AR18

CODE: 18HST402 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/Supplementary Examinations, November, 2022

HUMAN VALUES

(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Write a note on Work Ethics with examples.	6M
	b)	Differentiate between Honesty and Value time	6M
		(OR)	
2.	a)	Explain the importance of Value Education in your own words.	6M
	b)	Explain the Spirituality with help of suitable examples	6M

UNIT-II

3.	a)	Define material 'Body'? Explain the importance of material 'Body'	6M
	b)	Define needs of Self ('I')? Explain with real time examples.	6M
		(OR)	
4.	a)	Explain the difference between Harmony and Human Being	6M
	b)	Define Body? Explain the Body as an instrument of 'I'	6M

UNIT-III

5.	a)	Define human interaction? Explain the importance of human interaction in your own words.	6M
	b)	How Trust and Respect as the foundational values of relationship? Explain with examples	6M
		(OR)	
6.	a)	Differentiate between trust and respect with real time examples	6M
	b)	Briefly explain the nature of harmony in the Family.	6M

UNIT-IV

7.	a)	Briefly explain about the Harmony in the Nature and Existence	6M
	b)	Write a note on Holistic perception of harmony and different levels of existence	6M
		(OR)	
8.	a)	What do you understand by self-regulation in nature? Explain with examples.	6M
	b)	Define Interconnectedness? Explain Interconnectedness in your own words	6M

UNIT-V

9.	a)	What do you understand by Natural acceptance of Human Values	6M
	b)	Define Ethical Human Conduct? Explain the importance of Ethical Human Conduct.	6M
		(OR)	
10.	a)	Write a note on Holistic understanding of Harmony	6M
	b)	Define Humanistic Education? Explain the importance of Humanistic Education	6M

***

AR18

CODE: 18MEE443 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/Supplementary Examinations, November, 2022

INDUSTRIAL HYDRAULICS AND PNEUMATICS

(Mechanical Engineering)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	Explain the construction and working of an external gear pump.	6M
	b)	Mention the different types of fluid power systems and list at least two practical Applications of each of these systems.	6M
		(OR)	
2.	a)	Differentiate between first, second and third class lever systems used with hydraulic cylinders to drive loads.	6M
	b)	Give any four important properties of hydraulic fluids.	6M

UNIT-II

3.	a)	Explain any one type of accumulator circuits with sketch.	6M
	b)	Draw a simple hydro-pneumatic intensifier and explain its working principle.	6M
		(OR)	
4.	a)	Explain any two types of flow control valves with neat sketches.	6M
	b)	Mention the applications and advantages of accumulator.	6M

UNIT-III

5.	a)	Explain the construction and function of plastic injection moulding machine circuit.	6M
	b)	Explain the construction and function of standard manifold for dual speed circuit.	6M
		(OR)	
6.	a)	Explain the speed control circuit for hydraulic motor using meter-in and meter-out circuits.	12M

UNIT-IV

7.	a)	List out the advantages of using pneumatic system.	4M
	b)	Describe the working principle along with graphic symbols of the following i) Directional control Three - Way Valve ii) Shuttle valve	8M
		(OR)	
8.	a)	Differentiate rotary and reciprocating compressors.	6M
	b)	Sketch and explain Pilot operated solenoid valve	6M

UNIT-V

9.	a)	Differentiate a control air from signal air with illustration.	6M
	b)	Explain the construction and function of double acting pneumatic circuit.	6M
		(OR)	
10.	a)	Sketch and Explain pneumatic speed control circuits.	6M
	b)	Explain the construction and function of pressure sensing valve.	6M

***

AR16

CODE: 16CE4029 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular/Supplementary Examinations, November, 2022

TRAFFIC ENGINEERING

(Civil Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	What are the critical components that interact in traffic system? Discuss the road characteristics that effect the traffic system	7M
	b)	What are the purposes of traffic volume study	7M
		(OR)	
2.	a)	If the spot speeds are 50, 40, 60, 54 and 45 kmph, then find the time mean speed and space mean speed.	7M
	b)	What is an Off-street parking? What are the different types of off-street parking facilities?	7M

UNIT-II

.	a)	Compare basic capacity and possible capacity of a highway traffic lane. List the operating conditions on which the capacity measure depends on.	7M
	b)	List the factors affecting level of service of a facility.	7M
		(OR)	
4.	a)	Determine the importance of capacity and Level of service (LOS) of a facility in traffic engineering.	7M
	b)	Determine the factors affecting practical capacity	7M

UNIT-III

	a)	The average normal flow of traffic on cross roads A and B during design perios are 400 and 250 PCU/hr; the saturation flow values on these roads are estimated as 1250 and 1000 PCU/hr respectively. The all-red time required for pedestrian crossings is 12 sec. Design two phase traffic signal with pedestrian crossing by Webster's method.	14M
		(OR)	
6.	a)	What is the need for traffic regulation? What are the traffic regulations concerning the driver	7M
	b)	Determine the advantages of channelized intersection.	7M

UNIT-IV

7.	a)	What are the effects of noise on human beings?	7M
	b)	What are the measures for controlling air pollution?	7M
		(OR)	
8.	a)	Discuss briefly on the visual intrusion and degrading the aesthetics by traffic in urban space	7M
	b)	What are the guidelines to be kept in view in planning new facilities or improvement of existing ones to keep the effects of severance and land consumption as low as possible?	7M

UNIT-V

9.	a)	Discuss briefly the standards and specifications for road marking.	7M
	b)	Discuss briefly on the classification of road markings.	7M
		(OR)	
10.	a)	Discuss briefly on the informatory signs.	7M
	b)	What are the various regulatory signs?	7M

AR16

CODE: 16ME4026 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B. Tech I Semester Supplementary Examinations, November, 2022

INDUSTRIAL HYDRAULICS AND PNEUMATICS

(Mechanical Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	List out any four advantages of fluid power system?	8M
	b)	Define pump? How pumps are classified? What are the factors to be considered for pump selection?	6M
		(OR)	
2.	a)	Give any four important properties of hydraulic fluids	8M
	b)	Define gear pump? How gear pumps are classified?	6M
		UNIT-II	
3.	a)	What are the different types of accumulators in use? Draw the circuit connections of a hydraulic accumulator.	8M
	b)	Draw symbolic representations of (i) Pressure reducing valve; (ii) Counter balance valve; and (iii) Sequence valve	6M
		(OR)	
4.	a)	What are the formulae used in selecting the size of an accumulator?	6M
	b)	Draw a simple hydro-pneumatic intensifier and explain its working principle.	8M
		UNIT-III	
5.		Explain the speed control circuit for hydraulic motor using meter-in and meter-out circuits.	14M
		(OR)	
6.	a)	Draw a sketch and mark the standard accessories in a hydraulic power unit.	8M
	b)	Evaluate the pump capacity required in case of clamping for the hydraulic power unit having 8cm clamping cylinder bore diameter and 1.5m/min clamping speed. Estimate the working pressure for the 600kg load of the clamping cylinder.	6M
		UNIT-IV	
7.	a)	Mention seven applications in which compressed air is used?	7M
	b)	Mention the ways to activate a 3/2 pneumatic direction control valve	7M
		(OR)	
8.	a)	Mention the prime movers, and also the possibilities of linear/rotary motions using pneumatic, hydraulic and electrical systems.	6M
	b)	Present the graphic symbols (i) Push button-operated, spring return; (ii) Single-solenoid, spring return; and (iii) double solenoid, for 5/2 direction control valve	8M
		UNIT-V	
9.	a)	Differentiate a control air from signal air with illustration.	8M
	b)	Mention the alternate names given to an AND gate and an OR gate. Is it possible to use both AND gate and OR gate in a single circuit? Highlight the essential difference in the function of an AND gate as compared to an OR gate.	6M
		(OR)	
10.	a)	Sketch and Explain pneumatic speed control circuits.	8M
	b)	Describe briefly pneumatic vacuum system with three applications.	6M