Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ENG102

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech. III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

ENGLISH COMMUNICATION - READING AND WRITING

(Common to CE, EEE & ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q. 1 **Do as directed**

i.	Define the word Skimming?	1M
ii.	What is Extensive reading?	1M
iii.	Why is topic sentence important in writing?	1M
iv	Write a discourse marker with an example sentence.	1M
v.	Fill in the blank choosing the correct homophone in the bracket. *If you ..... **(cell/sell)** drugs, you will get arrested and end up in a prison cell.*	1M
vi	Fill in the blank choosing the correct option from the given pair of words. *My ..... is to study before tests. (**advice/advise**)*	1M
vii.	write down the synonym for the word 'bliss'	1M
viii.	Topic sentence, supporting details, & conclusion is a structure of any paragraph. (State true or false)	1M
ix.	Write down the antonym for the word 'vulgar'	1M
x.	Fill in the blank with correct collocation from the options. *Please..... take a seat and enjoy the show.* a) save time to b) *feel free to* c) make a progress to	1M

Q.2(A) **Given below is an outline of the story in the form of phrases. Fill in the blanks to create the complete story.** 10M

Rich man ..... plans to give a feast to his friends ..... all dishes are prepared except fish as it is unavailable ..... declares reward for anyone who'would get fish ..... poor fisherman catches a big fish and brings it ..... gate keeper refuses to let him enter the house unless he agrees to give him half the reward ..... fisherman thinks of a plan ..... instead of the reward he asks the rich man for 100 lashes on his back ..... gives 50 lashes to the gatekeeper..... moral.

OR

Q.2(B) Write a paragraph about **the person that you admired**. Describe his personality physical and intellectual. Use the appropriate transition words and phrases. You should write at least **150 words.** 10M

Q.3(A) **Choose the synonym for each *italicized* words.** 10M

I. Which word means the same as **Voracious***?*
a. Tenacious b. Truthful c, Spacious d. ravenous

II. Which word means the same as **Tenacious***?*
a. Holding fast b. collecting c. fast running d. international

III. Which word means the same as **Tenacity***?*
a. Ingratitude b. decimation c. splendour d. perseverance

IV. Which word means the same as **Relish***?*
a. Savor b. vindicate c. avail d. desire

V. Which word means the same as **Repercussion** *?*
a. Resistance b. magnificence c. acceptance d. reaction

OR

Q.3(B) **Match the words in Column A with their *antonyms* in Column B** 10M

No.	A	B
i	absurd	a. smart
ii	insult	b. insult
iii	lethargic	c. goodwill
iv	malice	d. esteem
v	welcome	e. rational

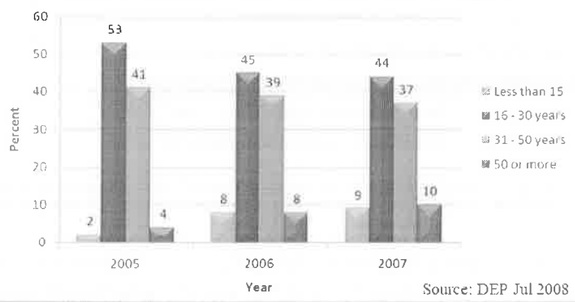
Q.4(A) **Convert the information in the given text into graphical form.** 10M

The main users of Internet are between 16-30 years adult. In 2005, they accounted for 53%. In 2006, it dropped slightly to 45% and 44 % in 2007. The second biggest group is aged between 31 and 50.They made up 41% in 2005, falling slightly to 39% in 2006 and 37 % in 2007. However, this number is dropping steadily as more children (aged less than 15) and older users (aged 50 or more) started to use the Internet. In 2006, children online quadrupled from 2% to 8% and it continues to increase in 2007 to 9%. Similarly, the number of older users jumped from 5 % in 2005 to 10% in 2006, and doubled in 2007. In conclusion, although the adult has the highest percentage, their share is declining as more children and older users join the web.

OR

Q.4(B) The chart shows components of Internet usage in Malaysia by age group. Summarize the information by selecting and reporting the main features and make comparisons where relevant. Write at least **150 words**. 10M

Internet Usage in Malaysia by Age Group



Source: DEP Jul 2008

Q.5(A) **A. Read the passage given below carefully and answer the questions that follow.** 10M

Ever since humans have inhabited the earth, they have made use of various forms of communication. Generally, this expression of thought and feelings has been in the form of oral speech. When there is language barrier, communication is accomplished through sign language in which motions stand for letters, words, and ideas. Tourists, the deaf, and the mute have had to resort to this form of expression. Many of these symbols of whole worlds are very picturesque and exact and can be used internationally; spelling, however, cannot.

Body language transmits ideas or thoughts by certain actions, either intentionally or unintentionally. A wink can be a way of flirting or indicating that the party is only joking. A nod signifies approval, while shaking the head indicates a negative reaction.

Other forms of non-linguistic language can be found in Braille (a system of raised dots read with the fingertips), signal flags, Morse code, and smoke signals. Road maps and picture signs also guide, warn, and instruct people. While verbalization is the most common form of language, other systems and technique also express human thoughts and feelings.

i. Which of the following best summarizes the passage?
   a. When language is barrier, people will find other forms of communication.
   b. Non-linguistic language is invaluable to foreigners.
   c. Although other forms of communication exist, verbalization is the fastest.
   d. None of the above.

ii. The word 'these' in sentence 5 refers to
   a. Tourists b. the deaf and mute c. thoughts and feelings d. sign language motions
iii. All of the following statements are true except
   a. There are many forms of communication in existence today.
   b. Verbalization is the most common form of communication.
   c. The deaf and mute use oral form of communication.
   d. Ideas and thoughts can be transmitted by body language.
iv. Which form other than oral speech would be most commonly used among blind people?
   a. Picture signs b. Braille c. Body language d. Signal flags
v. How many different forms of communication are mentioned here?
   a. 5 b. 3 c. 9 d. 11
vi. The word 'wink' in second paragraph means most nearly the same as
   a. close one eye briefly
   b. close both eyes briefly
   c. bob the head up and down
   a. shake the head from side to side
vii. Sign language is said to be very picturesque and exact and can be used internationally except
   a. spelling b. ideas c. whole words d. expressions
viii. People need to communicate in order to
   a. keep from reading with their fingertips
   b. be picturesque and exact
   c. express thought and feelings
   d. get rich soon
ix. What is the best title for this passage?
   a. The Importance of Sign Language
   b. Many forms of Communication
   c. Ways of Expressing Feeling
   d. Picturesque Symbols of Communication
X. Who would be most likely to use code?
   a. A scientist b. A spy c. A telegrapher d. An airline pilot

OR

Q.5(B) **Read the following passage and answer the given questions.**

The Government of India's policy regarding the joint sector is derived from the industrial policy resolution. 1956 and the objective of reducing the concentration of economic power. In appropriate case the Central and the State governments have taken equity participation either directly or through their co-operation with private parties. Some joint sector units have come up in this way. This type of joint sector unit is a device which may be resorted in specific cases having regard to the production target of the plan. Each proposal for establishing a joint sector unit of this nature will have to be judged and decided on its merits in the into partnership with new and medium entrepreneurs in order to guide them in developing a priority industry.

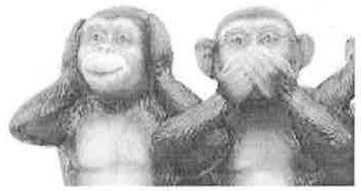
light of the government's social and economic objectives. The joint sector will also be a promotional instrument, as for instance, in case where state governments go The joint sector will not be permitted to be used for the entry of larger houses, dominant undertakings and foreign company industries in which they are otherwise precluded on their own. In all the different kinds of joint sector units, the government will ensure for itself an effective role in guiding policies, management and operations, the actual pattern and mode being decided as appropriate in each case.

The government hopes that there will be greater certainty in the investment climate and all sections of the community will come forward to play their due role in the promotion of growth with self-reliance within the accepted framework of a socialist pattern of society.

QUESTIONS:

1. What are joint sector units? (1M)
2. What is the objective of setting up industries in the joint sector? (1M)
3. How will the government exercise control over such unit? (1M)
4. Why will large business houses not be permitted to enter this sector? (1M)
5. How will the government's policy lead to more certain and better investment climate? (1M)
6. What is the difference between joint sector units and public undertakings? (1M)
7. Suggest a suitable title to the passage. (1M)
8. Summarize the passage within 50 words (3M)

Q.6(A) **Write a description of the picture given below.** 10M



OR

Q.6(B) **Express your opinion on the following topic:** 10M

Lessons for the world from COVID-19 Pandemic.

*****END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CE108

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

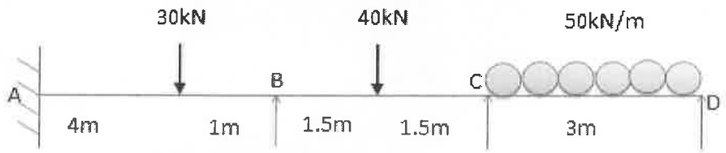
STRUCTURAL ANALYSIS -I

(Civil Engineering)

Time: 3Hrs **Max Marks: 60**

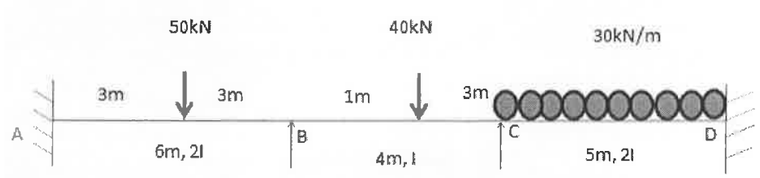
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Define fixed and continuous beams	1M
	ii.	What is meant by theoretical arch?	1M
	iii.	What are the fixed end moments of a fixed beam subjected to eccentric point load?	1M
	iv.	Define distribution and carryover factors.	1M
	v.	Explain the concept of applying theorem of three moments for beam with fixed ends.	1M
	vi.	Discuss the types of arches according to their support conditions.	1M
	vii.	Define indeterminate beam and give two examples of it.	1M
	viii.	Differentiate two and three hinged arches.	1M
	ix.	Define indeterminate beam and give two examples of it.	1M
	x.	Write the equation of theorem of three moments.	1M
Q.2(A)		A fixed beam AB of span 6m is carrying a UDL of 6kN/m over the left half of the span. Find the fixed end moments, support reactions and draw SFD and BMD.	10M
		OR	
Q.2(B)		Derive the expression for theorem of three moments.	10M
Q.3(A)		Analyse the continuous beam shown below using slope deflection method	10M



OR

Q.3(B)		Analyse the continuous beam shown below using slope deflection method	10M



Q.4(A)		Derive the expression for strain energy stored in a beam when subjected to bending moment.	10M
		OR	
Q.4(B)		Derive the expression for Castigliano's first theorem.	10M

Q.5(A)	Two wheel loads of 20kN and 10kN spaced at 3m apart cross a girder of 10m span, with the 10kN load leading, from left to right. Find maximum SF and BM at a section 6m support.	10M
	OR	
Q.5(B)	A single point load of 250kN moves on girder of span 15m. Find the SF and BM at a section 6m from left support and also find the maximum SF and BM anywhere on the span.	10M
Q.6(A)	The equation of three hinged arch with origin at its left support is $y = x - \frac{x^2}{40}$. The span of the arch is 40m. Find the normal thrust and radial shear at a section 5m from the left support when the arch is carrying a UDL of 3kN/m for the left of half span.	10M
	OR	
Q.6(B)	A two hinged parabolic arch of span 20m and central rise of 4m is loaded with a Concentrated load of 25kN at a distance of 8m from left support. Find the horizontal thrust and BM under the load.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18CE109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations SEPTEMBER 2021

GEOTECHNICAL ENGINEERING

(Civil Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	What is Three phase diagram? What is the use of it?	1M
	ii.	Write the relationship between Void ratio and porosity.	1M
	iii.	State Darcy's law.	1M
	iv.	Write the uses of flow net.	1M
	v.	What do you mean by Zero air void line?	1M
	vi.	Define Secondary settlement.	1M
	vii.	Write the name of the shear test used both in laboratory as well as in field.	1M
	viii.	What do you mean by Mohr circle? Write its characteristics?	1M
	ix.	Define Passive Earth pressure.	1M
	x.	Differentiate between shallow foundation and deep foundation.	1M

Q.2(A)	(i)	How soils are classified based on its Origin?	5M
	(ii)	A soil has a bulk unit weight of 20KN/m^3 and water content16%, G=2.65. Calculate Its Degree of Saturation, Porosity, Percentage air voids, Air Content.	5M
		OR	
Q.2(B)	(i)	What are the uses of Particle size Distribution Curve?	5M
	(ii)	The dry unit weight of sand sample in the loosest state is 13.84 KN/m^3 and in the densest state is 21.19KN/m^3.Determine the Density Index of sand when it has a porosity of 33%.Assume grain specific gravity as 2.68.	5M

Q.3(A)	(i).	Explain the factors effecting Permeability.	5M
	(ii).	A soil profile consists of a surface layer of sand 4m thick (γ=1.6t/m^3) an intermediate layer of clay 3.5m thick (γ=1.9t/m^3) and the bottom layer of gravel 4m thick (γ=1.925t/m^3). The water table is at the upper surface of the clay layer. Compute the effective stress at various levels due to placement of surcharge of 5 t/m^2 on the ground surface.	5M
		OR	
Q.3(B)	(i)	What is New marks influence Chart? How is it used?	5M
	(ii)	A load of 1000kN acts as point load at the surface of a soil mass. Estimate the stress at a point 3m below and 4m away from the point of action of the load by Boussinesq's formula. Compare the value with the result from westergaard's theory.	5M

Q.4(A) (i) Explain the factors effecting compaction. 5M

(ii)A cohesive soil yielded a maximum dry density of 1.8g/cc at OMC16% during a standard Proctor test with a specific gravity is 2.65. What is the Void ratio, Degree of Saturation, Air content and percentages of air voids in the soil. What is the maximum density it can be further compacted to. 5M

OR

Q.4(B) (i)Discuss the spring analogy for primary consolidation? What are its uses 5M

(ii)A soft normally consolidated clay layer is 15m thick with a natural moisture content of 45%.The clay has a saturated unit weight of 17.2 kN/m^3, a particle of specific gravity 2.68 and a liquid limit of 65%.A foundation load will subject the centre of the layer to a vertical stress increase of $10kN/m^2$.Determine an approximate value for the settlement of the foundation if the ground water level is at the surface of the clay. 5M

Q.5(A) (i).Write Mohr- coulomb theory and explain the influencing parameters 5M

(ii).What is the shear strength in terms of effective stress on a plane within a saturated soil mass at a point where the total normal stress is 295kpa and the pore water pressure 120 Kpa. The effective shear strength parameters are $C'=12kpa$ and $\varphi=30^0$. 5M

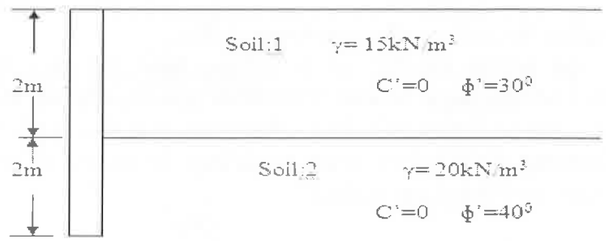
OR

Q.5(B) (i). What are the merits and demerits of Triaxial Test 5M

(ii). A shear vane of 7.5cm diameter and 11.0cm length was used to measure the shear strength of a soft clay. If a torque of 600N-m was required to shear the soil, Calculate the shear strength of the soil. The vane was rotated rapidly to cause remoulding of the soil. The torque required in the remoulded state was 200N-m. Determine the sensitivity of the soil. 5M

Q.6(A) (i).With the help of neat sketch explain different types foundations used in construction Field 5M

(ii) Two different soil types (Soil:1 and Soil: 2) are used as backfill behind the retaining wall as shown in Fig. Where **γ** is the bulk unit weight and C' and ϕ' are effective cohesion and effective angle of shearing. Find the resultant active earth force per unit length (in KN/m) acting on the wall. 5M



OR

Q.6(B) (i)What are the assumptions made in Rankine's earth pressure theory? 5M

(ii)A circular footing is resting on stiff saturated clay with $qu=250\ kN/m^2$.The depth of foundation is 2m. Determine the diameter of the footing, if the column load is 600KN.Assume a factor of safety as 2.5.The bulk unit weight of soil is $20KN/m^3$. 5M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CE402

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

CONSTRUCTION PLANNING AND MANAGEMENT

(Civil Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Define activity duration	1M
	ii.	Define work task	1M
	iii.	Define CPM	1M
	iv.	What do you mean by time estimate	1M
	v.	Illustrate spatial data	1M
	vi.	Recall the term project management	1M
	vii.	Define quality in construction	1M
	viii.	Define attributes	1M
	ix.	Illustrate conceptual models	1M
	x.	Write the types of project documentation.	1M
Q.2(A)		Explain how the estimating resources requirements for work activities is done with its merits.	10M

OR

Q.2(B)	What is coding systems, discuss in detail its applications in constriction industry , with its merits and demerits	10M
Q.3(A)	Product manager has planned a list of activities culminating in the inaugurate launch of the new products.	10M

These are given in the table below:

Activity	PERT 3 times estimate days			Immediate predecessor (s)
	P	M	O	
A	20	10	5	---
B	12	7	5	---
C	12	10	8	A
D	40	209	6	C
E	90	60	30	D
F	14	10	7	D
G	50	30	20	C
H	12	10	8	E,F,G
I	6	4	3	B
J	1	1	1	H , J

Calculate the value of the earliest and latest time , What is the probability that product manager will be able to complete the language launch with 80 days

OR

Q.3(B)	Discuss the differences between CPM and PERT in detail.	10M
Q.4(A)	Discuss in detail the applications and uses of data base management systems in construction .	10M

OR

Q.4(B)	Describe the how the spatial data management is useful in construction industry.	10M
Q.5(A)	Summarize the various causes of accidents in construction industry and also explain how the quality plays an important role in minimizing accidents.	10M

OR

Q.5(B)	Enumerate in detail about the work and material specification .	10M
Q.6(A)	Briefly explain the hierarchical models for organizing databases.	10M

OR

Q.6(B)	Discuss the centralized database management systems with its merits and demerits	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CE405

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

AIR POLLUTION AND SOLID WASTE MANAGEMENT

(Civil Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	How air pollution impact on the monuments?	1M
	ii.	Define air pollution? Give an example?	1M
	iii.	How adsorption and desorption of air pollution occur?	1M
	iv.	Define the principle of gravity settling chamber?	1M
	v.	How does solid waste management contribute to environmental protection?	1M
	vi.	What are the sources of E-waste?	1M
	vii.	Why the hazardous waste management is important	1M
	viii.	What is the application of GIS in SWM?	1M
	ix.	What are ferrous and non-ferrous wastes?	1M
	x.	Define C and D wastes?	1M
Q.2(A)	How to estimate the air quality index of a city? Explain in detail		10M
	OR		
Q.2(B)	What is National Ambient Air Quality Standards (NAAQS)? Explain the properties and composition of air?		10M
Q.3(A)	Why the air pollutin control acts are required? Explain the air pollution control policy in india?		10M
	OR		
Q.3(B)	What is a wind rose diagram? Explain how air pollution can be controlled by policy making with case study?		10M
Q.4(A)	Name the factors affecting the quantity of MSW generation? Explain the characteristics of MSW		10M
	OR		
Q.4(B)	How to handle the leachate? Explain the design and construction of a landfill?		10M
Q.5(A)	Explain the process and disposal of hazardous waste with a case study?		10M
	OR		
Q.5(B)	How to identify the waste is hazardous? Explain the process of collecting and transportation of hazardous waste?		10M
Q.6(A)	What is the rule used for E-waste management? Explain the techniques used for reuse and recycle of E – wastes?		10M
	OR		
Q.6(B)	Discuss about the various factors to be considered while using construction and demolition wastes in the developmental projects?		10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

POWER SYSTEMS – I (GENERATION, TRANSMISSION & DISTRIBUTION)

(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Define plant factor.	1M
	ii.	Draw the line diagram for transmission and distribution system.	1M
	iii.	Why aluminum is preferred over copper for overhead transmission lines?	1M
	iv.	In inductance calculation of an overhead transmission line, **r′=0.7788r** is known as	1M
	v.	Write down the ABCD parameters for a short length line.	1M
	vi.	What do you understand by surge impedance of line? Also give its mathematical expression.	1M
	vii.	What is string efficiency?	1M
	viii.	List the type of insulating materials used for cables.	1M
	ix.	Draw the I-V C/CS of PV panel.	1M
	x.	List the various variable speed wind turbine.	1M
Q.2(A)		The annual load duration curve of a certain power station can be considered as a straight line from 20 MW to 4 MW. To meet this load, three turbine-generator units, two rated at 10 MW each and one rated at 5 MW are installed. Determine (i) installed capacity (ii) plant factor (iii) units generated per annum (iv) load factor and (v) utilisation factor.	10M
		OR	
Q.2(B)		Draw the Line diagram of Thermal Power Station and Explain each component.	10M
Q.3(A)		Derive expression for inductance of a three phase single circuit symmetrical spacing transmission line.	10M
		OR	
Q.3(B)		What is method of images? Derive an expression for the capacitance per unit length of a 3-phase transposed line. What is the effect of earth on the capacitance of the line?	10M
Q.4(A)		Find the ABCD parameters of a 3-phase, 100 km, 50 Hz transmission line with series impedance of (0.10+j 0.3) ohms per km and a shunt admittance of j4 $x10^{-4}$ mho per km.	10M
		OR	
Q.4(B)		(i) A step wave of 110 kV travels through a line having a surge impedance of 350 Ω. The line is terminated by an inductance of 5000μH. Find the voltage across the inductance and reflected voltage wave.	5M
		(ii) A 200 kV surge travels on line of 400 ohm surge impedance and reaches a junction where two branch lines of serge impedances of 500 ohm and 300 ohm are connected with the transition line. Find the surge voltage and current transmitted into each branch line. Also find the reflected voltage and current.	5M

Q.5(A)	(i)Explain why suspension type of insulators are preferred for high voltage overhead lines. Sketch a sectional view of one unit of the suspension type insulator and describe the construction.	5M
	(ii)An insulator string containing five units has equal voltage across each unit by using disc of different capacitances. If the top unit has a capacitance of C and pin to tower capacitance of all units is 20 percent of the mutual capacitance of top unit. Calculate mutual capacitance of each disc in a string.	5M
	OR	
Q.5(B)	Explain capacitance grading of a cable.	10M
Q.6(A)	Compare line commutated converter with voltage source converter.	10M
	OR	
Q.6(B)	Discuss with neat sketch the real power flow control in a dc link of Voltage source converter.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE110

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations –SEPTEMBER 2021

POWER ELECTRONICS

(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Define rise time for BJT?	1M
	ii.	Define firing angle.	1M
	iii.	What is reverse recovery time of the power diode?	1M
	iv.	Calculate the duty ratio of a step-up chopper that required to maintain an output voltage of 28V for a given input DC source of 16 V.	1M
	v.	What is Pulse Width Modulation?	1M
	vi.	Define modulation index?	1M
	vii.	What is an inverter?	1M
	viii.	List out the various voltage control methods of single-phase inverters.	1M
	ix.	Write the applications of current source inverters.	1M
	x.	Write the expression for RMS voltage of single phase AC voltage controller with R load.	1M
Q.2(A)		Define commutation? Classify various methods to commutate a SCR. Explain any three methods of commutation with relevant sketches.	10M
		OR	
Q.2(B)		i. Discuss the switching characteristics of a power MOSFET.	5M
		ii. Compare power MOSFET with BJT.	5M
Q.3(A)		Describe the working of single phase dual converter in circulating and non circulating mode.	10M
		OR	
Q.3(B)		With necessary circuit and waveforms, explain the working of single phase full controlled bridge rectifier feeding R-L load in continuous and discontinuous current mode of operation. Also, derive the expression for the average output dc voltage.	10M
Q.4(A)		Describe the working principle of fly back converter with relevant waveforms. Also, derive an expression for the output voltage in terms of input voltage and duty cycle.	10M
		OR	
Q.4(B)		How to control the output voltage of a DC-DC converter? Explain in detail about various Control methods for choppers.	10M
Q.5(A)		With the help of neat circuit diagram and associated waveforms, explain the operation of the single-phase full bridge inverter with R load.	10M
		OR	
Q.5(B)		Explain briefly the operation of a three-phase bridge inverter with resistive load in 180^0 conduction mode.	10M

Q.6(A) Explain the principle of working of a three-phase to three-phase cycloconverter along with the help of schematic diagram. 10M

OR

Q.6(B) Describe the basic principle of working of a single-phase to single-phase cycloconverter with resistive load in (a) Centre-tapped transformer configuration (b) Bridge configuration. 10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE111

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations –SEPTEMBER 2021

MICROCONTROLLERS AND INTERFACING

(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	What is the function of Accumulator?	1M
	ii.	What are CISC and RISC processors?	1M
	iii.	What is the purpose of Program Status Word?	1M
	iv.	What is the function of TCON?	1M
	v.	Explain Register addressing mode.	1M
	vi.	Define Instruction cycle.	1M
	vii.	What is the function of Chip select pin?	1M
	viii.	What are the applications ADCs?	1M
	ix.	What is the function MSSP (master synchronous serial port)?	1M
	x.	Write down the names of different peripherals included in PIC microcontroller.	1M
Q.2(A)		Explain the Architecture of 8085 microprocessor with neat diagram.	10M
		OR	
Q.2(B)		Compare RISC AND CISC CPU ARCHITECTURES in detail.	10M
Q.3(A)		Explain 8051 architecture with neat diagram.	10M
		OR	
Q.3(B)		Explain Types of Special Function Registers in 8051.	10M
Q.4(A)		Explain Subroutine instructions and Bit manipulation instruction with example	10M
		OR	
Q.4(B)		Explain different Addressing Modes of 8051 Microcontroller with examples.	10M
Q.5(A)		Explain the I/O ports of 8051 microcontroller with neat, labelled diagram.	10M
		OR	
Q.5(B)		Design Interfacing of 16 K Byte of RAM and 32 K Byte of EPROM to 8051	10M
Q.6(A)		Explain the different peripherals in PIC microcontroller with neat diagram.	10M
		OR	
Q.6(B)		Discuss the memory organization of PIC microcontroller with proper block diagram.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE404

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

INDUSTRIAL ELECTRICAL SYSTEMS

(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	What does MPCB Stands for?	1M
	ii.	What is the difference between MCB and MCCB?	1M
	iii.	State various types of internal wiring.	1M
	iv.	Sketch the single diagram for a single phase installation	1M
	v.	Define depreciation factor?	1M
	vi.	What is flood lighting	1M
	vii.	What is the necessity of power factor correction?	1M
	viii.	Give the specifications for LT Breakers?	1M
	ix.	What is the difference between UPS and battery	1M
	x.	What does SCADA stands for?	1M
Q.2(A)		State and explain the different protective equipment used in electrical wiring system?	10M
		OR	
Q.2(B)		i. Discuss about the various Electrical safety practices that are followed?	5M
		ii. Explain the criterion for the selection of cables	5M
Q.3(A)		When will be three-phase four-wire system is chosen for installation? Explain with the help of single line diagram the installation of three- phase four-wire distribution for single and three-phase load having a common main switch fuse.	10M
		OR	
Q.3(B)		Explain in detail the different types of commercial wiring systems?	10M
Q.4(A)		Explain the procedure for the design of a lighting scheme of a residential building	10M
		OR	
Q.4(B)		State and describe the various types of lighting schemes?	10M
Q.5(A)		Explain the starting methods of three phase Induction motors with the help of neat diagram.	10M
		OR	
Q.5(B)		What are the types of compensation? Explain brief?	10M
Q.6(A)		Explain in detail about the electrical systems for elevators.	10M
		OR	
Q.6(B)		Write a note on (a) DG Systems (b) PLC based control system design	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE404

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations –SEPTEMBER 2021

SPECIAL ELECTRICAL MACHINES

(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	State some applications of stepper motor.	1M
	ii.	Define the term step angle	1M
	iii.	What is a multi-satck VR stepper motor?	1M
	iv.	What is meant by full step operation?	1M
	v.	Mention some position sensors used in Switched reluctance motor.	1M
	vi.	What are the applications of Switched reluctance motor?	1M
	vii.	What is hall sensor?	1M
	viii.	What are the disadvantages of brushless dc motors drives?	1M
	ix.	What is meant by self control?	1M
	x.	What are the merits of PMSM?	1M
Q.2(A)		What are the various classifications of stepper motors and explain their principle of operation.	10M
		OR	
Q.2(B)	i.	Explain the operation of Hybrid stepper motor.	6M
	ii.	What are the advantages and disadvantages of stepper motor?	4M
Q.3(A)		Explain the principle of operation and construction details of Single stack variable reluctance stepper motor	10M
		OR	
Q.3(B)		Explain the static and Dynamic characteristics of stepper motor.	10M
Q.4(A)		Derive voltage and torque equations of Switched reluctance motor.	10M
		OR	
Q.4(B)		Explain construction and principle of operation of Switched reluctance motor.	10M
Q.5(A)		Derive the torque equation of PMBLDC and explain the characteristics in detail	10M
		OR	
Q.5(B)		Explain briefly about construction and operating principles of PMBLDC machine.	10M
Q.6(A)		Derive the torque equation of permanent magnet synchronous motor. Draw its torque speed characteristics.	10M
		OR	
Q.6(B)		Explain the construction and principle of operation of PMSM.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME110

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

DESIGN OF MACHINE ELEMENTS

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Draw stress-strain diagram for ductile material and indicate salient points.	1M
	ii.	Define Factor of safety.	1M
	iii.	Define stress concentration.	1M
	iv.	Differentiate between Endurance limit and endurance strength.	1M
	v.	What is meant by bolt of uniform strength?	1M
	vi.	What are the uses of screw fasteners?	1M
	vii.	What is difference between temporary and permanent fastening?	1M
	viii.	What is parallel fillet weld?	1M
	ix.	What is nipping in the case of leaf springs?	1M
	x.	What is surge in springs?	1M

Q.2(A)	i.	Briefly explain various manufacturing considerations in design.	5M
	ii.	What are the points to be considered in selecting an engineering material?	5M

OR

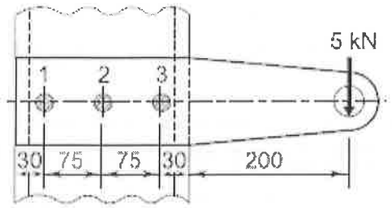
Q.2(B)	Two rods having 30 mm x 30 mm square cross-section are connected using a gib and cotter. Calculate the leading dimensions of the joint so as to have the strength of the joint same as the strength of the rods in tension. For all the parts of the joint take the allowable stresses as follows: *Tensile strength = 120N/mm^2, Shear strength = 70N/mm^{2}and Compression strength = 240N/mm^2.*	10M

Q.3(A)	The load on a bolt consists of an axial pull of 10 kN together with a transverse shear force of 5kN. Find the diameter of bolt required according to 1. Maximum principal stress theory; 2. Maximum shear stress theory; and 3. Maximum distortion energy theory. Take permissible tensile stress at elastic limit = 100 MPa and poisson's ratio = 0.3.	10M

OR

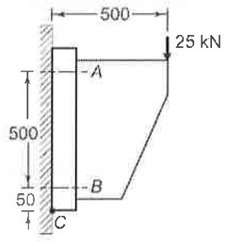
Q.3(B)	A rotating bar made of steel 45C8 (S_{ut} = 630N/mm^2) is subjected to a completely reversed bending stress. The corrected endurance limit of the bar is 315N/mm^2. Calculate the fatigue strength of the bar for a life of 90,000 cycles.	10M

Q.4(A)	A steel plate subjected to a force of 5 kN and fixed to a channel by means of three identical bolts is shown in Figure. The bolts are made from plain carbon steel 45C8 (S_{yt} = 380 N/mm^2) and the factor of safety is 3. Specify the size of bolts.	10M

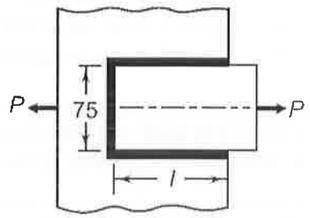


OR

Q.4(B) A wall bracket is attached to the wall by means of four identical bolts, two at A and two at B, as shown in Fig. Assuming that the bracket is held against the wall and prevented from tipping about the point C by all four bolts and using an allowable tensile stress in the bolts as 35N/mm^2, determine the size of the bolts on the basis of maximum principal stress theory. 10M



Q.5(A) A plate, 75 mm wide and 10mm thick, is joined with another steel plate by means of single transverse and double parallel fillet welds, as shown in Fig. The joint is subjected to a maximum tensile force of 55kN. The permissible tensile and shear stresses in the weld material are 70 and 50N/mm^2 respectively. Determine the required length of each parallel fillet weld. 10M



OR

Q.5(B) Explain the procedure for designing an axially loaded unsymmetrical welded joint. 10M

Q.6(A) A semi-elliptic multi-leaf spring is used for the suspension of the rear axle of a truck. It consists of two extra full-length leaves and ten graduated-length leaves including the master leaf. The centre-to-centre distance between the spring eyes is 1.2m. The leaves are made of steel 55Si$_2$Mo90 (S_{yt} =1500 N/mm^2 and E = 207 000 N/mm^2) and the factor of safety is 2.5. The spring is to be designed for a maximum force of 30 kN. The leaves are pre-stressed so as to equalize stresses in all leaves. Determine (i) the cross-section of leaves; and (ii) the deflection at the end of the spring. 10M

OR

Q.6(B) A closely coiled helical spring is made of 10mm diameter steel wire, the coil consisting of 10 complete turns with a mean diameter of 120mm. The spring carries an axial pull of 200N. Determine the shear stress induced in the spring neglecting the effect of stress concentration. Determine also the deflection in the spring, its stiffness and strain energy stored by it if the modulus of rigidity of the material is 80kN/mm^2. 10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME111

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B. Tech III Year I Semester (R18) Supplementary End Semester Examinations SEPTEMBER 2021

MANUFACTURING TECHNOLOGY

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Mention the basic elements of machining.	1M
	ii.	How many types of chips are formed in metal cutting	1M
	iii.	Write down the formula to find the half taper angle in turning operation.	1M
	iv.	What is tapping operation.	1M
	v.	What are the different types abrasives used in grinding wheel?	1M
	vi.	Write about centre less grinding?	1M
	vii.	Why advanced machining process methods are needed?	1M
	viii.	Mention the important process parameters of electric discharge machining process	1M
	ix.	Write down the formula for calculating the rate of production	1M
	x.	Justify the necessity for NC machines.	1M
Q.2(A)		Derive the various forces acting in orthogonal cutting with the help of merchant circle diagram.	10M
		OR	
Q.2(B)		While machining a mild steel workpiece with a H.S.S tool, the following data were recorded: Cutting speed = 32 m/min, tool life = 50 minutes, if the cutting speed is increased by 50%, how the tool life will be affected? Assume exponent 'n' of Taylor's equation = 0.2.	10M
Q.3(A)		How would you classify the various machining operations in Lathe machine? Elaborate them with sketches.	10M
		OR	
Q.3(B)		Outline and give details of the common mechanism used for quick return of ram in shaper machine tool?	10M
Q.4(A)		Explain the compositional specifications of grinding wheel.	10M
		OR	
Q.4(B)		Distinguish Lapping and Honing operations with proper sketches	10M
Q.5(A)		Explain the working principle of abrasive jet machining (AJM) with diagram.	10M
		OR	
Q.5(B)		With the diagram, explain the working principle of ultrasonic machining process	10M
Q.6(A)		Compare NC and CNC machines.	10M
		OR	
Q.6(B)		Derive an expression for determining the optimum cutting speed for maximum rate of production in turning operation	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME112

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations –SEPTEMBER 2021

HEAT TRANSFER

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Give two examples for conduction with heat generation inside.	1M
	ii.	State Fourier law of conduction.	1M
	iii.	Define Fin efficiency.	1M
	iv.	When do you call a system as Lumped system?	1M
	v.	What is the importance of Rayleigh number?	1M
	vi.	When does laminar flow turns turbulent in case of flow over flat plate.	1M
	vii.	Define critical heat flux in case of boiling	1M
	viii.	Which type of condensation is better: Drop wise or film wise.	1M
	ix.	What are the desirable properties of radiation shields?	1M
	x.	When do two bodies participating in radiation attain thermal equilibrium?	1M
Q.2(A)		Derive the general heat conduction equation in cylindrical coordinate system.	10M
		OR	
Q.2(B)		A spherical container has inner radius r1 = 8 cm, outer radius r2 =10 cm, and thermal conductivity k = 45 W/m·K. The inner and outer surfaces of the container are maintained at constant temperatures of T 1 = 200°C and T 2= 80°C, respectively, as a result of some chemical reactions occurring inside. Obtain a general relation for the temperature distribution inside the shell under steady conditions, and determine the rate of heat loss from the container.	10M
Q.3(A)		Consider a sphere of diameter 6 cm, a cube of side length 6 cm both initially at 0°C and both made of silver (k = 429 W/m·K, ρ = 10,500 kg/m3, c p = 0.235 kJ/kg·K). Now both of these geometries are exposed to ambient air at 33°C with a heat transfer coefficient of 12 W/m2·K. Determine how long it will take for the temperature of each geometry to rise to 25°C.	10M
		OR	
Q.3(B)		What is meant by the Lumped heat capacitance model? Derive governing equation for it.	10M
Q.4(A)		Explain the concept of velocity and thermal boundary layers for a flow over flat plate using neat sketches.	10M
		OR	
Q.4(B)		Engine oil at 120^{o} and a velocity of 0.1m/s flows over a 1-m-long flat plate maintained at 20^{o} C. Determine (a) The velocity and thermal boundary thickness at the trailing edge. (b) Total drag force and heat transfer per unit area width of the plate.	10M

Q.5(A)	What is the need for Log Mean Temperature Difference in a heat exchanger? I expression for the Log Mean Temperature Difference for a parallel flow heat exchanger.	10M

OR

Q.5(B)	Water at 250 kg/h is to be heated from 35 to 95 ^{0}C by means of a concentric tube heat exchanger. Oil at 225kg/h and 210 ^{0}C, with a specific heat of 2095 J/kg.K, is to be used as the hot fluid. If the overall heat transfer coefficient based on the outer diameter of the inner tube if 550W/m 2. K, determine the length of the exchanger if the outer diameter is 100mm.	10M

Q.6(A)	Two very large parallel plates are maintained at uniform temperatures T1 = 850 K and T2 = 500 K and have emissivities e 1 = 0.2 and e 2 = 0.7, respectively. Determine the net rate of radiation heat transfer between the two surfaces per unit surface area of the plates.	10M

OR

Q.6(B)	Distinguish between (i) A black body and gray body (ii) Specular and diffuse surfaces (iii) Absorptivity and emissivity of a surface.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME401

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

PRODUCTION PLANNING AND CONTROL

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	List two main benefits of production planning and control.	1M
	ii.	Write about economics of new design.	1M
	iii.	What is work study?	1M
	iv.	What is meant by extending the original product information?	1M
	v.	What is value analysis?	1M
	vi.	State two reasons for product planning.	1M
	vii.	Define forecast errors.	1M
	viii.	What is master scheduling?	1M
	ix.	What is MRP?	1M
	x.	Explain ABC analysis.	1M

Q.2(A) Explain in detail the different types of production systems and their characteristics. 10M

OR

Q.2(B) What are the benefits of production planning and control? Explain the organization of production planning and control. 10M

Q.3(A) Draw and elaborate different types of process chart symbols with respect to work study with examples 10M

OR

Q.3(B) Briefly explain what factors are considered while selecting the job for doing method study. 10M

Q.4(A) State and elaborate the steps involved in process planning. 10M

OR

Q.4(B) Explain value analysis and its procedure in detail. 10M

Q.5(A) What is forecasting? Explain the advantages and limitations on forecasting. 10M

OR

Q.5(B) In a four month period the best forecast is derived by using 40 % of the actual sales for the most recent month, 30 % of two months ago, 20 % of three months ago, and 10 % of four months ago. If actual sales experience are given as: 10M

Month 1	Month 2	Month 3	Month 4
100	90	110	88

What will be the sales forecast for month 5?

Q.6(A) With flow chart explain applications of computers in PPC. What are the advantages and disadvantages of computers in PPC? 10M

OR

Q.6(B) Explain Economic Order Quantity. 10M

The demand for a particular item is 18,000 units per year. The holding cost per unit is Rs.1.20 per year and cost of one procurement is 4s.400.00 per order. No shortage allowed. Determine 1. Optimum order quantity, 2. Number of orders per year and 3. Time between orders.

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME405

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

FINITE ELEMENT METHODS

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	What is the basic of finite element method?	1M
	ii.	What are the types of boundary conditions?	1M
	iii.	What is non structural problem?	1M
	iv.	Explain stiffness method.	1M
	v.	What do you mean by node and element	1M
	vi.	Write advantage of higher-order element over linear elements	1M
	vii.	What are the conditions for a problem to be axisymmetric?	1M
	viii.	Define boundary value problem.	1M
	ix.	What is the purpose of ISO parametric elements?	1M
	x.	Define Resonance.	1M

Q.2(a) Discuss applications of FEM. 10M

OR

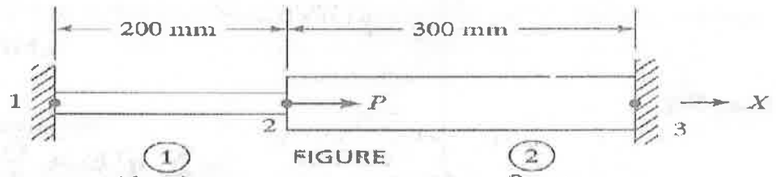
Q.2(b) Describe Variational method and Galerkin Method. 10M

Q.3(a) An axial load P=300X10^{3}N is applied at 20^0 C to the rod as shown in Figure below. The temperature is the raised to 60^0 C . 10M

a) Assemble the K and F matrices.

b) Determine the nodal displacements and stresses.

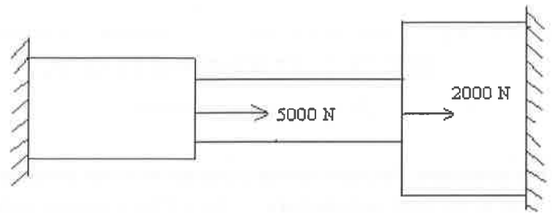
c)



FIGURE

OR

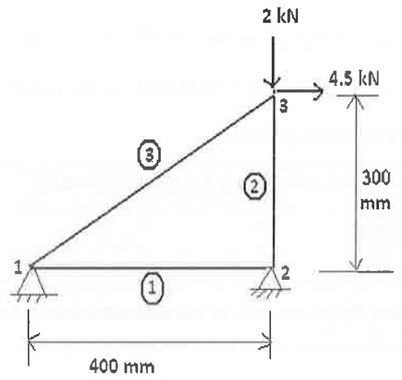
Q.3(b) For the following stepped bar, determine the nodal displacements. Take L_1= 1000mm, A_1 = 500 mm^2, E_1 = 2 x 10^5 N/mm^2, L_2= 1500mm, A_2 =300 mm^2, L_3= 250mm, A_3 = 625 mm^2, $E_3 = E_2 = E_1$. 10M



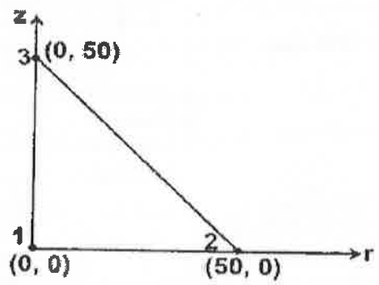
Q.4(a) Distinguish between Constant Strain Triangular (CST) element and Linear Strain Triangular (LST) element 10M

OR

Q.4(b) For the 3-bar truss shown in fig, $E_1 = 2\times10^5$MPa, $E_2 = 1.5\times10^5$MPa, $E_3 = 1.75\times10^5$MPa, A_1 = 100 mm^2, A_2 = 150 mm^2, A_3 = 75 mm^2. Determine the nodal displacements. 10M

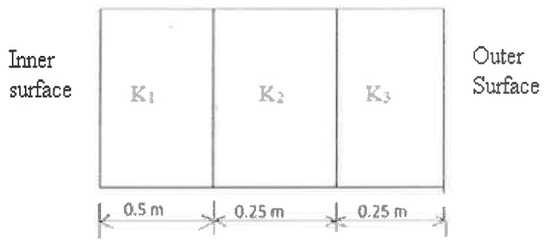


Q.5(a) Determine the stiffness matrix for the axisymmetric element shown in the figure. Take E = 2.1x10^5 MN/m^2 and υ =0.25. The coordinates are in mm 10M

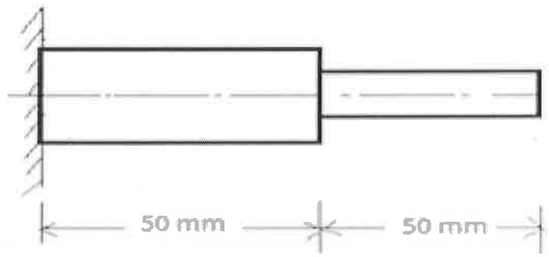


OR

Q.5(b) A Composite wall consists of 3 materials as shown below, the outer temperature is 30 ^{0}c, convective heat transfer takes place on the inner surface of the wall with 700 ^{0}C and h = 35 w/m^{20}c. Determine the temperature distribution in the wall. K_1= 25 w/m^{0}C, K_2= 20 w/m^{0}C, K_3= 10 w/m^{0}C 10M



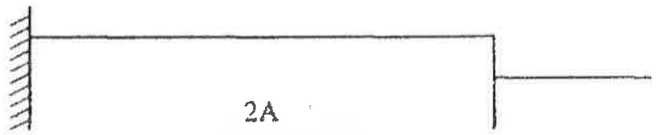
Q.6(a) Determine Eigen values for the bar element shown below, take ρ = 7800 kg/m^3, E = 200 GPa , A_1=300 mm^2, A_2= 100 mm^2 10M



OR

Q.6(b) Find the natural frequencies of longitudinal vibrations of the stepped shaft of areas A1 and A2 and of equal lengths (L), when it is constrained at one end, as shown below. 10M

shown below.



*** END***

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME404

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

FLUID POWER SYSTEMS

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Draw the graphic symbol for variable displacement hydraulic pump.	1M
	ii.	List out the application of fluid power system	1M
	iii.	Give one application of shuttle valve	1M
	iv.	What is the meaning of cylinder locking	1M
	v.	What is flash point?	1M
	vi.	State any one possible reason for a noisy pump.	1M
	vii.	Name any one type of air compressor.	1M
	viii.	What is the function of air dryer?	1M
	ix.	What is the advantage of using accumulator in Pneumatic systems?	1M
	x.	Why is receiver mandatory in pneumatic systems?	1M

Q.2(A) A hydraulic press has a ram of 400 mm diameter and a plunger of 5.0 cm diameter. Find the weight lifted by the hydraulic press when the force applied at the plunger is 1 kN. 10M

OR

Q.2(B) A Pump supplies oil at 0.084 m^3/min to a 50 mm diameter double acting hydraulic cylinder. If the load in 6 kN (extending and retracting) and the rod diameter is 25 mm, find the 10M

a. Hydraulic pressure during the extending stroke
b. Piston velocity during the extending stroke
c. Cylinder kW during the extending stroke
d. Hydraulic pressure during the retracting stroke
e. Piston velocity during the retracting stroke
f. Cylinder kW during the retracting stroke

Q.3(A) Discuss the construction, working, operation and applications of 10M

a. Pressure relief valves
b. Unloading valves

OR

Q.3(B) Draw and explain the meter-in, meter-out circuits. 10M

Q.4(A) What are the most common causes for failure in hydraulic systems? Describe the strategies for preventive maintenance of the hydraulic systems. 10M

OR

Q.4(B) Describe the proper procedure for storage and disposal of hydraulic fluids. 10M

Q.5(A)	A single acting sir cylinder with a 6-cm-diameter piston and 50-cm stroke operates at 800 kPa gage pressure and reciprocates at 30 cycles per min. Compute the air consumption in standard m^3/sec.	10M
	OR	
Q.5(B)	A single stage air compressor running at 100 rpm, compresses air from a pressure of 1 bar and temperature of 25 $^{\circ}$C to a pressure of 6 bar. The clearance volume is 5 % of swept volume which is 0.42 m^3 .Assuming that the compression and expansion to follow the law $P V^{1.35}$ = constant, determine the power required to drive the compressor.	10M
Q.6(A)	What is the need of the Safety of Fluid Power Systems ? How the safety can be ensured in fluid power systems.	10M
	OR	
Q.6(B)	i. How do wear of moving parts occurs due to solid particle contamination in hydraulic systems?. Suggest methods to avoid solid contaminations.	5M
	ii. List and explain the desirable properties of Hydraulic oils.	5M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ENG102

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech. III Year I Semester (R18) Supplementary End Semester Examinations – SEPTEMBER 2021

ENGLISH COMMUNICATION - READING AND WRITING

(Common to CE, EEE & ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q. 1 **Do as directed**

i. Define the word Skimming? 1M

ii. What is Extensive reading? 1M

iii. Why is topic sentence important in writing? 1M

iv Write a discourse marker with an example sentence. 1M

v. Fill in the blank choosing the correct homophone in the bracket. 1M
*If you ..... **(cell/sell)** drugs, you will get arrested and end up in a prison cell.*

vi Fill in the blank choosing the correct option from the given pair of words. 1M
*My ..... is to study before tests. (**advice/advise**)*

vii. write down the synonym for the word 'bliss' 1M

viii. Topic sentence, supporting details, & conclusion is a structure of any paragraph. 1M
(State true or false)

ix. Write down the antonym for the word 'vulgar' 1M

x. Fill in the blank with correct collocation from the options. 1M
Please..... take a seat and enjoy the show.
a) save time to b) *feel free to* c) make a progress to

Q.2(A) **Given below is an outline of the story in the form of phrases. Fill in the blanks to create the complete story.** 10M
Rich man ..... plans to give a feast to his friends ..... all dishes are prepared except fish as it is unavailable ..... declares reward for anyone who'would get fish ..... poor fisherman catches a big fish and brings it ..... gate keeper refuses to let him enter the house unless he agrees to give him half the reward ..... fisherman thinks of a plan ..... instead of the reward he asks the rich man for 100 lashes on his back ..... gives 50 lashes to the gatekeeper..... moral.

OR

Q.2(B) Write a paragraph about **the person that you admired**. Describe his personality physical and intellectual. Use the appropriate transition words and phrases. You should write at least **150 words.** 10M

Q.3(A) **Choose the synonym for each *italicized* words.** 10M

I. Which word means the same as **Voracious***?*
a. Tenacious b. Truthful c, Spacious d. ravenous

II. Which word means the same as **Tenacious***?*
a. Holding fast b. collecting c. fast running d. international

III. Which word means the same as **Tenacity***?*
a. Ingratitude b. decimation c. splendour d. perseverance

IV. Which word means the same as **Relish***?*
a. Savor b. vindicate c. avail d. desire

V. Which word means the same as **Repercussion** *?*
a. Resistance b. magnificence c. acceptance d. reaction

OR

Q.3(B) **Match the words in Column A with their *antonyms* in Column B** 10M

No.	A	B
i	absurd	a. smart
ii	insult	b. insult
iii	lethargic	c. goodwill
iv	malice	d. esteem
v	welcome	e. rational

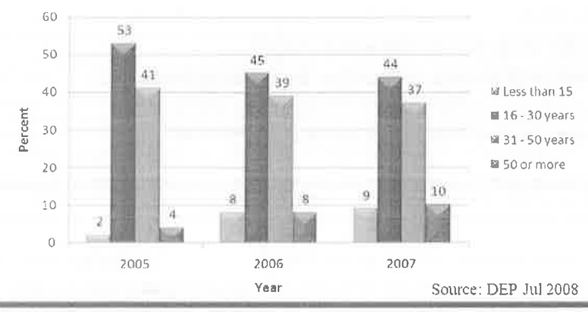
Q.4(A) **Convert the information in the given text into graphical form.** 10M

The main users of Internet are between 16-30 years adult. In 2005, they accounted for 53%. In 2006, it dropped slightly to 45% and 44 % in 2007. The second biggest group is aged between 31 and 50.They made up 41% in 2005, falling slightly to 39% in 2006 and 37 % in 2007. However, this number is dropping steadily as more children (aged less than 15) and older users (aged 50 or more) started to use the Internet. In 2006, children online quadrupled from 2% to 8% and it continues to increase in 2007 to 9%. Similarly, the number of older users jumped from 5 % in 2005 to 10% in 2006, and doubled in 2007. In conclusion, although the adult has the highest percentage, their share is declining as more children and older users join the web.

OR

Q.4(B) The chart shows components of Internet usage in Malaysia by age group. Summarize the information by selecting and reporting the main features and make comparisons where relevant. Write at least **150 words**. 10M

Internet Usage in Malaysia by Age Group



Source: DEP Jul 2008

Q.5(A) **A. Read the passage given below carefully and answer the questions that follow.** 10M

Ever since humans have inhabited the earth, they have made use of various forms of communication. Generally, this expression of thought and feelings has been in the form of oral speech. When there is language barrier, communication is accomplished through sign language in which motions stand for letters, words, and ideas. Tourists, the deaf, and the mute have had to resort to this form of expression. Many of these symbols of whole worlds are very picturesque and exact and can be used internationally; spelling, however, cannot.

Body language transmits ideas or thoughts by certain actions, either intentionally or unintentionally. A wink can be a way of flirting or indicating that the party is only joking. A nod signifies approval, while shaking the head indicates a negative reaction.

Other forms of non-linguistic language can be found in Braille (a system of raised dots read with the fingertips), signal flags, Morse code, and smoke signals. Road maps and picture signs also guide, warn, and instruct people. While verbalization is the most common form of language, other systems and technique also express human thoughts and feelings.

i. Which of the following best summarizes the passage?
   a. When language is barrier, people will find other forms of communication.
   b. Non-linguistic language is invaluable to foreigners.
   c. Although other forms of communication exist, verbalization is the fastest.
   d. None of the above.

ii. The word 'these' in sentence 5 refers to
   a. Tourists b. the deaf and mute c. thoughts and feelings d. sign language motions
iii. All of the following statements are true except
   a. There are many forms of communication in existence today.
   b. Verbalization is the most common form of communication.
   c. The deaf and mute use oral form of communication.
   d. Ideas and thoughts can be transmitted by body language.
iv. Which form other than oral speech would be most commonly used among blind people?
   a. Picture signs b. Braille c. Body language d. Signal flags
v. How many different forms of communication are mentioned here?
   a. 5 b. 3 c. 9 d. 11
vi. The word 'wink' in second paragraph means most nearly the same as
   a. close one eye briefly
   b. close both eyes briefly
   c. bob the head up and down
   a. shake the head from side to side
vii. Sign language is said to be very picturesque and exact and can be used internationally except
   a. spelling b. ideas c. whole words d. expressions
viii. People need to communicate in order to
   a. keep from reading with their fingertips
   b. be picturesque and exact
   c. express thought and feelings
   d. get rich soon
ix. What is the best title for this passage?
   a. The Importance of Sign Language
   b. Many forms of Communication
   c. Ways of Expressing Feeling
   d. Picturesque Symbols of Communication
X. Who would be most likely to use code?
   a. A scientist b. A spy c. A telegrapher d. An airline pilot

OR

Q.5(B) **Read the following passage and answer the given questions.**

The Government of India's policy regarding the joint sector is derived from the industrial policy resolution. 1956 and the objective of reducing the concentration of economic power. In appropriate case the Central and the State governments have taken equity participation either directly or through their co-operation with private parties. Some joint sector units have come up in this way. This type of joint sector unit is a device which may be resorted in specific cases having regard to the production target of the plan. Each proposal for establishing a joint sector unit of this nature will have to be judged and decided on its merits in the into partnership with new and medium entrepreneurs in order to guide them in developing a priority industry.

light of the government's social and economic objectives. The joint sector will also be a promotional instrument, as for instance, in case where state governments go The joint sector will not be permitted to be used for the entry of larger houses, dominant undertakings and foreign company industries in which they are otherwise precluded on their own. In all the different kinds of joint sector units, the government will ensure for itself an effective role in guiding policies, management and operations, the actual pattern and mode being decided as appropriate in each case.

The government hopes that there will be greater certainty in the investment climate and all sections of the community will come forward to play their due role in the promotion of growth with self-reliance within the accepted framework of a socialist pattern of society.

QUESTIONS:

1. What are joint sector units? (1M)
2. What is the objective of setting up industries in the joint sector? (1M)
3. How will the government exercise control over such unit? (1M)
4. Why will large business houses not be permitted to enter this sector? (1M)
5. How will the government's policy lead to more certain and better investment climate? (1M)
6. What is the difference between joint sector units and public undertakings? (1M)
7. Suggest a suitable title to the passage. (1M)
8. Summarize the passage within 50 words (3M)

Q.6(A) **Write a description of the picture given below.** 10M

OR

Q.6(B) **Express your opinion on the following topic:** 10M
Lessons for the world from COVID-19 Pandemic.

*****END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE108

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

AI TOOLS, TECHNIQUES AND APPLICATIONS

(ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Define AI.	1M
	ii.	What is Machine learning?	1M
	iii.	Define logic.	1M
	iv	List out the designing elements of chatbot.	1M
	v.	What is noise?	1M
	vi	What is OCR?	1M
	vii.	Define neural network.	1M
	viii.	Compare between forward and back propagation.	1M
	ix.	What is smart agriculture?	1M
	x.	Write the list of applications of AI.	1M
Q.2(A)		Explain in detail about search strategies.	10M
		OR	
Q.2(B)		Discuss in detail about K- means clustering with an algorithm.	10M
Q.3(A)		How NLP uses to convert text to speech? Illustrate the process.	10M
		OR	
Q.3(B)		Write in detail about best practices followed for chatbot development.	10M
Q.4(A)		Explain about Fourier transforms with scenarios.	10M
		OR	
Q.4(B)		Discuss about the procedure to follow for specified object detection in an image.	10M
Q.5(A)		Write a short note on i)CNN ii)RNN	10M
		OR	
Q.5(B)		How to design an application in deep learning using Tensorflow? Explain.	10M
Q.6(A)		Explain the process follow to prepare Smart Homes.	10M
		OR	
Q.6(B)		Discuss in detail about the steps follow to make agriculture as smart application.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – Sep' 2021

(Regulations: R18)

ANALOG AND DIGITAL COMMUNICATIONS

(ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	What do you understand by 'figure of merit' in communication receiver?	1M
	ii.	Why the channel noise is called as 'white noise'?	1M
	iii.	Define modulation index in AM	1M
	iv	State the differentiate between narrowband FM and wideband FM.	1M
	v.	What is quantization noise?	1M
	vi	What is slope overload distortion'?	1M
	vii.	What do you understand from the 'eye pattern'?	1M
	viii.	Draw the BPSK waveform for the binary stream 11010	1M
	ix.	What is purpose of channel coding?	1M
	x.	Define burst error.	1M
Q.2(A)		Explain in detail about DSB-SC AM system. Also derive the figure of merit equation for DSB-SC AM system.	10M
		OR	
Q.2(B)		Illustrate the concept of pre-emphasis and de-emphasis in communication system.	10M
Q.3(A)		A modulating signal $m(t)=10\cos(2\pi\times10^3t)$ is amplitude modulated with a carrier signal $c(t)=50\cos(2\pi\times10^5t)$. Determine the modulation index, the carrier power, and the power required for transmitting AM wave.	10M
		OR	
Q.3(B)		Derive the time-domain expression of a single tone narrowband FM signal and sketch its spectrum showing the bandwidth requirements.	10M
Q.4(A)		Explain in detail about the Delta Modulation.	10M
		OR	
Q.4(B)		Derive the expression for bandwidth of PCM system. If 20 telephone channels, each 3.0 kHz, are time division multiplexed using PCM. Calculate the bandwidth of the PCM system for 128 quantization levels and 8 kHz sampling frequency.	10M
Q.5(A)		Explain the generation and detection of the Binary Phase Shift Keying (BPSK) signal.	10M
		OR	
Q.5(B)		Derive the expression for matched filter	10M

Q.6(A) Consider a (6,3) linear block coder that accepts 3-bit binary message u=(u0,u1,u2) at the input and deliver a corresponding 6-bit code v=(v0,v1,v2,v3,v4,v5) at the output. If the generator matrix, G, of the coder is 10M

$$G = \begin{bmatrix} 1 & 0 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 1 & 1 \\ 0 & 0 & 1 & 1 & 0 & 1 \end{bmatrix}$$

i) **Determine** the parity-check matrix, H.

ii) **Determine** output code vector, v, for all possible message vector, u.

iii) **Show** the syndrome table showing all possible error pattern and the corresponding syndrome vector

iv) If suppose [111000] is the code transmitted, and due noise in the channel the received code is corrupted as [111001], **show** how the code can detect and correct this error.

OR

Q.6(B) **Discuss** in detail about the decision feedback equalization. 10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE110

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations –September 2021

(Regulations: R18)

DIGITAL SIGNAL PROCESSING

(ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Define periodic sequence.	1M
	ii.	What is time invariant system?	1M
	iii.	Define inverse DTFT of X(ω).	1M
	iv	Compare Radix-2 DIT and Radix-2 DIF(Write any two).	1M
	v.	State sampling theorem.	1M
	vi	What is meant by finite word length effects in digital filters?	1M
	vii.	What are the advantages of FIR filters?	1M
	viii.	Mention any two procedures for designing the transfer function of an analog filter.	1M
	ix.	Write any two features of digital signal processors.	1M
	x.	Give some examples for fixed point DSPs.	1M
Q.2(A)		(i) Check the stability of the system defined by $y(n) = x(n) + \frac{1}{2}x(n-1) + \frac{1}{4}x(n-2)$ (ii) Check whether the DSP system described by the following equation is causal $y(n) = 3x(n-2) + 3x(n+2)$	10M
		OR	
Q.2(B)		(i) Find the response of the system if $h(n) = \{3, 7, 0, 5\}$ and $x(n) = \{2, 3, 4\}$ (↑ at 3 and 2) (ii) Find the cross correlation of two finite length sequences: $x(n) = \{2, 3, 1, 4\}$ and $y(n) = \{1, 3, 2, 1\}$	10M
Q.3(A)		State and prove the following DFT properties (i) Periodicity (ii) Linearity (iii) Time reversal (iv) Circular frequency shift	10M
		OR	
Q.3(B)		Determine the impulse response of the system described by the difference equation $y(n) - 3y(n-1) - 4y(n-2) = x(n) + 2x(n-1)$ using Z-transform	10M
Q.4(A)		Describe various types of Linear phase FIR Transfer functions with suitable example.	10M
		OR	
Q.4(B)		Realize the system with difference equation $y(n) = (\frac{3}{4})y(n-1) - (1/8)y(n-2) + x(n) + (1/3)x(n-1)$ in cascade form.	10M

Q.5(A) Design a filter with 10M

$$H_d(e^{j\omega}) = \begin{cases} e^{-j3\omega} & , -\pi/4 \le \omega \le \pi/4 \\ 0 & , \ \pi/4 \le |\omega| \le \pi \end{cases}$$

using a Hamming with N = 7.

OR

Q.5(B) Design a Butterworth digital filter using bilinear transformation. The specifications of the desired low pass filter are: 10M

$$0.9 \le |H(\omega)| \le 1 \ ; \quad 0 \le \omega \le \pi/2$$
$$|H(\omega)| \le 0.2 \ ; \quad 3\pi/4 \le \omega \le \pi$$

with T= 1 sec.

6(A) Explain the following 10M

(i) MAC Unit
(ii) Pipelining
used in DSP processors.

OR

Q.6(B) Describe addressing modes TMS320C67XX DSP processor. 10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE402

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

PATTERN RECOGNITION AND ITS APPLICATIONS

(ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	What is activation function in neural network?	1M
	ii.	Define clustering.	1M
	iii.	What is the important feature of Hierarchical clustering approach?	1M
	iv	What is the selection procedure of centroid for C-mean method?	1M
	v.	What is the application of string based classification.	1M
	vi	What is binary image?	1M
	vii.	What is the meaning of outlier in data?	1M
	viii.	Define Histogram used in pattern recognition.	1M
	ix.	What is optimization?	1M
	x.	What is fuzzy classes?	1M
Q.2(A)		Explain in detail about design of pattern recognition system.	10M
		OR	
Q.2(B)		Enlist some gray level features and binary features of an object and explain the role of feature selection in pattern classification.	10M
Q.3(A)		How many schemes are available in Hierarchical clustering algorithm? Give brief (any one) in detail.	10M
		OR	
Q.3(B)		What is K-means clustering algorithm? Design K-means clustering for the following given data. Z = [5 5 6 10 10 20 20 24 22 29 35 45 42 42 43 44 70 72 69].	10M
Q.4(A)		Explain in detail about grammar, application modes, types and productions.	10M
		OR	
Q.4(B)		What is grammatical method in pattern classification? Also explain it with examples.	10M
Q.5(A)		Explain at least two function approximation techniques and discuss its use.	10M
		OR	
Q.5(B)		Explain how the Karhunen–Loeve (KL) transform is useful in representing the data accurately in a lower-dimensional space.	10M
Q.6(A)		Explain handwritten digit recognition system with its suitable features and optimal classifier.	10M
		OR	
Q.6(B)		What is genetic algorithm? Explain the use of genetic algorithm in pattern recognition system with suitable example.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE405

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

NETWORKS AND TRANSMISSION LINES

(ECE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	What is Transfer function?	1M
	ii.	Define Driving point impedance.	1M
	iii.	Note the cutoff frequency of constant k low pass filter.	1M
	iv	Define Cutoff frequency.	1M
	v.	Write the main function of Equalizer?	1M
	vi	Define attenuator.	1M
	vii.	List out the primary constants of a transmission line.	1M
	viii.	Define transmission line.	1M
	ix.	Mention the minimum and maximum values of reflection coefficient.	1M
	x.	Define Reflection Coefficient.	1M
Q.2(A)	Note down driving point, transfer functions and Properties of Driving Point Functions.		10M
	OR		
Q.2(B)	Outline the characteristic impedance of symmetric T- network in the pass and stop bands.		10M
Q.3(A)	Design a high pass filter having a cut-off frequency of 1 kHz with a load resistance of 600 Ω.		10M
	OR		
Q.3(B)	Describe the steps of constant k-low pass filter using both π and T-sections.		10M
Q.4(A)	Outline a symmetrical lattice attenuator having characteristic impedance of 800Ω and attenuation of 20dB.		10M
	OR		
Q.4(B)	Outline the T-pad attenuator have an attenuation of 80dB and to work in a line of 300Ω impedance.		10M
Q.5(A)	Describe the distributed element model of a transmission line and derive the relevant expressions.		10M
	OR		
Q.5(B)	Define distortion less and lossless transmission lines? Write the properties of primary and secondary constants of these transmission lines.		10M
Q.6(A)	Write short notes on i) Standing wave ii) Reflection loss.		10M
	OR		
Q.6(B)	Design the single stub matching circuit for a lossless transmission with Z_0=50Ω and Z_L=90+j60 Ω using a short circuit stub.		10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSE110/18CST107

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

COMPUTER ORGANIZATION AND ARCHITECTURE

(Common to CSE, CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Define CPU time.	1M
	ii.	Convert $(eca8\ 6420)_{hex}$ to binary number system.	1M
	iii.	What is 5ED4-07A4 when these values represent unsigned 16-bit hexadecimal numbers? The result should be written in hexadecimal.	1M
	iv	List two multiply instructions in MIPS.	1M
	v.	What is the purpose of Program Counter?	1M
	vi	What are Control Hazards?	1M
	vii.	Define speculation.	1M
	viii.	What value the reservation station holds?	1M
	ix.	What is the principle of temporal locality?	1M
	x.	Define hit rate.	1M
Q.2(A)		Consider two different implementations of the same instruction set architecture. The instructions can be divided into four classes according to their CPI (class A, B, C, and D). P1 with a clock rate of 2.5 GHz and CPIs of 1, 2, 3, and 3, and P2 with a clock rate of 3 GHz and CPIs of 2, 2, 2, and 2. Given a program with a dynamic instruction count of 1.0E6 instructions divided into classes as follows: 10% class A, 20% class B, 50% class C, and 20% class D, which implementation is faster? a. What is the global CPI for each implementation? b. Find the clock cycles required in both cases.	10M
		OR	
Q.2(B)		What is the purpose of addressing modes? Explain various addressing mode techniques.	10M
Q.3(A)		How to represent the signed integer numbers? Perform arithmetic addition and subtraction using 2's complement. In this how to handle overflow?	10M
		OR	
Q.3(B)		Explain the generation of higher order functions from square roots to transcendental functions.	10M
Q.4(A)		Describe clocking methodology of a Basic MIPS implementation.	10M
		OR	
Q.4(B)		How exceptions are handled in the MIPS architecture. Explain?	10M
Q.5(A)		Explain in detail about Dynamic multiple issue processors.	10M
		OR	
Q.5(B)		Write short notes on following a. Hardware Multithreading b. Multicore Processors	10M
Q.6(A)		Distinguish between Static RAM and Dynamic RAM.	10M
		OR	
Q.6(B)		What is the need for I/O Processor? Explain the working style of I/O processor.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSE111/18CST108

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

COMPUTER NETWORKS

(Common to CSE, CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	What is the purpose of hamming code?	1M
	ii.	What are the responsibilities of data link layer?	1M
	iii.	What is polling?	1M
	iv	Mention some of the physical properties of Ethernet.	1M
	v.	What is a virtual circuit?	1M
	vi	How the packet cost referred in distance vector and link state routing?	1M
	vii.	What are the functions of transport layer?	1M
	viii.	What is the difference between congestion control and flow control?	1M
	ix.	How is HTTP related to WWW?	1M
	x.	What is the purpose of HTML?	1M
Q.2(A)		Give the significance of Hamming Code error correction and also explain with an example (110101100011001).	10M
		OR	
Q.2(B)		Illustrate Go Back-N ARQ implementation process and In Go Back-3, there are 11 frames to be send and if every 5th frame that is being transmitted is lost then how many transmissions are required?	10M
Q.3(A)		Explain about the different approaches of farming methods in data link layer.	10M
		OR	
Q.3(B)		How Controlled access can be implemented in networks? Explain any two methods.	10M
Q.4(A)		Find the class of each IP address and give suitable explanation. i) 227.12.14.87 ii) 193.14.56.22 iii) 14.23.120.8 iv) 252.5.15.111 v) 134.11.78.56vi) 172.18.58.1 vii) 00000000 11110000 11111111 00110011 viii) 10000000 11110000 11111111 00110011	10M
		OR	
Q.4(B)		An ISP is granted a block of addresses starting with 190.100.0.0/16 (65,536 addresses). The ISP needs to distribute these addresses to three groups of customers as follows: i. The first group has 64 customers; each needs 256 addresses. ii. The second group has 128 customers; each needs 128 addresses iii. The third group has 128 customers; each needs 64 addresses. Design the sub blocks and find out how many addresses are still available after these allocations.	10M

Q.5(A)	Explain about the TCP sliding window protocol with neat diagram.	10M
	OR	
Q.5(B)	Explain the following i) TCP header ii) Adaptive flow control	10M
Q.6(A)	Explain about the fundamentals of Electronic Mail and the architecture of Email System.	10M
	OR	
Q.6(B)	Explain how SMTP protocol is used in E-mail applications.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18CSE109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – Sep' 2021

(Regulations: R18)

FORMAL LANGUAGE AND AUTOMATA THEORY

(CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Define ε-NFA.	1M
	ii.	State the Application of Automata Theory.	1M
	iii.	List the Closure properties for CFLs.	1M
	iv	What are the applications of PDA?	1M
	v.	What are the components of Turing Machine?	1M
	vi	Define Universal Turing Machine.	1M
	vii.	Compare the machine vs language.	1M
	viii.	Define Generative Grammar.	1M
	ix.	What is Recursive and Recursively enumerable language?	1M
	x.	When a Language is said to be decidable?	1M
Q.2(A)		Design an NFA for a language that accepts all strings over {0, 1} in which the second last symbol is always '1'. Then convert it to its equivalent DFA.	10M
		OR	
Q.2(B)		Apply Pumping Lemma and Find whether the following is regular or Non-regular Language i. $L=\{a^m b^n \mid m,n \geq 0\}$ ii. $L = \{a^m b^n \mid m \text{ is divisible by } n\}$	10M
Q.3(A)		What is Context Free Grammar? Draw the Leftmost and Rightmost Derivation tree for the given CFG and find the yield of the respective tree structure. S →aAS | aSS |ε, A →SbA | ba	10M
		OR	
Q.3(B)		What is Ambiguity in Grammar and How will you eliminate the ambiguity in the CFG. Give appropriate Example.	10M
Q.4(A)		Design a TM for recognizing the language of non-palindromes over the alphabet {*a, b*}. Show the moves of the TM for the string *abba* and *ababba*.	10M
		OR	
Q.4(B)		Prove that if M is a non-deterministic TM, then there is a deterministic TM M_1 such that $T(M) = T(M_1)$, with the relevant illustration.	10M

Q.5(A) Find the Grammar generating the set accepted by a linear bounded automaton M whose transition table is given by, 10M

Present State	Tape Input Symbol			
	¢	$	0	1
→ q_1	¢Rq_1		1Lq_2	0Rq_2
q_2	¢Rq_4		1Rq_3	1Lq_1
q_3		Lq_1$	1Rq_3	1Rq_3
*q_4		Halt	0Lq_4	0Rq_4

OR

Q.5(B) Explain the Equivalence of Regular Grammar and Finite Automata, with appropriate example. 10M

Q.6(A) Find whether the lists M = (abb, aa, aaa) and N = (bba, aaa, aa) have a Post Correspondence Solution? 10M

OR

Q.6(B) Does the PCP with two lists x = (b, bab^3, ba) and y=(b^3, ba, a) have a solution? Explain. 10M

***** END*****

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18CSE112

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

SOFTWARE ENGINEERING

(CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Distinguish between process and methods.	1M
	ii.	Define System Modeling.	1M
	iii.	What is known as SRS review?	1M
	iv	List any two characteristics of good SRS document?	1M
	v.	How do you describe software interface?	1M
	vi	How the requirements are collected for user interface of software?	1M
	vii.	What is Cyclomatic complexity? What is its purpose?	1M
	viii.	What is static and dynamic testing?	1M
	ix.	What is software reliability and how this parameter helps in managing software quality?	1M
	x.	Define Risk Refinement.	1M
Q.2(A)		Explain the various levels of capability maturity model integration.	10M
		OR	
Q.2(B)		Explain how both waterfall model and prototyping model can be accommodated in the spiral process model.	10M
Q.3(A)		What is requirements elicitation? Briefly describe the various activities performed in requirements elicitation phase with an example.	10M
		OR	
Q.3(B)		Explain in detail about Behavioral models and object model with an example.	10M
Q.4(A)		i) Distinguish between coupling and cohesion? How do they effect software design? ii) State and explain the generic tasks that are always performed in user interface design.	10M
		OR	
Q.4(B)		Draw the basic structure of analysis model and explain each entity in detail.	10M
Q.5(A)		What do you mean by boundary value analysis? Give two examples of boundary value testing.	10M
		OR	
Q.5(B)		Discuss about metrics for design model and source code.	10M
Q.6(A)		What are the different ways in which quality can be reviewed? Explain them.	10M
		OR	
Q.6(B)		Explain about formal technical reviews.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSE404

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

WEB TECHNOLOGIES

(CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Write the expansion for the following. (i) ARPA (ii) POP3 (iii) MIME (iV) IMAP	1M
	ii.	What are Secure Servers?	1M
	iii.	List out some of the built-in objects of JavaScript.	1M
	iv	What are the two components of Java script implementation?	1M
	v.	What is DOM?	1M
	vi	What is Event Listener?	1M
	vii.	What is JSP?	1M
	viii.	What are the components of XSL?	1M
	ix.	What is meant by WSDL?	1M
	x.	What is port?	1M
Q.2(A)		Elaborate the way in which data can be presented in a tabular form using HTML.	10M
		OR	
Q.2(B)		Explain the capabilities of web client and web server.	10M
Q.3(A)		Write a Java Script to find and print the largest and smallest values among 10 elements of an array.	10M
		OR	
Q.3(B)		Discuss the properties of mouse events associated with DOM2 with an example.	10M
Q.4(A)		Explain in detail how the dynamic content generation by a servlet with example.	10M
		OR	
Q.4(B)		Write a servlet to illustrate the principles of Cookies, Explain.	10M
Q.5(A)		Write XSLT code to display employee details in a Table from which is stored is XML.	10M
		OR	
Q.5(B)		Write a client server JSP program to find simple interest and display the result in the client.	10M
Q.6(A)		Explain the principles of WSDL, XML and SOAP and their interaction between them in web services applications.	10M
		OR	
Q.6(B)		Explain what are steps involved to create a web service. Give an Example.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSE402

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

MOBILE COMPUTING

(CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	What is the need of handover in GSM?	1M
	ii.	Write the application of mobile computing?	1M
	iii.	Define HLR.	1M
	iv	Difference between HLR and VLR.	1M
	v.	Define mobile IP.	1M
	vi	What is meant by co-located COA?	1M
	vii.	What are all the major responsibility of TCP?	1M
	viii.	Mention the reason for congestion?	1M
	ix.	List the applications of Bluetooth	1M
	x.	Define master-slave communication.	1M
Q.2(A)		How the handover decision takes place in GSM depending on receiver signal strength? Explain.	10M
		OR	
Q.2(B)		Explain briefly about localization and calling.	10M
Q.3(A)		Compare between SDMA/TDMA/FDMA and CDMA	10M
		OR	
Q.3(B)		Give the main reason for implementing specialized MAC in wireless networks.	10M
Q.4(A)		Describe briefly about agent registration.	10M
		OR	
Q.4(B)		Explain briefly about DHCP.	10M
Q.5(A)		How a packet is delivered in Indirect TCP? Explain. Also discuss the advantages and disadvantages of I-TCP.	10M
		OR	
Q.5(B)		Describe briefly slow start and fast retransmit.	10M
Q.6(A)		Elaborate briefly Bluetooth security components and protocols.	10M
		OR	
Q.6(B)		With neat sketch explain the Architecture of WAP and its operational support.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSIT108

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

MICROPROCESSOR AND INTERFACING

(CSIT)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Find the 9's and 10's complement of the decimal number 4523.	1M
	ii.	List out the different parts of a Micro Computer?	1M
	iii.	What is the necessity of Overflow Flag?	1M
	iv	Mention the memory capacity of 8086 microprocessor?	1M
	v.	Distinguish between Maskable and Non-Maskable interrupts.	1M
	vi	Note the meaning of software interrupt INT 02?	1M
	vii.	What is the clock frequency of 8254?	1M
	viii	How many I/O ports are there for 8255?	1M
	ix.	Expand IVT?	1M
	x.	Define Microprocessor.	1M
Q.2(A)	i) Describe the working of logic gates with truth tables. ii) Write about the components of microcomputer and buses		10M
	OR		
Q.2(B)	Convert the following numbers into decimal form: (i) $(100011010.0101)_2$ (ii) $(236.5)_{16}$ (iii) $(216.24)_8$ (iv) $(ABAB.C)_{16}$		10M
Q.3(A)	Write an 8086 ALP Program to search a number from an array.		10M
	OR		
Q.3(B)	Draw the architecture of 8086 microprocessor with a neat block diagram and discuss about each block in detail.		10M
Q.4(A)	Explain I/O Read and Write machine cycles of 8086 with timing diagrams.		10M
	OR		
Q.4(B)	Define Interrupt? Describe type of interrupts in 8086 and note the function of interrupt service routine.		10M
Q.5(A)	Draw the pin-diagram and architecture of Programmable Interval Timer (8254) with neat sketches.		10M
	OR		
Q.5(B)	Outline the interfacing of an ADC with 8086 microprocessor with neat sketches.		10M
Q.6(A)	Write short notes on i) Logic Analyzer ii) In-circuit Emulator.		10M
	OR		
Q.6(B)	What is DMA? Describe the architecture of DMA controller.		10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSIT109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

SOFTWARE ENGINEERING

(CSIT)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Distinguish between software process and project.	1M
	ii.	What is an agile process?	1M
	iii.	What is requirement elicitation?	1M
	iv	What is the need of documenting in the software development?	1M
	v.	Differentiate coupling and cohesion.	1M
	vi	What is the use of interface analysis?	1M
	vii.	Distinguish between verification and validation.	1M
	viii.	Define black box testing strategy?	1M
	ix.	Give the different categories of risks.	1M
	x.	What is the importance of software reviews?	1M
Q.2(A)		Explain why incremental development is the most effective approach for developing business software systems. Why is this model less appropriate for real-time systems engineering?	10M
		OR	
Q.2(B)		Explain agile framework process i) Scrum Model ii) Adaptive Process Model.	10M
Q.3(A)		What are the goals of Requirement Engineering? What are the tasks performed in requirement engineering?	10M
		OR	
Q.3(B)		i) Differentiate between functional and non-functional requirements. ii) List and explain the object models in brief.	10M
Q.4(A)		Describe the process of Translating requirements into design model with a neat diagram.	10M
		OR	
Q.4(B)		Explain about object oriented analysis and design principle.	10M
Q.5(A)		What is testing? Explain the different levels of testing.	10M
		OR	
Q.5(B)		Discuss about COCOMO II model for software estimation.	10M
Q.6(A)		Illustrate Capability Maturity Model with suitable diagram. Discuss its role in SQA	10M
		OR	
Q.6(B)		Write and explain the metrics for software maintenance.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSIT110/18CST109

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – Sep' 2021

(Regulations: R18)

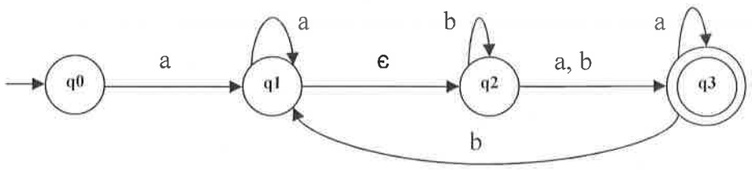
FORMAL LANGUAGE AUTOMATA AND COMPILER DESIGN

(CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	Write the expansion for LL(1).	1M
	ii.	How to eliminate the left recursion?	1M
	iii.	Write the FOLLOW of S→aSbS/bSaS/ϵ	1M
	iv	Define Abstract Syntax Tree.	1M
	v.	Define Unrestricted Grammar.	1M
	vi	What is uniqueness check?	1M
	vii.	List the characteristics of Peephole optimization.	1M
	viii.	What is copy propagation?	1M
	ix.	Specify the properties of Object code generation	1M
	x.	Differentiate Abstract Syntax Tree and DAG representations of intermediate code.	1M
Q.2(A)		Design NFA for a language that accepts all Strings over {a,b} in which the second last symbol is always 'b'. Then convert it to its equivalent DFA.	10M
		OR	
Q.2(B)		Convert the following NFA - ϵ into DFA. Check the acceptability of the string aaba	10M



Q.3(A)		Construct SLR parsing table for the following grammar. E → E **sub** E **sup** E / E **sub** E / E **sup** E / {E} / c Resolve the ambiguities by assuming the operators sub and sup with same precedence and right associative. Consider the production E → E **sub** E **sup** E as special production and give higher precedence in case of conflicts	10M
		OR	
Q.3(B)		What is intermediate code Representation? Explain Quadruple, Triple and Indirect Triple with the help of an example.	10M
Q.4(A)		Distinguish the different types of grammars in Chomsky Hierarchy of Languages	10M
		OR	
Q.4(B)		Discuss in detail on Type checking and type conversion in with appropriate examples	10M

Q.5(A)	Explain various code optimization techniques in detail.	10M
	OR	
Q.5(B)	Discuss following code optimization techniques: i. redundant-instruction elimination ii. Unreachable code elimination.	10M
Q.6(A)	Generate the three-address code using Quadruple for the following example and write the appropriate machine code generated for each statement. a=b*-c + b*-c	10M
	OR	
Q.6(B)	Discuss the concept of register allocation and assignment in detail with relevant example.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CSIT402

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

MOBILE COMPUTING

(CSIT)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	How radio interface works with GSM?	1M
	ii.	What are the novel applications of mobile computing?	1M
	iii.	Compare between near and far terminals.	1M
	iv	How are guard spaces realized between users in CDMA?	1M
	v.	Name the entities of DHCP.	1M
	vi	Define Tunneling?	1M
	vii.	What is TCP?	1M
	viii.	List any two disadvantages of Traditional TCP.	1M
	ix.	Define Bluetooth.	1M
	x.	List features of WML?	1M
Q.2(A)		What is meant by Mobile computing? Explain the limitations and architecture of mobile computing.	10M
		OR	
Q.2(B)		Discuss the functions of authentication and encrypted in GSM.	10M
Q.3(A)		What do you mean by medium access control? Which layer is responsible for it and explain the protocols relevant to MAC?	10M
		OR	
Q.3(B)		Explain the term interference in the space, time, frequency and code domain. What are countermeasures in SDMA, TDMA, FDMA AND CDMA systems?	10M
Q.4(A)		List the entities of Mobile IP and Describe data transfer from a mobile node to a fixed node and vice versa.	10M
		OR	
Q.4(B)		Illustrate packet delivery to and from the mobile node with an example.	10M
Q.5(A)		Explain various kinds of TCP in mobile transport layer with an example each.	10M
		OR	
Q.5(B)		Briefly explain the snooping TCP with a neat diagram.	10M
Q.6(A)		Explain the functions of the components of the WAP architecture	10M
		OR	
Q.6(B)		List and explain the wireless application environment in detail.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CST110

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

AI TOOLS, TECHNIQUES AND APPLICATIONS

(CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	List out the applications of AI.	1M
	ii.	What is linear regression?	1M
	iii.	What is a Virtual Assistant?	1M
	iv	Write the need of NL Interface.	1M
	v.	Define Segmentation.	1M
	vi	Define noise.	1M
	vii.	What is gradient descent?	1M
	viii.	How to reduce the error in cost function?	1M
	ix.	Mention the role of deep learning in smart applications.	1M
	x.	Write the behavior cloning in autonomous driving	1M
Q.2(A)		Explain working of logistic regression operation with an algorithm.	10M
		OR	
Q.2(B)		Discuss in detail about the search strategies followed in AI with examples.	10M
Q.3(A)		Illustrate the phases and modules of the Natural Language Understanding with a block diagram.	10M
		OR	
Q.3(B)		How to Build a Chatbot and its designing elements? Explain by considering an example.	10M
Q.4(A)		Discuss in detail about color Enhancement techniques and Fourier transforms.	10M
		OR	
Q.4(B)		Explain step by step process for the application Optical Character Recognition.	10M
Q.5(A)		Explain architecture of RNN and compare with CNN.	10M
		OR	
Q.5(B)		How to design and develop an application using Keras? Illustrate the process.	10M
Q.6(A)		Explain the neural network architecture using in autonomous vehicles.	10M
		OR	
Q.6(B)		Discuss in detail about the AI approaches followed in smart agriculture.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18CST401

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year I Semester (R18) Supplementary End Semester Examinations – September 2021

(Regulations: R18)

DATA MINING AND DATA WAREHOUSING

(CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either Part-A or B only

Q.1	i.	List the Major issues in Data Mining.	1M
	ii.	State the primitive tasks of Data Mining.	1M
	iii.	Define association rule mining	1M
	iv	What is a transaction in association rule mining?	1M
	v.	Define classification.	1M
	vi	List the measure to calculate the performance of the classifier.	1M
	vii.	What is the purpose of cluster analysis?	1M
	viii.	State the term outlier	1M
	ix.	What is social network analysis in data mining?	1M
	x.	What is structured data?	1M
Q.2(A)		Explain the Classification of Data Mining systems.	10M
		OR	
Q.2(B)		List and explain the role of Data warehousing in Data mining.	10M
Q.3(A)		Explain the rule based evaluation measures for frequent pattern mining	10M
		OR	
Q.3(B)		Discuss the functionalities of constraint – based association mining.	10M
Q.4(A)		Explain the Classification by Decision Tree Induction.	10M
		OR	
Q.4(B)		Illustrate the Classification by Back propagation.	10M
Q.5(A)		List and explain the types of Data in Cluster Analysis.	10M
		OR	
Q.5(B)		Discuss the Model-Based Clustering Methods.	10M
Q.6(A)		Compare and contrast the Web mining and Text mining	10M
		OR	
Q.6(B)		How data mining techniques can be used in social network analysis? Discuss	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ENG3M02

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III –I - MOOCS (2018 Admitted) (R18) Supplementary End Semester Examinations – SEP' 2021

DEVELOPING SOFT SKILLS & PERSONALITY

(Common to ALL)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only

Q.1(A)	Write about the importance of Soft-skills and explain its types.	12M
	OR	
Q.1(B)	Discuss Conflict Resolution and explain how to seek a Win- Win Solution	12M
Q.2(A)	Explain the importance of Active Listening and what are its barriers?	12M
	OR	
Q.2(B)	Discuss the various Telephonic Etiquette.	12M
Q.3(A)	Write a brief note on E-mail Principles	12M
	OR	
Q.3(B)	Explain the various components of Non-Verbal Communication	12M
Q.4(A)	s the importance of Effective Communication and suggest measures to avoid miscommunication?	12M
	OR	
Q.4(B)	Explain the Role of Body language during Group Discussions.	12M
Q.5(A)	Discuss the importance of Reading Skills and Effective Reading.	12M
	OR	
Q.5(B)	Is Non Verbal Communication important during Interviews? Explain	12M

*** END***

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ENG3M03

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III-I - MOOCS (2018 Admitted) (R18) Supplementary End Semester Examinations – SEP 2021

SOFT SKILL DEVELOPMENT

(Common to ALL)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either A or B only

Q.1(A)	Explain Verbal and Non Verbal Communication	12M
	OR	
Q.1(B)	Write Short Notes on a) Listening Skills	12M
Q.2(A)	Define goal setting and explain SMART goal setting method with your personal example	12M
	OR	
Q.2(B)	Discuss about Motivation and its types?	12M
Q.3(A)	What is the objective of conducting GD in Interview Process? Discuss about Dos and Don'ts in Group discussion and its Benefits	12M
	OR	
Q.3(B)	Define the Stages involved in Effective Presentations	12M
Q.4(A)	List out 12 Qualities you must have to Attend an Interview and Explain about types of interview?	12M
	OR	
Q.4(B)	Difference between CV and Resume. Prepare your own CV for Applying ABC Company	12M
Q.5(A)	Define Etiquette ? Explain (A)Email Etiquette (B) Grooming Etiquette	12M
	OR	
Q.5(B)	Explain Email Etiquette and Write an Email for Appling for Software Engineering position in XYZ Company?	12M

*** END***