c) DNS

Code No: A70515 **R 13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech IV Year I Semester Examinations
Computer Networks
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 2

PART-A(Answer all the Questions)

1. a) Explain Internet Standards. (2M)
   b) Explain Character stuffing and Bit stuffing. (3M)
   c) Explain Token Bus briefly. (2M)
   d) Write 802.3 Frame format. (3M)
   e) What is Store and Forward packet switching? (2M)
   f) Explain the Count to infinity problem. (3M)
   g) Write the short note on Admission Control. (2M)
   h) Write short note on RPC. (3M)
   i) Define Tunneling. . (2M)
   j) Write the short note on TCP Service model. (3M)

PART-B

2. Explain TCP/IP Protocol Suit with neat sketch.
   (OR) (10M)
3. Explain different kinds of Flow Control Protocols.
4. Explain Pure and Slotted ALOHA in detail.
   (OR) (10M)
5. a) Explain Inter Networking Devices in detail.
   b) Explain Spanning tree bridges.
6. Explain Shortest Path Routing algorithm and Flooding.
   (OR) (10M)
7. Explain Congestion Prevention Policies.
8. a) Explain IPV6 header format. (10M)
   b) Explain ARP and RARP.
   (OR)
9. a) Explain Transport layer Connection Establishment and Connection Release.
   b) Explain Transport protocol addressing.
10. a) Explain TCP header format.
    b) Explain TCP Congestion Control.
    (OR) (10M)
11. Explain the following.
    a) SMTP b) HTTP c) DNS

Code No: A70515 **R 13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech IV Year I Semester Examinations
Computer Networks
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 3

PART-A(Answer all the Questions)

1. a. What is a protocol and a standard? (2M)
   b. What is meant by layered architecture? (2M)
   c. Name Topology types and describe and two? (3M)
   d. Notes on channelization? (3M)
   e. Describe physical layer implementation of Gigabit Ethernet? (3M)
   f. What is masking? (2M)
   g. What is SVC and PVC? (3M)
   h. Write Short notes on hierarchical routing? (3M)
   i. Write short notes on internetwork routing (2M)
   j. What is client server application. (2M)

PART-B

2. Comparison between OSI reference model and TCP\IP reference Model . [10]

(OR)

3. a) Explain error detection using CRC for the following: [10]
   Consider a message 110010 represented by the polynomial M(x) = x5 + x4 + x and a generating polynomial G(x) = x3 + x2 + 1 (1101)
   b) Explain sliding window protocol.
4. Explain Ethernet physical and MAC sublayer and Ethernet types? [10]

(OR)

5. Explain all the connecting devices? [10]
6. a) Explain distance vector routing with an example? [5+5]
   b) Describe count to infinity problem.

(OR)

7. Explain Leaky bucket and token bucket algorithms? [10]
8. a) Describe classification of IP addresses and explain CIDR. [5+5]
   b) Write notes on Packet Fragmentation.

(OR)

9. a)Write notes on transport layer services. [5+5]
   b)Describe about transport layer addressing.
10. a) Explain RPC. [5+5]
    b)Explain Two way handshake and three way handshake methods.

(OR)

11. Explain the following [10]
    a)DNS b)FTP c)SSH d)TELNET e)E-Mail f)HTTP

Code No:A70515 **R 13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech IV Year I Semester Examinations
Computer Networks
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 4

PART-A(Answer all the Questions)

1. a. Define peer-peer process? (2M)
   b.Explain different error detection methods? (3M)
   c.Explain token passing protocol? (3M)
   d.Explain vulnerable time? (2M)
   e.Describe virtual circuit? (2M)
   f.Explain flooding? (3M)
   g.What is SVC and PVC? (3M)
   h.Write Short notes on hierarchical routing? (3M)
   i.Write short notes on fragme4ntation? (2M)
   j.What is rpc protocol. (2M)

PART-B

2.Comparison between OSI reference model and TCP\IP reference Model . [10]

(OR)

3.a) Explain error detection using Checksum [10]
   b) Explain sliding window protocol.

4. Explain Datalinklayer switching and use of bridges ? [10]

(OR)

5. Explain all the connecting devices? [10]

6.a) Explain distance Hierarchical routing with an example? [5+5]
   b) Describe count to infinity problem.

(OR)

7. Explain Leaky bucket and token bucket algorithms? [10]

8.a) Describe classless IP addresses and explain CIDR. [5+5]
   b) Write notes on Packet Fragmentation.

(OR)

9. a)Write notes on transport layer Connection establishment. [5+5]
   b)Describe about transport layer addressing.

10.a) Explain UDP Protocol. [5+5]
   b)Explain Two way handshake and three way handshake methods.

(OR)

11. Explain the following [10]
   a)SMTP b)POP c)IMAP d)SCP e)HTTP

Code No: A70515 **R 13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech IV Year I Semester Examinations
Computer Networks
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 5

PART-A(Answer all the Questions)

1. a. Define Protocols&Standards? (2M)
   b.Explain different error detection methods? (3M)
   c.Explain Channelization protocol? (3M)
   d.Explain vulnerable time? (2M)
   e.Describe datgram? (2M)
   f.Explain flooding? (3M)
   g.What is IMCP and ARP? (3M)
   h.Write Short notes on Optimality Principle routing? (3M)
   i.Write short notes on fragmentation? (2M)
   j.What is rpc protocol. (2M)

PART-B

2.Explain Guided Transmission Media with neat Examples? [10]

(OR)

3.a) Explain error detection using Hamming Distance? [10]
   b) Explain Stop and Wait protocol.

4. Explain Randam Access Protocols? [10]

(OR)

5. Explain about Bridges in Detail? [10]

6.a) Explain shortest path routing with an example? [5+5]
   b) Describe about flooding

(OR)

7. Explain OSPF routing algorithm? [10]

8.a) Describe Subnetting of IPv4 addresses?. [5+5]
   b) Write notes on Packet Fragmentation.

(OR)

9. a)Write notes on transport layer Connection Management. [5+5]
   b)Describe about transport layer Congestion Control.

10.a) Explain TCP Header format. [5+5]
   b)Explain Two way handshake and three way handshake methods.

(OR)

11. Explain the following [10]
   a)DNS b)FTP c)SSH d)TELNET e)E-Mail f)HTTP

Code No: 117BG

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2017

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	Mention the limitations of conventional mobile telephone systems.	[2]
b)	Discuss the dependence of frequency reuse distance on cell reuse pattern.	[3]
c)	Explain polarization diversity.	[2]
d)	Mention the effect on coverage and interference of mobile link by decrease in transmitted power level.	[3]
e)	List the antennas used for space diversity.	[2]
f)	State the factors on which the minimum separation of cell site antennas depends.	[3]
g)	List any three techniques for increasing frequency spectrum utilization.	[2]
h)	Define spectrum utilization factor.	[3]
i)	Explain the need for hand off.	[2]
j)	Define intersystem hand off.	[3]

Part-B (50 Marks)

2. Explain the steps involved in planning a cellular system. Illustrate how the performance criteria is evaluated. [10]

OR

3. Explain briefly different ways of improving coverage and capacity in cellular systems. [10]

4. Determine the real time co-channel interference measurement of mobile radio transreceivers. [10]

OR

5. Explain the near field and far field interference and how to avoid it. [10]

6. Let a distance between two fixed stations be 40 Km. The effective antenna height at one end h_1 is 200m above sea level. Find h_2 at the other end so that the received power always meets the condition Pr<Po (the received power is less than received power in free space) at 850 MHz transmission. Find the range of h2 which would keep Pr>Po and find the maximum received power Pr for Pr=4Po. [10]

OR

7. Derive the path loss prediction model in non obstructive condition. [10]

8.a) Describe in detail the adjacent channel assignment using omni-directional and directional antennas.

b) Explain how channel sharing and borrowing is performed.

c) Compare omni and sectorized cells for seven cell system in fixed channel assignment. [4+2+4]

OR

9. Illustrate the frequency management chart and spectrum allocation for 666 channels and discuss the functions of set up and voice channels. [10]

10. Explain about:
a) Dropped calls
b) Mobile assisted hand off
c) Soft hand off. [10]

OR

11. Explain in detail the need for hand off and determine the probability of requirement of hand off. [10]

---ooOoo---

Code No: 117BG

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November/December - 2016

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a) What is Grade of Service? [2]
b) Define (i) Coherence time (ii) System Capacity [3]
c) Define cross talk. [2]
d) Define the terms (i) Polarization and (ii) Directivity of an antenna system. [3]
e) What is meant by foliage? Define foliage loss [2]
f) What is the minimum separation required between cell site antennas? Explain briefly. [3]
g) What is meant by frequency management [2]
h) Write short notes on sectorization. [3]
i) What is meant by hand-off and handoff algorithm [2]
j) Explain the concept of delaying handoff in brief. [3]

PART-B

(50 Marks)

2. What are the various techniques used to expand the capacity of a cellular system? Explain any two. [10]

OR

3.a) Derive C/I from a normal case in a omnidirectional antenna system.
b) Write the advantages and disadvantages of 1G and 2G cellular systems. [5+5]

4.a) Determine the signal to co-channel interference ratio at the mobile receiver located at the boundary of its omnidirectional operating cell ,under the influence of interfering signals from six co-channel interfering cells in the first tier in a cellular system designed with i) N=4 and ii) N=7. Assume path loss exponent is 4.
b) Write short notes on Adjacent channel interference. [6+4]

OR

5.a) Write short notes on: i) space diversity ii) Time diversity.
b) Discuss how antenna height effects the coverage and interference of cellular system. [5+5]

6.a) Discuss the merits of point to point model.
b) Explain the effect of propagation of mobile signals over water. [5+5]

OR

7.a) Explain umbrella antenna patterns in detail.
b) Explain in detail about long-distance propagation. [5+5]

8.a) Differentiate between FCA and non-FCA in detail.
b) Explain how the 666 channels are dividing into groups. [5+5]

OR

9.a) Explain the following: i) channel barrowing ii) overlaid cells.
b) Explain the channel assignment to the mobile units in detail. [5+5]

10.a) What are the various handoff initiation techniques? Explain any two in brief.
b) Write short notes on: i) Mobile assisted handoff ii) soft handoff [5+5]

OR

11.a) How can handoff be initiated at the boundary of two cells, based upon threshold point considering signal at two base stations.
b) What is meant by a dropped call? What are the factors that influence the dropped call rate? [5+5]

--ooOoo--

Code No: A70434

R13

MODEL PAPER –I

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

IV B.Tech I Semester Examinations

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics & Communication Engineering)

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.

PART-A **25 Marks**

1) a) Mention the elements of basic cellular systems. [2M]
   b) What is interference and co-channel interference? [3M]
   c) Comment on the lowering antenna height method in a valley. [2M]
   d) What is channel combiner? [3M]
   e) What are the three main types of point-to-point model? [2M]
   f) Define space diversity technique. [3M]
   g) What is meant by frequency management? [2M]
   h) Define paging channel. [3M]
   i) Draw a simple two-level handoff scheme diagram. [2M]
   j) Define dropped call. [3M]

PART-B **50 Marks**

2) a) What are the limitations of conventional mobile telephone system? Describe the various Generations of wireless mobile communication?
   b) What are the Main advantages and disadvantages of various cellular structures?

(OR)

3) a) What is the need of Frequency reuse? Prove that for a hexagonal geometry the co-channel reuse ration is $(3N)^{1/2}$ where $N=i^2+ij+j^2$.
   b) Determine the number of cells in cluster for the following values of the shift Parameters I and j in a regular hexagon geometry pattern:
   (i) i=2 and j=4 (ii) i=3 and j=3

4) a) What are the different interferences in cellular systems? Explain each with diagrams
   b) Explain how a diversity receiver reduces the interference.

(OR)

5) Discuss in detail
   a) The propagation in near distance
   b) Long distance propagation

6) a) Explain the effects of human made structures for mobile propagation in open area .
b) What is mean by foliage? Explain Foliage loss.

(OR)

7) a) Explain the sum-and-difference patterns and their synthesis in detail.
b) Explain the design aspects and merits of an omni-directional antenna in cell site.

8) Describe the concept of frequency management concern to numbering the channels and Grouping into the subset

(OR)

9) Explain the channel assignment to the cell sites based on the adjacent channels.

10) a) What are the various methods of delaying handoff? Explain briefly.
b) What is meant by dropped call? Explain the factors that influenced dropped call rate.

(OR)

11) What are the various handoff strategies based on algorithms of handoff? Explain in detail.

Code No: A70434

R13

MODEL PAPER –II

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

IV B.Tech I Semester Examinations

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics & Communication Engineering)

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.

PART-A **25 Marks**

1)

a) How voice quality can be tested. [2M]
b) What are advantages of frequency reuse? [3M]
c) Define co-channel interference. [2M]
d) What is known as near end-far-end interference? [3M]
e) Write a short note on signal reflections in a flat terrain. [2M]
f) Write short note on umbrella antenna pattern. [3M]
g) Define voice channel and SAT? [2M]
h) What is meant by fixed channel assignment? [3M]
i) What are the types of handoff? [2M]
j) Write short note on inter system handoff. [3M]

PART-B **50 Marks**

2) a) Describe the principle of Operation of cellular mobile system and explain the cellular Concept with neat diagram.

(OR)

3) a) What are the various components in a cellular system? Explain.
b) List the various techniques used to expand the capacity of a cellular system

4) a) How the interference is different from noise in cellular system? explain
b) What are the different types of interference for a cellular system in detail?

(OR)

5) a) Explain the types of non-co-channel interferences in cellular system.
b) Distinguish Co-channel interference and Non Co-channel interference.

6) a) Describe the form of a point to point model and explain its types.
b) Explain the mobile signal propagation over water and flat area

(OR)

7) a) What is known as directional antennas? Explain directional antennas for interference in detail.

b) Explain space diversity antennas in detail.

8) What is the importantcnce of frequency management chart? Give the structure of the channels in 800 MHz system with frequency ranges?

(OR)

9) Explain clearly different channel assignments and its importance in mobile communications or in brief frequency management in mobile communications?

10) a)What is meant by handoff ?describe the classification of handoff process ?

b) What is meant by handoff initiation? Explain different methods of Handoff initiation with suitable diagrams.

(OR)

11) a) Explain about the handoff and power control?

b) Explain about inter MSC Handoff?

Code No: A70434

R13

MODEL PAPER –III

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

IV B.Tech I Semester Examinations

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics & Communication Engineering)

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.

PART-A **25 Marks**

1)

a) What is known as circuit merit? [2M]
b) Define cell splitting. [3M]
c) What are the types of diversity? [2M]
d) What is frequency-agile combiner? [3M]
e) Write the equation of effective antenna height gain. [2M]
f) What is known as abnormal antenna configuration? [3M]
g) Write short note on set-up channels. [2M]
h) Differentiate channel sharing and borrowing. [3M]
i) Define soft handoff. [2M]
j) What is a MAHO? [3M]

PART-B **50 Marks**

2) a) Briefly describe the concept of mobile radio environment.
b) What are the advantages of digital cellular system over analog cellular system?

(OR)

3) a) Derive the desired C/I for a Normal case in an Omni directional antenna system
b) Explain about mobile fading characteristics.
4) a) What are the different types of Non co-channel interference in a cellular system? Explain
b) Explain the effects of antenna design Parameters for the interference in a cellular system

(OR)

5) a) Explain the co-channel interference reduction factor and derive the general formula for C/I.
b) What are the various techniques to measure CCI? Explain in detail
6) a) Explain the mobile radio propagation over water and flat open area and write the general expression.
b) Describe the effect of antenna height in near and long distance mobile propagation.

(OR)

7) Explain
   a) Umbrella pattern antenna.
   b) Space diversity antennas.
8) Describe the grouping of the voice, set-up and paging channels.

(OR)

9) Explain in detail the fixed channel and non fixed channel assignment?
10) a) Explain different handoff strategies and its importance in different situations.
    b) How to improve call drop rate.

(OR)

11) Write a short notes on
    a) Forced Handoff
    b) Inter System Handoff

Code No: A70434

R13

MODEL PAPER –IV

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

IV B.Tech I Semester Examinations

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics & Communication Engineering)

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.

PART-A **25 Marks**

1)

a) Define fading effect. [2M]
b) What is meant by first-tier of interference? [3M]
c) If co-channel interference reduction factor q is 6 what will be the cluster site? [2M]
d) What is cross talk? [3M]
e) Draw the diagram of human made structures to find propagation path loss curve. [2M]
f) What is meant by difference pattern? [3M]
g) What is known as FOCC? [2M]
h) Define sectorization. [3M]
i) Comment on two-hand off level algorithm. [2M]
j) What is known as delaying handoff? [3M]

PART-B **50 Marks**

2) a) What is the uniqueness of mobile radio environment?Explain.
b) Explain the significance of fading of fading in mobile environment.

(OR)

3) a) Explain Cell splitting and Concept of frequency channels
b) Explain co-channel interference with first tier and second tier example

4) a) Derive the expression for carrier to interference Ratio in a cellular system for a normal case and worst case scenario with an Omni directional antenna.
b) Determine the minimum cluster size for a cellular system designed with an acceptable value of C/I=18dB. Assume the path Loss exponent as 4 and co channel interference at the mobile unit from 6 equidistant cells in the first tier.

(OR)

5) a) Explain the causes for near to far end interference.
b) Mention different systems to reduce the interference.

6) a) Explain the effect of antenna pattern on the interference at the base station and mobile unit .

b) Explain in detail about near and long distance mobile propagation

(OR)

7) a)Describe the various steps involved in finding antenna height gain in mobile environment
   b) Explain umbrella pattern antenna and Omni-directional antennas in detail.
8) Write short notes on
   a) channel sharing and barrowing
   b) Fixed channel assignment

(OR)

9) What type of messages is received to the setup channels when mobile unit monitors strongest signal strength?
10) a)Write notes on power difference handoffs
    b) Explain a two level handoff scheme with suitable example

(OR)

11) a) What is meant by call drop? Explain and suggest methods to reduce call drop rate. b) Write short notes on different types of hand off mechanisms.

Code No: A70434

R13

MODEL PAPER –V

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

IV B.Tech I Semester Examinations

CELLULAR AND MOBILE COMMUNICATIONS

(Electronics & Communication Engineering)

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.

PART-A **25 Marks**

1)

a) Give two advantages of cellular mobile systems over telephone systems. [2M]
b) Define micro cells. [3M]
c) If co-channel interference reduction factor q is 5.2 and the cluster size is q what will be the carrier to interference ratio. [2M]
d) What are the methods to reduce adjacent channel interferences? [3M]
e) Draw the simple model for propagation over water. [2M]
f) Write short note on high-gain broadband umbrella pattern antenna. [3M]
g) Write short note on non-fixed channel assignment. [2M]
h) What is known as access channels? [3M]
i) What is known as dropped call rate? [2M]
j) Write short note on initiation of handoff. [3M]

PART-B **50 Marks**

2) a) What is the uniqueness of mobile radio environment? Explain.
b) Explain the call initialization, call progress and call termination process.

(OR)

3) a) Explain the normal case of carrier to interference ratio with Omni-directional antenna. b) What is cell-splitting? Explain its types in detail

4) a) discuss in details the various techniques to measure co channel interference, prove that the real time co channel interference measurement is difficult to achieve

(OR)

5) a) Explain non-co-channel interference effects on coverage and interferences.
b) Explain the effects of coverage and interference by power decrease and decrease antenna height.

6) a) What are the different propagation models available for mobile communication, Explain?
b) Explain the phase difference between direct and reflected paths in detail.

(OR)

7) Explain about minimum separation of cell-site receiving antennas
8) Elaborate dynamic channel assignment and compare its advantages and disadvantages with the fixed channel assignment

(OR)

9) What is known as dynamic channel assignment average blocking and handoff blocking? Explain.
10) a) Explain MAHO and soft handoff techniques.

    b) Explain "Dropped call rate" in detail.

(OR)

11) Write a short note on
    a) Delayed handoff
    b) Inter systems Handoff
    c) Power difference Handoff

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Object Oriented Programming through Java

Model Paper – 1 (R13)

IV ECE I Semester

Duration: 3hrs **Max Marks: 75**

Answer all the following

PART-A **(Marks 25)**

1. (a) What are the properties of object oriented programming? (2M)
   (b) What is method overriding? (3M)
   (c)Define an Exception. What is meant by Exception Handling? (2M)
   (d)List some of the classes available in collection? (3M)
   (e)List the components of Swing? (f)Discuss briefly about streams. (g)What is inheritance? (2M)
   (h)What is thread priority? (3M)
   (i)What are the steps involved in creating Thread life Cycle? (2M)
   (j)What is an event? (3M)

Answer all the questions

PART – B **(Marks: 5*10=50)**

2. Discuss in detail about inheritance. Also write its benefits. (10M)

(OR)

3. Describe about Type conversion. Also explain how casting is used to perform type conversion between incompatible types. (10M)
4. What is inheritance? Explain different types of inheritance. (10M)

(OR)

5. How a method can be overridden? Explain. (10M)
6. Give the class hierarchy in Java related to exception handling. Briefly explain each class. (10M)

(OR)

7. What is a thread? Explain the states of a thread with an example. (10M)
8. Explain in detail about collection interfaces. (10M)

(OR)

9. Explain in details about different Layout Manager (10M)
10. Explain in detail about the classification of swing components. (10M)

(OR)

11. Explain in brief about events and event sources. (10M)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Object Oriented Programming through Java

Model Paper – 2 (R13)

IV ECE I Semester

Duration: 3hrs **Max Marks: 75**

Answer all the following

PART-A **(Marks 25)**

1. (a) What is Data Abstraction? (2M)
   (b)Compare AWT and Swings? (3M)
   (c) Explain about operators in Java? (2M)
   (d) Explain final keyword with example? (3M)
   (e)Explain about the usage of this keyword with example? (2M)
   (f) Explain inner classes in java? (3M)
   (g)Explain the differences between throw and throws (2M)
   (h) Explain the Array List class? (3M)
   (i) What is Dynamic Binding (2M)
   (j) Difference between Applet and Applications? (3M)

Answer all the questions

PART – B **(Marks: 5*10=50)**

2. (a) What is Parameter Passing? Explain with Program? (5M)
   (b)What is Recursion? Write a program for Factorial of number using Recursion? (5M)

(OR)

3. Explain about String Buffer class methods in java? Explain about Access Control (10M)
4. Define an interface? Explain about Abstract class with Program? (10M)

(OR)

5. How multiple inheritances are achieved in java with the interfaces? Explain with an example? (10M)
6. Explain Exception Handling Mechanism in java with programs (10M)

(OR)

7. What is Inter thread Communication? Explain Producer Consumer pattern with program? (10M)
8. Explain the difference between: i) Hash Table. ii) Vector class (10M)

(OR)

9. Explain Forms of inheritance in java with examples (10M)
10. Write a java program for Handling Mouse Events and Key Events? (10M)

(OR)

11. Explain about Swing Components: i) JButton ii) JLabel iii) JTextArea iv) JTextField (10M)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Object Oriented Programming through Java

Model Paper – 3 (R13)

IV ECE I Semester

Duration: 3hrs **Max Marks: 75**

Answer all the following

PART-A **(Marks 25)**

1. (a) List the data types present in java. (2M)
   (b)Explain in brief about interfaces. (3M)
   (c)What is meant by checked exception and unchecked exception. (2M)
   (d)How statements call can be used? Also list the types of methods in statement class. (e)Discuss about JFrame and JPanel (3M)
   (f)Discuss briefly about enumerated data types. (2M)
   (g)What is CLASSPATH ?
   (h)What is multithreading? (3M)
   (i) Explain Enumeration and Autoboxing (2M)
   (j)What are event sources? (3M)

Answer all the questions

PART – B **(Marks: 5*10=50)**

2. List the primitive data types of java. Explain each of them in detail. (10 M)

(OR)

3. What are the different types of array? List out the advantages of using arrays? (10M)
4. Write in detail about super class and subclasses. (10M)

(OR)

5. Write the differences between interfaces and abstract. (10M)
6. How are finally statements used in java? Explain in detail. (10M)

(OR)

7. Is it possible to interrupt a thread? Explain. (10M)
8. Explain in detail about hash table class. (10M)

(OR)

9. Explain about Forms of Inheritance in Java with examples. (10M)
10. Discuss in detail about swing components. (10M)

(OR)

11. Explain about various event classes and Event Listeners (10M)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Object Oriented Programming through Java

Model Paper – 4 (R13)

IV ECE I Semester

Duration: 3hrs **Max Marks: 75**

Answer all the following

PART-A **(Marks 25)**

1 (a) What are the OOPs features? (2M)

(b) Compare Procedural and OOP Languages? (3M)

(c) Explain about control statements in java? (2M)

(d) Explain about method overloading with example? (3M)

(e) Explain about the usage of super keyword with an example? (2M)

(f) Explain how interfaces are implemented with an example? (3M)

(g) Explain the following: try, catch, throw, throws, finally. (2M)

(h) Explain the creation of threads with an example? (3M)

(i)List Event classes in java (2M)

(j)What are event sources and explain the life cycle of an applet? (3M)

PART – B **(Marks: 5*10=50)**

Answer all the questions

2. (a)What is type casting and conversion? When it is required? (5M)

(b)What is an array? How arrays are declared in java with an example? (5M)

(OR)

3. Explain about method overloading with example? Explain about constructor overloading with example? (10M)

4. What is method overriding? How method overriding is achieved in Java, with an example?

(OR) (10M)

5. How multiple inheritances are achieved in java with the interfaces? Explain with an example? (10M)

6. What are the checked Exceptions and Unchecked Exceptions? Explain some of these exceptions with an example and also give the difference between them. (10M)

(OR)

7. How the priorities can be assigned to threads? Explain with example? (10M)

8. Explain the difference between: i) Vector and Array List. ii) Enumeration and Iterator. (10M)

(OR)

9. Explain in detail about MVC Architecture and Explain about Adapter classes(10M)

10. Define an event. Give examples of events. Define event handler. How it handles events? (10M)

(OR)

11. Explain about layout manager? With an example? (10M)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

Object Oriented Programming through Java

Model Paper – 5 (R13)

IV ECE I Semester

Duration: 3hrs **Max Marks: 75**

Answer all the following

PART-A **(Marks 25)**

1 (a) What is Polymorphism? (2M)

Compare Class and Interface with examples? (3M)

(c) Explain about Access Control in java? (2M)

(d) Explain Generics in java? (3M)

(e) Explain about the usage of this keyword with example? (2M)

(f) Explain java Buzzwords? (3M)

(g) Explain Garbage Collection (2M)

(h) Explain the Vector class? (3M)

(i) What is Static Binding (2M)

(j) Explain how to pass parameters to an applet? (3M)

PART – B **(Marks: 5*10=50)**

Answer all the questions

2. (a) What is Type Casting ? Explain Type Conversion in Java with example? (5M)

(b) Explain Constructor Overloading and Method Overloading with program? (5M)

(OR)

3. Explain about String class methods in java? (10M)

4. Define an interface? Explain how to implement an interface with program? (10M)

(OR)

5. What is a Package? Explain how to create User defined package with program. (10M)

6. Explain Exception Handling Mechanism in java with programs. (10M)

(OR)

7. What is Inter thread Communication? Explain Producer Consumer pattern with program? (10M)

8. Explain about MVC Architecture? Explain AWT Components like Label, Button, Checkbox. (10M)

(OR)

9. Explain Forms of inheritance in java with examples. (10M)

10. Explain different Layout Manager in java? (10M)

(OR)

11. Explain about Swing Components: i) Combo boxes ii) Tabbed Panes iii) Tables iv) Trees (10M)

196

Code No: 117CZ **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November/December - 2016
EMBEDDED SYSTEM DESIGN
(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a) Define "Time-to-market". [2]
b) What is the quality attribute "Portability" in the embedded system design context. [3]
c) What is the role of ASIC in Embedded System design? [2]
d) What is Actuator? [3]
e) What is the role of Reset Circuit in embedded system? [2]
f) What are the merits and drawbacks of 'recursion'? [3]
g) What is an Operating system? What are its primary functions? [2]
h) What is task control block (TCB)? [3]
i) Define Coffman conditions. [2]
j) How multiple threads of a process co-operate? [3]

PART-B

(50 Marks)

2. Define an embedded system? Explain the characteristics of Embedded Systems. [10]

OR

3. Explain the various purposes of embedded systems in detail with illustrative examples. [10]

4.a) Explain the different factors that needs to be considered in the selection of memory for embedded systems.
b) Explain the difference between I^2C and SPI communication interface. [5+5]

OR

5. Explain the different communication buses used in automotive application. [10]

6. Explain the different sections of a memory segment allocated to an application by the memory manager. [10]

OR

7. Explain the difference between 'pointer to constant data' and 'constant pointer to data' in Embedded C programming. Explain the syntax for declaring both. [10]

8.a) Explain starvation in the process scheduling context. Explain how starvation can be effectively tackled.

b) What is the difference between a General Purpose kernal and Real-Time kernel? Give an example for both. [5+5]

OR

9. Explain the different multitasking models in the operating system context. [10]

10. Explain in detail, the different task communication synchronization issues encountered in Inter Process communication. [10]

OR

11. Explain the architecture of device driver, with neat sketch and give the applications of device drivers. [10]

---ooOoo---

Code No: 117CZ **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2017

EMBEDDED SYSTEMS DESIGN

(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	Define Embedded System.	[2]
b)	List out the differences between an embedded system and a general purpose computer.	[3]
c)	Explain the concept of Memory Shadowing.	[2]
d)	Write a short note on COTS.	[3]
e)	What is the use of reset circuit in an embedded system?	[2]
f)	Briefly explain Brown-out protection circuit.	[3]
g)	What is the use of RTOS in Embedded System Design?	[2]
h)	Discuss briefly about Task Scheduling.	[3]
i)	What are the considerations to choose an RTOS?	[2]
j)	Discuss the issues in Task Synchronization briefly.	[3]

Part-B (50 Marks)

2. Explain in detail the classification of embedded system. [10]

OR

3.a) Describe the characteristics of an embedded system in detail.
b) Explain the quality attribute portability and reliability in embedded system design context. [5+5]

4.a) What are the different types of memories used in embedded system design? Explain each with examples.
b) Explain the role of sensors in embedded system design. [5+5]

OR

5. Explain the different communication interfaces with respect to embedded systems. [10]

6.a) Describe the purpose of a Real Time Clock in an embedded system, explain in detail.
b) Explain the function of Watchdog timer in an embedded system. [5+5]

OR

7. What is the need of an embedded firmware? Briefly explain the embedded firmware development languages. [10]

8. What is a process? With a neat representation explain the process states and state transition. [10]

OR

9. Explain the different thread binding models for user and kernel level threads. [10]

10 a) Explain message passing technique for inter process communication in detail.
b) Explain the concept of Shared memory in task communication. [5+5]

OR

11. What is a device driver? Explain the role of device driver in an embedded OS. [10]

---ooOoo—

MODEL QUESTION PAPER-1

Code No: A70440

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

B.Tech. IV Year - I Semester Examinations

EMBEDDED SYSTEM DESIGN

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.

PART -A **(25 Marks)**

1. a) Explain about large scale embedded systems [2M]
   b) What are data collection/storage embedded systems [3M]
   c) What is the difference between RISC and CISC [2M]
   d) What is a Digital Signal Processor [3M]
   e) What are functions of Embedded firmware [2M]
   f) What is the function of linker [3M]
   g) What is role of the kernel in OS based embedded systems [2M]
   h) Explain difference between preemptive and non-preemptive scheduling [3M]
   i) What is inter process communication (IPC) [2M]
   j) What is task synchronization [3M]

PART-B **(50 Marks)**

SECTION-I

2) Explain about significance of embedded system and discuss the classification of the embedded systems. [10M]

(OR)

3) Explain the purpose of embedded systems.

SECTION-II

4) Explain the typical elements of the embedded system with neat sketch [10M]

(OR)

5) Explain about ASICs, PLDs and COTs.

SECTION-III

6) Explain the significance of reset circuit and brownout protection circuit. [10M]

(OR)

7) Explain about firmware design approaches

SECTION-IV

8) Explain about process and the process states with neat sketch [10M]

(OR)

9) Explain the non-preemptive FCFS algorithm with an example

SECTION-V

10) Explain the shared memory concept in inter process communication [10M]

(OR)

11) Explain how to choose an RTOS for Embedded System

MODEL QUESTION PAPER-2

Code No: A70440

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

B.Tech. IV Year - I Semester Examinations

EMBEDDED SYSTEM DESIGN

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.

PART – A (25 Marks)

1. a) What is the role embedded system in our daily life [2M]
   b) What is product life cycle curve [3M]
   c) What is the difference between Little Endian and Big Endianness. [2M]
   d) What is the difference between SRAM and DRAM [3M]
   e) What is super loop approach [2M]
   f) What is Hex file [3M]
   g) What are the types of Multitasking [2M]
   h) What are the factors for scheduling [3M]
   i) What are memory mapped objects [2M]
   j) What is deadlock and starvation [3M]

Part-B **(50 Marks)**

SECTION-I

2). Explain the difference between Embedded Systems and General Computing Systems [10M]

(OR)

3). Explain the characteristics of embedded systems

SECTION-II

4). Explain about core of the embedded system [10M]

(OR)

5). Explain about the I2C protocol with neat sketch

SECTION-III

6). Explain the Real Time Clock (RTC) and Watchdog timer. [10M]

(OR)

7). Explain the advantages and disadvantages of using the assembly language for firmware design. [10M]

SECTION-IV

8). Explain about hard real time system and soft real time system with an example [10M]

(OR)

9). Explain the functions of real time kernel

SECTION-V

10). Explain about message queues and mail boxes with neat sketch [10M]

(OR)

11). Explain about rat race condition, deadlock, starvation with an example

MODEL QUESTION PAPER-3

Code No: A70440

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

B.Tech. IV Year - I Semester Examinations

EMBEDDED SYSTEM DESIGN

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.

PART -A (50 Marks)

1. a) Explain the classification of embedded systems based generation [2M]

   b) What are the data processing and monitoring systems [3M]

   c) What is commercial off the shelf component [2M]

   d) What is UART [3M]

   e) What is locator [2M]

   f) What are different types of onboard communication interfaces [2M]

   g) What is multi threading [3M]

   h) What is Roundrobin algorithm [3M]

   i) What is a Socket [2M]

   j) What is a binary semaphore [3M]

PART-B (50 Marks)

SECTION-I

2) Explain the major application areas of embedded systems [10M]

(or)

3) Explain about operational quality attributes of embedded system

SECTION-II

4) Explain about different types of memories used in embedded system applications [10M]

(or)

5) Explain the operation of optocoupler and relay with neat diagrams

SECTION-III

6) Explain about memory shadowing technique and the memory selection for embedded systems [10M]

(or)

7) Explain about assembly language to machine language development process with neat sketch

SECTION-IV

8) Explain about process, process structure and memory organization of process [10M]

(or)

9) Three processes with process ids p1, p2,p3 with estimated completion time 10,5,7 milliseconds respectively enters the ready queue together. Calculate the waiting time, average waiting time, turnaround time and average turnaround time in SJF algorithm

SECTION-V

10) Explain the dining philosopher's problem with different scenarios [10M]

(or)

11) Explain how semaphores are used for task synchronization

MODEL QUESTION PAPER-4

Code No: A70440

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

B.Tech. IV Year - I Semester Examinations

EMBEDDED SYSTEM DESIGN

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.

PART -A **(25 Marks)**

1. a) What is testability and debug-ability [3M]
   b) What is throughput [2M]
   c) What is the difference between Von Neumann architecture and Harvard architecture [3M]
   d) What is seven segment display [2M]
   e) What are the special features flash memory [2M]
   f) What are the processes states [3M]
   g) What is turnaround time [2M]
   h) What is context switching [3M]
   i) What is mail box [2M]
   j) What are POSIX threads [3M]

PART -B **(50 Marks)**

SECTION-I

2) Explain about embedded system with an example [10M]

(OR)

3) Explain about non-operational quality attributes of embedded system

SECTION-II

4) Explain about SPI and 1-wire interface bus [10M]

(OR)

5) Explain about Wi-Fi and ZigBee external communication interfaces

SECTION-III

6) Explain about the high level language development process [10M]

(OR)

7) Explain about mixing assembly language with high level language

SECTION-IV

8) Explain about multitasking, multi processing and multithreading concepts[10M]

(OR)

9) Three processes with process ids p1, p2,p3 with estimated completion time 8,2,6 milliseconds respectively enters the ready queue together in the order p1,p2,p3.calculate the waiting time, average waiting time, turnaround time, average turnaround time in round robin algorithm with time slice =2ms

SECTION-V

10) Explain the producer consumer bounded buffer problem with an example [10M]

(OR)

11) Explain the priority inversion problem and explain any one of the priority inversion workarounds

MODEL QUESTION PAPER-5

Code No: A70440

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

B.Tech. IV Year - I Semester Examinations

EMBEDDED SYSTEM DESIGN

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.

PART -A **(25 Marks)**

1. a) What is general purpose system [2M]
   b) What is mean time between failure and mean time to repair terms [3M]
   c) What is the difference between microprocessor and ASIC [3M]
   d) What are functions of sensors and actuators [2M]
   e) What is hard real time system [3M]
   f) What is the difference between GPOS and RTOS [2M]
   g) What are the functions of kernel [2M]
   h) What is the need of task communication [3M]
   i) What is the need of task synchronization [2M]
   j) What is task/process scheduling [3M]

PART -B **(50 Marks)**

SECTION-I

2) Explain about classification of embedded systems [10M]

(OR)

3) Explain about operational and non operational attributes of the embedded system

SECTION-II

4) Explain about Infrared and RS-232 communication interfaces [10M]

(OR)

5) Explain about USB and Bluetooth external communication interfaces

SECTION-III

6) Explain about the high level language development process [10M]

(OR)

7) Explain the advantages and limitations of the high level language based development of embedded firmware

SECTION-IV

8) a) Differentiate between GPOS and RTOS [10M]

b) Differentiate between microkernel and monolithic kernel

(OR)

9) Three processes with process ids p1, p2,p3 with estimated completion time 10,5,7 milliseconds and priorities 1, 3,2 respectively enters the ready queue together. A new process p4 with estimated completion time 6ms and priority 0 enters the ready queue after 5ms of the start of execution of p1. in the order p1,p2,p3.calculate the waiting time, average waiting time, turnaround time, average turnaround time in preemptive priority scheduling algorithm

SECTION-V

10) Explain the task communication techniques [10M]

(OR)

11) Explain the roll of Device Drivers in Embedded OS based Products