Code No.: **50H03** | **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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **TECHNICAL COMMUNICATION & PRESENTATION SKILLS**

Branch: **Common to EEE, ECE, CSE**

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

PART – A

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

1. Explain the term Formal Vocabulary with examples.
2. Write any four mechanics of technical writing?
3. What is the difference between Forward and Preface?
4. List out any four barriers in an effective presentation.
5. Write any four techniques which you use in "Note- Making".

PART-B

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

1. a) What are the tips do you use to identify the technical vocabulary?
   b) What are the four areas of pronunciation? Explain.
2. a) Point out possible differences between technical and general vocabulary with appropriate examples. .
   b) Explain three levels of formality in using vocabulary.
3. a) Style of writing promotes interpersonal understanding in the business world. Explain
   b) As the Stores Manager of the company, write a memo to the Supplies Manager requesting him to supply certain quantities of stationary consumables for the internal issue.
4. a) You are the Manager of a multinational company. Your company is going to organize staff development program for the employees. Prepare a circular to inform your staff by considering the following points:
   - how long will be the program (days, dates, and timings)
   - venue
   - the content (what will they learn in the program?)
   - any other details

   b) Figure out the possible differences between memo and circular writing.
5. a) Write a brief note on the significance of abstract writing.
   b) Write a report to the Principal, on an industrial exhibition visited by you, highlighting the technical/industrial innovations of the products on display.
6. a) Write a report on a railway accident you have been sent to cover for a newspaper.
   b) Discuss types of report writing and provide appropriate examples.
7. Read the article and answer the questions below:
   The pressure to transform our institutions of learning continues. Virtually every enterprise and institution is grappling with the disruptions and opportunities caused by Web-enabled infrastructures and practices. New best practices, business models, innovations, and strategies are emerging, including new ways to acquire, assimilate, and share knowledge.
   Using technologies that are already developed or that will be deployed over the next five years, best practices in knowledge sharing not only are diffusing rapidly but will be substantially reinvented in all settings: educational institutions, corporations, government organizations, associations, and nonprofits. But institutions of learning are in a unique position to benefit from an added opportunity: providing leadership in e-knowledge.E-knowledge finds expression in many shapes and forms in a profoundly networked world. It is not just a digitised collection of

knowledge. E-knowledge consists of knowledge objects and knowledge flows that combine content, context, and insights on application. E-knowledge also emerges from interactivity within and among communities of practice and from the troves of tacit knowledge and tradecraft that can be understood only through conversations with knowledgeable practitioners. E-knowing is the act of achieving understanding by interacting with individuals, communities of practice, and knowledge in a networked world. E-knowledge commerce consists of the transactions based on the sharing of knowledge. These transactions can involve the exchange of digital content/context and/or tacit knowledge through interactivity. Transactable e-knowledge can be exchanged for free or for fee. E-knowledge is enabling not only the emergence of new best practices but also the reinvention of the fundamental business models and strategies that exist for e-learning and knowledge management. E-knowledge is technologically realized by the fusion of e-learning and knowledge management and through the networking of knowledge workers.

Transactable e-knowledge and knowledge net-working will become the lifeblood of knowledge sharing. They will create a vibrant market for e-knowledge commerce and will stimulate dramatic changes in the knowledge ecologies of enterprises of all kinds. They will support a "Knowledge Economy" based on creating, distributing, and adding value to knowledge, the very activities in which colleges and universities are engaged. Yet few colleges and universities have taken sufficient account of the need to use their knowledge assets to achieve strategic differentiation.

In "*It Doesn't Matter*," a recent article in Harvard Business Review, Nicholas G. Carr endorsed corporate leaders' growing view that information technology offers only limited potential for strategic differentiation. Similar points are starting to be made about e-learning, and knowledge management has been under fire as ineffectual for some time. The truth is that e-learning and knowledge management can provide strategic differentiation only if they drive genuine innovation and business practice changes that yield greater value for learners. Carr's article provoked a host of contrary responses, including a letter from John Seely Brown and John Hagel III. Brown is well-known for his insights into the ways in which knowledge sharing can provide organizations with a solid basis for strategic differentiation.

(i) (a) E-knowledge is primarily based on practices used in business. [5X1M= 5M]

○ Yes ○ No ○ Not given

(b) Educational institutions can be leaders in knowledge net-working.

○ Yes ○ No ○ Not given

(c) E-knowledge has several benefits to it.

○ Yes ○ No ○ Not given

(d) Communities of practice are one source of E-knowledge.

○ Yes ○ No ○ Not given

(e) The key to the success of knowledge management and e-learning is offering strategic differentiation.

○ Yes ○ No ○ Notgiven

(ii) Write a concise summary of the above reading text. [5M]

8. a) Do you think SQR3 strategy of reading has changed your reading habits? Justify your answer.

b) Explain methods sequencing in note making.

Code No.: 50517

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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **COMPUTER NETWORKS**

Branch: COMMON TO ECE & CSE

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

PART – A

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

1. Write five components of a data communication system.
2. What are Select and Poll functions in polling access method?
3. Write down the duties of a network layer.
4. What are the directions of data flow available networks?
5. What are the three persistence methods available in CSMA?

PART-B

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

1. What is Multiplexing? with a neat sketch describe how Multiplexing and de Multiplexing are carried out in FDM?

2. a)What are the advantages of a multipoint connection over a point-to-point connection? [4M]
   b) What is CRC? Explain CRC with an example. [6M]

3. Briefly discuss about noiseless protocols in data link layer.

4. a) Discuss about key requirements for wireless LANs.
   b) Discuss about Ethernet IEEE 802.3 and IEEE 802.4.

5. Briefly describe the four steps involved in link state Routing.

6. Compare TCP, UDP & SCTP Protocols.

7. a) Discuss about congestion control in frame relay.
   b) Discuss the various issues of transport layer in details.

8. Write short notes on the following protocols i) SNMP ii) SMTP.

Code No.: **50416** | **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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **LINEAR & DIGITAL IC APPLICATIONS**

Branch: Common to **EEE&ECE**

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

PART – A

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

1. What are the DC characteristics of op-amp?
2. Draw the characteristics of an ideal comparator and that of a commercially available comparator.
3. What is the basic principle of PLL?
4. List out various types of D/A and A/D converters.
5. What is CMOS Logic?

PART-B

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

1. a) Explain the compensation technique for input offset voltage.
   b) Explain the compensation technique for input offset current.
2. a) Explain about thermal drift.
   b) Explain the operation of frequency response of op-amp.
3. a) Draw the circuit diagram of triangular waveform generator using operational amplifier and explain its operation with waveforms.
   b) Write a short noteon Schmitt trigger using Op-amp.
4. a) Explain about adder subtractor circuit
   b) With the help of a neat circuit diagram, describe the operation of a Voltage to current converter with grounded load.
5. a) Design a 4- bit binary up/down asynchronous counter using JK flip-flops.5M
   b) Explain the following terms with reference to CMOS logic5M
      i) Logic levels ii) D.C. noise margin iii) Fan-in & Fan-out iv) Propagation delay
6. a) Explain the operation of wide band reject filter.
   b) A 555 timer is configured to run in Astable mode with R_A=20K Ω & R_B=8K Ω & C=0.1μF. Determine output frequency and duty cycle?
7. a) Draw the circuit of a R-2R DAC, explain its operation, and calculate the analog output voltage for any given digital input.
   b) DAC specifications
8. a) Draw and explain CMOS OR gate
   b) 4-bit Parallel Adder (IC 7483)

Code No.: 50414

MR15

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

II B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **MICROPROCESSORS & INTERFACING**

Branch: ECE

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

PART – A

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

1. List the 16 – bit registers of 8085 microprocessor.
2. Explain vectored and non-vectored interrupts of 8085.
3. What is the maximum memory size that can be addressed by 8086?
4. Differentiate between half duplex and full duplex transmission.
5. Enlist the salient features of 80386.

PART-B

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

1. a) Discuss about the various addressing modes available in 8085 with examples.

   b) Describe the operation of the stack with a suitable an example.

2. Explain the classification of the instruction set of 8085 microprocessor with suitable examples.
3. Write an ALP to find largest number in set of 8 bite size number in 8086 microprocessor.
4. a) Write an 8085 assembly language program to sort the numbers in ascending order.

   b) Write an ALP to find given number is positive or negative in 8086 microprocessor.

5. a) Enumerate the need and importance of the assembler directives. List and explain all of them used along with the 8086 microprocessor.

   b) Explain the cache management unit of 80486.

6. Show the interfacing of a matrix keyboard to 8086 with necessary program.
7. a) Explain how A/D converters interfaced with 8086.

   b) Write a short note on serial communication standards.

8. Discuss modes of operation of 80386.

Code No.: **50415** | **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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **ANTENNAS AND WAVE PROPAGATION**

Branch: **ECE**

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

PART – A

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

1. Define the terms Beam width and Directivity.
2. What is radiation resistance of half wave dipole antenna?
3. Define broad side array.
4. State advantages and limitations of microstrip antennas.
5. Define the terms MUF and virtual height.

PART-B

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

1. a) Derive the relationship between effective aperture area and gain of antenna.
   b) Explain the concept of Retarded Potentials.
2. a) Explain in detail the terms beam efficiency and directivity. Use relevant expression and diagrams. [7 M]
   b) An antenna has a radiation resistance of 72 Ω, a loss resistance of 8 Ω and a power gain of 12 dB. Determine the antenna efficiency. [3 M]
3. a) Prove that the radiation resistance of a half-wave dipole is 73Ω?
   b) Derive expression for power radiated by an alternating current element.
4. a) Derive an expression for radiated electric field of a array of two isotropic point sources fed with input currents of equal magnitude and same phase.
   b) Explain the concept of "Multiplication of Pattern".
5. a) What is meant by zoning? Differentiate curved surface zoning and plane surface zoning of lens antenna.
   b) Briefly discuss about features, advantages and disadvantages of micro strip antenna.
6. a) Describe the troposphere and explain how ducts can be used for microwave propagation?
   b) Explain in details about ionosphere.
7. a) Show how radio communication takes place over long distances at 300 MHz to 30 MHz frequencies.
   b) Obtain the expression between skip distance and MUF for an ionospheric layer.
8. a) Explain the design considerations of Pyramidal Horns.
   b) Write short notes on Corner Reflectors.

Code No.: 50418

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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **DIGITAL DESIGN USING VERILOG HDL**

Branch: ECE

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

PART – A

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

1. Mention data types used in Verilog HDL.
2. Define strengths and content resolution.
3. Explain fork-join construct.
4. What are the differences in tasks and functions.
5. Define feedback model.

PART-B

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

1. a) Explain port declaration with an example using verilog code.
   b) Explain importance of verilog HDL.

2. a) Write verilog code for 2x1 multiplexer.
   b) Write Verilog code for 4x1 multiplexer using 2x1 multiplexer .

3. a) Write verilog HDL program for 2x4 decoder.
   b) Write test bench for 2x4 decoder.

4. a) Write verilog program for 4x1 MUX using case statement..
   b) Write a Verilog HDL code for D-flip flop using behavioral modeling.

5. a) Write verilog program for ALU design.
   b) Write test bench for ALU.

6. a) What is difference between an Intra statement delay and an Inter statement delay? Explain using an example.
   b) Explain $stop and $finish .

7. a) Explain verilog module with path delay.
   b) Write verilog program for CMOS – NAND gate.

8. Explain state machine block diagram of hardware realization.

Code No.: 50H09

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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **BUSINESS COMMUNICATION**

Branch: **ECE**

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

PART – A

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

1. Explain briefly any four factors that help in effective Oral Communication.
2. Discuss the socio-psychological barriers.
3. List out the types of reading skills.
4. Bring out any four differences between formal and informal letter writing.
5. Write any four characteristics of effective e mails.

PART-B

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

1. How does communication play a crucial role in the progress of an organization? Explain.
2. Do you agree that the basic objective of all human communication is to obtain an understanding response? How can this be applied to the objectives of Business Communication?
3. Explain the importance of style, tone and language convention in academic writing.
4. Describe the various types of reading skills.
5. a) Write any five differences between e mail and fax.
   b) Describe briefly the various types of essays.
6. You have received quotations for electrical goods from Bombay Electricals Ltd., but you find that their terms of 7% trade discount and 30 days credit are not competitive compared to quotations from others. Write a letter asking them to offer you better terms, also draft a suitable reply.
7. a) Mention any two differences between personal and business letters? Discuss the business letter writing process.
   b) Write a letter to the General Insurance Company, Mumbai, requesting them to settle your claim in respect of goods destroyed by cyclone giving full details.
8. What are the different types of social correspondence? List out the advantages and disadvantages.

Code No.: 50579

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 I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **INTERNET OF THINGS**

Branch: **ECE**

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

PART – A

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

1. Compare between Bluetooth and Zigbee.
2. Differentiate arduino and Raspberry pie.
3. Define Data Synchronization.
4. What is DiY?
5. Write about physical mashup's.

PART-B

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

1. Explain wired communication in IOT.
2. a) Elaborate the security and privacy concerns in the internet.
   b) Write briefly about IoT Components.
3. Explain services of cloud used in IOT.
4. Illustrate
   a) Network architectures. b) IoT architecture.
5. a) How RFID is Different from Agent Based IoT?
   b) What are the design guidelines for resource management in IoT.
6. Elaborate the role of sensor and actuator technologies.
7. Explain the future web of things.
8. Write short note on any two of the following
   a) Why use an microcontroller for IOT?
   b) Role of IOT in Logistics.
   c) Two wireless networks in IOT.