AR19

CODE: 19MVL1005 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
I M.Tech. I Semester Regular/Supplementary Examinations, April, 2022

DSP PROCESSORS AND ARCHITECTURES
(VLSI System Design)

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

Answer any FIVE questions
All questions carry EQUAL marks

1.	a)	Explain FIR and IIR filters with necessary diagrams.	6M
	b)	Explain the need for decimation and interpolation.	6M
2.	a)	What ae sources of error? Explain in context with ADC errors. Describe with an example, DAC converter error due to the zero order. Differentiate between ADC and DAC errors in Computational accuracy in DSP.	12M
3.	a)	With a neat block diagram explain ALU of DSP system	6M
	b)	Explain Branching and Interrupt effects in Programmable DSP systems	6M
4.	a)	Explain the direct addressing mode of the TMS320C54XX processor with the help of a block diagram.	6M
	b)	Describe Memory Space of TMS320C54xx Processors	6M
5.	a)	Describe the importance of Q-notation in DSP algorithm implementation with examples. What are the values represented by 16- bit fixed point number N=4000h in Q15, Q10, Q7 notations? Explain how the FIR filter algorithms can be implemented using TMS320c54xx processor.	6M
	b)	Derive the equation to implement a butterfly structure In DITFFT algorithm.	6M
6.	a)	Describe interrupts of TMS320C54XX processors	8M
	b)	Describe DMA with respect to TMS320C54XX processors.	4M
7.	a)	Write short notes on the following a.D/A Conversion Errors b. On-Chip Peripherals	6M
	b)	Describe CODEC-DSP interface example	6M
8.	a)	Explain pipeline operation of TMS320C54xx Processors.	6M
	b)	Why signal sampling is required? Explain the sampling process.	6M

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CODE: 19MCS1006 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
I M.Tech. I Semester Regular/Supplementary Examinations, April, 2022

DATA SCIENCE
(Computer Science and Engineering)

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

Answer any FIVE questions
All questions carry EQUAL marks

1.	a)	Describe Measures of Central Tendency.	7M
	b)	Draw the diagram and Explain the Data Science process.	5M
2.	a)	List and discuss about data science toolkit	7M
	b)	Explain the central tendencies and distribution by an example in python	5M
3.	a)	Describe in-detail about SVM algorithm with suitable example commands.	8M
	b)	How statistics helps in data analysis. explain	4M
4.	a)	Explain about any one machine learning algorithm with illustration.	12M
5.	a)	Explain the application of Data science and technologies for visualization	12M
6.	a)	What is Data Collection? Explain about Data collection methods.	8M
	b)	Explain about Structured data.	4M
7.	a)	List and describe the relevance of Data Science applications in real life.	6M
	b)	Apply the command how to explore and fixing the data in to the Python Environment?	6M
8.	a)	Explain in-detail about steps involved in building a visualization with Bokeh.	8M
	b)	Explain CLT in Machine Learning.	4M

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CODE: 19MSE1013 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
I M.Tech. I Semester Regular/Supplementary Examinations, April, 2022

ADVANCED CONCRETE TECHNOLOGY
(Structural Engineering)

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

Answer any FIVE questions
All questions carry EQUAL marks

1.	a)	What are different types of admixtures used in concrete? Explain in detail any three.	6 M
	b)	What is the purpose of using admixtures in concrete? Explain their effect on properties of concrete.	6 M
2.	a)	What is corrosion of steel? Explain how the concrete behaves under corrosion.	6 M
	b)	What is carbonation? Explain a method to determine the bond strength of steel with concrete.	6 M
3.	a)	Explain the methods to clean the reinforcement steel.	6 M
	b)	Explain the procedure to carry out surface preparation.	6 M
4.	a)	Explain the technique to strength the column member	6M
	b)	Explain how the flexural strengthening can be done.	6M
5.	a)	Explain the design procedure for fiber reinforced concrete.	6 M
	b)	What are the different fibers available commercially for enhancing the concrete properties	6 M
6.	a)	Write the applications of the fiber reinforced concrete	6M
	b)	Write the applications of the no fines concrete	6M
7.	a)	What types of materials are used in the design of light weight concrete?	6 M
	b)	Explain the properties and applications of light weight concrete	6 M
8.	a)	What is high performance concrete? Write its applications.	6 M
	b)	What materials are used in the design of high performance concrete.	6 M