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

Question Paper Code: 18EEE4M05C

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Regular End Semester Examinations –SEPTEMBER 2021

NON-CONVENTIONAL ENERGY RESOURCES

(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

			Marks	CO	BL
Q.1	i.	Why does the presence of carbon dioxide gas in the atmosphere affect the global temperature?	1M	CO1	2
	ii.	The region of the atmosphere where human activity has the most impact is _____	1M	CO1	1
	iii.	A p-n junction semiconductor material is kept in the sunlight for some time. What will be the biasing condition of this junction?	1M	CO2	2
	iv	Which region of a p-n junction is critical to the capture of solar energy by preventing recombination?	1M	CO2	2
	v.	What is Betz limit?	1M	CO3	1
	vi	What are the most important requirements for the water photo-catalysis?	1M	CO3	1
	vii.	What is the disadvantage of dendrite growth in Lithium battery?	1M	CO4	2
	viii.	What is Charcoal?	1M	CO4	1
	ix.	What is regenerative breaking?	1M	CO5	1
	x.	Write down the differences between capacitor and super capacitor.	1M	CO5	1
Q.2(A)		Describe the different kinds of energy sources available in India and discuss the energy consumption pattern.	10M	CO1	2
		OR			
Q.2(B)		Classify the different types of energy sources. Write about the worldwide consumption pattern of these sources.	10M	CO1	2
Q.3(A)		Write solar PV cell principal of operation and explain the IV characteristics, Isc, Voc and FF and their relations.	10M	CO2	2
		OR			
Q.3(B)		Describe in detail about the components of solar thermal energy systems in context with power generation.	10M	CO2	1
Q.4(A)		Describe in detail about the relation between wind speed and power. With the help of equations, derive the power extracted from the wind.	10M	CO3	2
		OR			
Q.4(B)		Discuss the working principle of horizontal axis wind turbine and vertical axis wind turbine in detail.	10M	CO3	2

Q.5(A)	Mention the various sources of biomass energy. What are the various crop residues used for biomass.	10M	CO4	2
	OR			
Q.5(B)	Explain in detail about the geothermal power plant with neat diagram.	10M	CO4	2
Q.6(A)	Briefly explain the concepts of super-capacitors in terms of charging & discharging properties and energy storage.	10M	CO5	2
	OR			
Q.6(B)	Briefly explain the concept of flywheel energy storage system.	10M	CO5	2

*** END***

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

Question Paper Code: 18ME4M06C

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Regular End Semester Examinations –SEPTEMBER 2021

NON-CONVENTIONAL ENERGY RESOURCES

(ME)

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

			Marks	CO	BL
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	iv	Which region of a p-n junction is critical to the capture of solar energy by preventing recombination?	1M	CO2	2
	v.	What is Betz limit?	1M	CO3	1
	vi	What are the most important requirements for the water photo-catalysis?	1M	CO3	1
	vii.	What is the disadvantage of dendrite growth in Lithium battery?	1M	CO4	2
	viii.	What is Charcoal?	1M	CO4	1
	ix.	What is regenerative breaking?	1M	CO5	1
	x.	Write down the differences between capacitor and super capacitor.	1M	CO5	1
Q.2(A)		Describe the different kinds of energy sources available in India and discuss the energy consumption pattern.	10M	CO1	2
		OR			
Q.2(B)		Classify the different types of energy sources. Write about the worldwide consumption pattern of these sources.	10M	CO1	2
Q.3(A)		Write solar PV cell principal of operation and explain the IV characteristics, Isc, Voc and FF and their relations.	10M	CO2	2
		OR			
Q.3(B)		Describe in detail about the components of solar thermal energy systems in context with power generation.	10M	CO2	1
Q.4(A)		Describe in detail about the relation between wind speed and power. With the help of equations, derive the power extracted from the wind.	10M	CO3	2
		OR			
Q.4(B)		Discuss the working principle of horizontal axis wind turbine and vertical axis wind turbine in detail.	10M	CO3	2

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	OR			
Q.6(B)	Briefly explain the concept of flywheel energy storage system.	10M	CO5	2

*** END***

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ECE4M05C

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Regular End Semester Examinations – Aug' 2021

(Regulations: R18)

COMPUTER ARCHITECTURE

(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.No		Question	Marks	CO	BL
Q.1	i.	What is the difference between volatile and non-volatile memory?	1M	1	1
	ii.	Semiconductors are made up of .....materials.	1M	1	1
	iii.	The instruction, mul r1,r2,45 does	1M	2	1
	iv	What is full form of ALU.	1M	2	1
	v.	How many rounding modes are available in the IEEE 754 standard?	1M	3	1
	vi	Can we use the Booth multiplier for the multiplication of negative numbers? Yes/No	1M	3	1
	vii.	True or False. The isBranch signal is the only control signal that is not generated by the control unit.	1M	4	1
	viii.	When multiple instructions are processed simultaneously during the execution of a program, this is called.....	1M	4	1
	ix.	Which factor determines the effectiveness of a cache? Hit rate or Miss rate	1M	5	1
	x.	What is Hit rate?	1M	5	1
Q.2(A)		What is Computer? Explain various elements of computer and its working with the help of block diagram.	10M	1	2
		OR			
Q.2(B)		Discuss Idempotence, Commutativity, Associativity, Distributivity laws in Boolean algebra by taking one suitable example.	10M	1	2
Q.3(A)		What are the different addressing modes used in Simple RISC processor? Explain by taking suitable example.	10M	2	2
		OR			
Q.3(B)		How many types of arithmetic and branch instructions used in Simple RISC processor? Explain all instructions by taking an example.	10M	2	2
Q.4(A)		Discuss the multiplication algorithm by taking one example.	10M	3	3
		OR			
Q.4(B)		Represent the following decimal numbers in IEEE 754 Single and Double Precision Floating Point Numbers (a) -379.11432 (b) 0.0003421	10M	3	3
Q.5(A)		Describe the different five stages of Processor Design with suitable block diagram.	10M	4	2
		OR			
Q.5(B)		What is the need of microprogramming? Discuss the microprogrammed data path.	10M	4	2

Q.6(A)	Discuss the Memory Hierarchy concept by using the hierarchy chart.	10M	5	2
	OR			
Q.6(B)	What do you mean by Virtual memory? What is the need of virtual memory in the computer system?	10M	5	2

***** END*****

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

Question Paper Code: 18CSE4M09C

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Regular End Semester Examinations – Aug' 2021

MICROPROCESSORS AND INTERFACING

(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.No.		Question	Marks	CO	BL
Q.1	i.	Compute the physical address, given code segment register contains value of 1085H and Instruction Pointer holds a value of 4537H.	1M	1	1
	ii.	Specify the purpose of Source Index (SI) and Destination Index (DI) registers.	1M	1	1
	iii.	Assume the contents of DL register as EEH and carry flag is reset. What will be the contents of DL and carry flag after the execution of the instruction ROL DL, 01H	1M	2	2
	iv	List out the instructions to clear the accumulator and carry flag of Intel 8086.	1M	2	1
	v.	Write the command word to initialize 8255 in the configurations given below. Port A Input, Port B output, PCL output and PCU input	1M	3	2
	vi	Compare Static RAM and Dynamic RAM.	1M	3	1
	vii.	List out the functions of USART.	1M	4	1
	viii.	Define baud rate.	1M	4	1
	ix.	Write the data sequence to rotate stepper motor in clockwise direction	1M	5	1
	x.	Define the resolution of an A/ D converter	1M	5	1
Q.2(A)		Elaborate the functions of various signals in Intel 8086 microprocessor.	10M	1	1
		OR			
Q.2(B)		Explain the internal architecture of 8086 microprocessor with a neat block diagram.	10M	1	2
Q.3(A)		Explain in detail about arithmetic and logical instructions of Intel 8086 with suitable examples	10M	2	2
		OR			
Q.3(B)		Explain the Addressing Modes of Intel 8086 microprocessor with suitable examples.	10M	2	2
Q.4(A)		Explain the operation of Programmable Interrupt Controller (Intel 8259) with a neat block diagram.	10M	3	2
		OR			
Q.4(B)		With a neat diagram explain the architecture of 8255 Programmable Peripheral Interface. In this regard, also explain various operating modes of Programmable Peripheral Interface (8255).	10M	3	2
Q.5(A)		Explain the internal architecture of Intel 8237 DMA controller with a neat block diagram.	10M	4	2
		OR			

Q.5(B)	(a) List out the features of Intel 8251. (b) Discuss how 8251 is used for serial data communication.	10M	4	1 2
Q.6(A)	a) Explain the principle of operation of an Analog to Digital Converter. b) With the help of a neat diagram, show the interfacing of ADC 0808 with 8086 microprocessor and explain its operation.	10M	5	2 3
	OR			
Q.6(B)	Draw a diagram to interface a stepper motor with 8086 microprocessor. Write an 8086-assembly language program to make the stepper motor to rotate in the clockwise direction.	10M	5	2

***** END*****

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

Question Paper Code: 18CST4M08C

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech III Year II Semester (R18) Regular End Semester Examinations – Aug' 2021

PRIVACY AND SECURITY IN ONLINE SOCIAL MEDIA

(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.No		Question	Marks	CO	BL
Q.1	i.	Define Social Media.	1M	1	1
	ii.	Give two example foe location based OSM	1M	1	2
	iii.	What are the 4 V's of Social Media?	1M	2	1
	iv	Expand JSON.	1M	2	1
	v.	Who are called as Fundamentalists?	1M	3	1
	vi	What is meant by security?	1M	3	2
	vii.	Give an example that represent the use of social media in police department.	1M	4	2
	viii.	Define Phishing.	1M	4	1
	ix.	What is spatial data?	1M	5	1
	x.	Who are link farmers?	1M	5	1
Q.2(A)		Discuss in detail about various online social media.	10M	1	2
		OR			
Q.2(B)		Explain in detail the features of any one social media.	10M	1	3
Q.3(A)		Explain the positive and negative impact of social media with example	10M	2	2
		OR			
Q.3(B)		Describe in detail about twitter.	10M	2	3
Q.4(A)		How the analysis can be done in online social media?	10M	3	3
		OR			
Q.4(B)		Discuss about the services rendered by OSM for Police Department.	10M	3	3
Q.5(A)		Discuss about 'Spammers'.	10M	4	3
		OR			
Q.5(B)		Elaborate on Semantic Attacks.	10M	4	3
Q.6(A)		What is profile link approach? Explain.	10M	5	3
		OR			
Q.6(B)		Discuss about Anonymous Networks.	10M	5	3

***** END*****