MGM UNIVERSITY, AURANGABAD

Mid Semester Examination – April. 2022

Course: SY-B. Tech (All)   **Sem: IV**

Subject Name: Engineering Statistics   **Subject Code: 20UCC401B**

Max Marks: 20   **Date:-04/03/2024**   **Duration:- 1 Hr.**

Instructions to the Students:
1. All questions are compulsory.
2. Use of Non-Programmable calculator is allowed.
3. Figures to the right indicate full marks.

                (Level/   Mark
                CO)

Q. 1   **Attempt the following.**

1. The mean and mode of some data are 4 and 10 respectively, it's median will be CO1

   (a) 1.5   (b) 5.3   (c) 16   (d) 6

2. If mean and coefficient of variation of the data set is 10 and 5 respectively, then the standard   CO1
   deviation is ...

   (a) 10   (b) 0.5   (c) 5   (d)none of these

3. A dice is thrown twice. What is the probability of getting sum divisible by three?   CO2

   (a) 11/36   (b) 13/36   (c) 1/36   (d) none of these

4. If X is a continuous random variable with probability density function f(x) then ..., which of the   CO2
   following is equal to 1.

   (a) $\int_{-\infty}^{+\infty} f(x)\, dx$ (b) $\sum f(x)$ (c) both (a) and (b)   (d) none of these

5. Suppose 300 misprints are distributed randomly throughout the book of 500 pages. By Poisson's   CO3
   distribution what is the probability that a given page contains exactly 2 misprints?

   (a) 0.1313   (b) 0.2313   (c) 0.0988   (d) none of these

6. Suppose 10% of new scooter will require warranty service within the first month of its sale a   CO3
   scooter manufacturing company sales 1000 scooter in a month then standard deviation is.....

   (a) 100   (b) 200   (c) 10   d) none of these

Q.2   **Solve Any Two of the following.**

(A) A cyclist pedals from his house to his college at a speed of 10 m.p.h. and back from the college   CO1
to his house at 15 m.p.h. Find the average speed.

(B) Seven employees in a company of 20 are graduates. If 3 are selected out of 20 at random. What is   CO2
the probability that there is at least one graduate among them?

(C) A sample of 100 dry battery cells tested to find length of life produced the following results: CO3
M = 12 hours, σ = 3 hours
Assuming the data to be normally distributed, what percentage of battery cells expected to have
life

a) more than 15 hours
b) between 10 and 14 hours.
   Given data: A(0 to 1)=0.3413, A(0 to 0.67)=0.2487

Q. 3 Solve Any Two of the following.

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(A) A frequency distribution of heights (recorded to the nearest inch) of 100 male students at MGM   CO1
University is given in the following Table. Find the standard deviation of the heights of the 100
male students at MGM University.

Height (in)	Number of Students
60–62	7
63–65	20
66–68	40
69–71	25
72–74	8

(B) Suppose an item is manufactured by three machines X, Y and Z. All three machines have equal
capacity and operated at same rate. It is known that the percentage of defective items produced   CO2
by X, Y, Z is 2, 7 and 12 percent respectively. All items produced by X, Y, Z are put into one
bin. From this bin one item is drawn at random and is found to be defective. What is the
probability this item was produced on machine Y?

(C) A factory finds that on an average 10% of pens produced by a machine to be defective for certain   CO3
specified requirement. If 10 pens are selected at random from days product, Use binomial
distribution to find the probability that
   a) exactly three pens are defective
   b) 2 or more pens are defective
   c) less than 3 pens are defective.

*** End ***

Mid-Semester Examination-March-2024

Course: B.Tech in AI&DS   **Semester: II SY (AIDS)**

Subject Name: Data Analysis   **Subject Code: 22UET402D**

Max Marks: 20   **Date:**   **Duration: 01 Hr**

Ques No.	All six Questions are Compulsory	Level(CO)	Marks
Q1. 1.	ANOVA can be classified as simply ANOVA if only one response variable is considered a) Non-Parametric b) Parametric c)None of These	1	1
2.	*When a variable takes different values according to chance, , it is called a a)Non-random variable. b)Random Variable*	1	1
3.	Cleaning the data by filling in the missing values, smoothing noisy data, analyzing and removing outliers, and removing inconsistencies in the data is called as _____ a)Data Superimposing b)Data Wiping c)Data Formatting d)Data Cleaning	2	1
4.	--------------- divides the distribution into two equal parts. a)Mean b)Median c)Mode d)All of these	2	1
5.	The value which occurs most often or with the greatest frequency _____ a)Mean b)Median c)Mode d)All of The above	3	1
6.	The procedure of using alternative values in place of missing data is called__ a)Expectation b)Mean c)Imputation d) Impactation	3	1
Q2.	**Solve any two questions**		
1.	Mention the methods to measure simple correlation between two variables, write standard form of the linear regression of **Y on X** and **X on Y**.	1	3
2.	What are Quantiles? Define Quartile, Deciles & percentiles. Write the respective formulae of each type of Quantiles.	2	3
3.	What are the benefits of data analysis	3	3
Q3.	**Solve any one of the following.**		
1.	Compute the chi-square for the following data	2	8
2.	Define Skewness and kurtosis with diagram. For a distribution Karl Pearson's coefficient of skewness is 0.64, Standard deviation is 13 and mean is 59.2 Find mode and median.	3	8

Q3.1 data table:

Phase of adolescence	Achievement Scores	
	High	Low
Early adolescent	34	43
Late Adolescent	45	44

MGM UNIVERSITY

J.N.E.C. AURANGABAD

DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION

Course: S.Y (ECE/AI&DS)   **Sem: IV**

Subject Name: Microprocessors & Microcontrollers Code:21UET403D/22UET403D

Mid Sem Exam(MSE): MARCH 2024

Max Marks: 20   **Date:06.03.2024**   **Duration:- 1 Hr.**

Instructions to the Students:
1. Verify that you got correct question paper.
2. Figures to right indicate full marks.
3. Assume suitable data wherever necessary.

		CO	BL	Marks
Q. 1	**Solve the following**			**6**
1	Width of PC in 8085 is ----------- bit.	1	1	
2	8085 can access maximum of --------- memory.	1	1	
3	If crystal frequency is 4 MHz, then CLK OUT frequency in 8085 will be ------	1	1	
4	LHLD 2000H is a ------- byte instruction.	1	1	
5	STA 2500H is an example of -------- addressing mode.	1	1	
6	PSW is a combination of accumulator and ------- registers.	1	1	
Q.2	**Solve Any Two of the following.**			**3 X 2**
(A)	What is Stack? Explain the use of it with the help of PUSH and POP instructions.	2	2	
(B)	Explain following 8085 instructions. (a)SHLD 2000H (b) LDA 2550H (c) XRA A	2	2	
(C)	Enlist the salient features of an 8255 PPI. How will you initialize an 8255, explain with an example.	2	2	
Q. 3	**Solve Any One of the following.**			**8**
(A)	Ten data bytes are stored from memory locations 6000H onwards. Write 8085 based program to transfer entire block of data bytes to new memory locations 7000H onwards. Draw the flowchart and explain program logic.	2	3	
(B)	How interrupts are classified in 8085 microprocessor? Give and explain the routine to mask (disable) the RST 7.5 interrupt and unmask(enable) the RST 6.5 and RST 5.5 interrupts.	2	3	
	END			

MGM UNIVERSITY

Jawaharlal Nehru Engineering College

Mid-Semester Examination-March-2024
Course: B.Tech in AI&DS
Subject Name: PTRP
Max Marks: 20   Date:

Semester: II SY (AIDS)
Subject Code: 22UET404D
Duration: 01 Hr

Ques No.	All six Questions are Compulsory	Level(CO)	Marks
Q1.			
1.	The joint probability of two statistically dependent events A and B is given by the following formula _____	1	1
2.	Classify the experiment described below as random or non-random experiments. A spark of electricity is introduced in a cylinder containing a mixture of hydrogen and oxygen. The end product is observed.	1	1
3.	A random variable is said to be _____ if it has either a finite or a countable number of values a)Continuous b) discrete	1	1
4.	Poisson distribution is a limiting case of binomial distribution. a)True b)False	1	1
5.	Let (X, Y) be a discrete two-dimensional random variable which take up finite or countably infinite values (xi,yj). For each such two-dimensional random variable (X, Y), we may be interested in the probability distribution of X or the probability distribution of Y, individually. This is a)Conditional Probability b)Marginal Probability c)Both a&b	1	1
6.	Random variables X and Y are independent if and only if the conditional distribution of one variable is equal to its marginal distribution regardless of the value of the other. a)TRUE b)FALSE	1	1
Q2.	**Solve any two questions**	1	
1.	With respect to axiomatic approach write 03 axioms of probability theory	2	3
2.	For the following probability distribution of a discrete r.v. X, find i) the constant c	2	3
3.	Define two dimensional Random variable.	2	3
Q3.	**Solve any one of the following.**		
1.	An unbiased coin is tossed six times. Find the probability of obtaining (i) exactly 3 heads (ii) less than 3 heads Use of Binomial Theorem	1	8
2.	Write the 05 properties of joint density functions	1	8

For Q2.2, the probability distribution table:

X	0	1	2	3	4	5
p(x)	0	c	c	2c	3c	c

Program : B. Tech in **ECE /AIDS**

Course Name: Object oriented programming

Max Marks: 20

Sem: IV

Subject Code:**20UET408D/22UET407D**

Duration:- 1 Hr

Instructions to the students
1. All questions are compulsory
2. Assume data if Required

Q No		C.O	B.L	Marks
Q 1	**Solve following**	1	2	6
1	All variables must be declared before they're used (True/false)	1	2	
2	C++ is case sensitive language (True/false)	1	2	
3	All variables must be given a type when they're declared (True/false)	1	2	
4	Reminder is the output of modulus operator (%) in c++(True/false)	1	2	
5	Display an integer number using cin >> in c++ (True/false)	1	2	
6	Print the message "This is a C++ program" on one line. cout <<"This is a C++ program" << endl; (True /False)	1	2	
Q 2	**Solve any two of the following**			3 * 2
(A)	List out operators in C++ and explain any 5 in detail.	2	2	
(B)	What is the difference between call by value and call by reference function?	2	2	
(C)	Write a syntax to create a class in C++.	2	2	
Q 3	**Solve any one of the following.**			8
(A)	With the example, discuss multiple constructor.	3	3	
(B)	Write a program using class to display name of student and subject marks	3	3	