UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Program: BA-H-ECOM-III   **Semester: III**

Subject/Course: Statistical Methods for Economics   **Max. Marks: 100**

Course Code: ECON 2020   **Duration: 3 Hrs**

Instructions: Scientific calculator usage is allowed in the examination center.

SECTION A
10Qx2M=20Marks

S. No.		Marks	CO
Q 1	Positive skewness occurs when (i) Mean>Median (ii) Mean<Median (iii) Mean=Median (iv) All of the above	2	CO1
Q 2	Which of the following is a branch of statistics? (i) Descriptive statistics (ii) Inferential statistics (iii)Industry statistics (iv)Both A and B	2	CO1
Q 3	Inferential statistics is (i) Commenting on population by measuring the sample parameters (ii) Commenting on population by measuring the population parameters (iii) Commenting on sample by measuring the sample parameters (iv) Commenting on sample by measuring the population parameters	2	CO1
Q 4	The strength of association between two variables will be very high, when correlation co-efficient will be (i) 0 (ii) 1 (iii) 0.3 (iv) 0.5	2	CO1
Q 5	What is the scale applied in statistics, which imparts a difference of magnitude and proportions, is considered as? (i) Exponential scale	2	CO1

	(ii) Goodness scale (iii)Ratio scale (iv)Satisfactory scale		
Q 6	Which of the following is not a disadvantage of using mean? (i) It is affected by extreme values (ii) It cannot be computed in grouped data with open-ended class intervals (iii)It does not possess the desired algebraic property (iv)None of the above	**2**	**CO1**
Q 7	Percentiles divide a series into _____. (i) Ten equal parts (ii) Twenty equal parts (iii)Fifty equal parts (iv)Hundred equal parts	**2**	**CO1**
Q 8	What will be the probability of getting odd numbers if a dice is thrown? (i) 1/2 (ii) 2 (iii)4/2 (iv)5/2	**2**	**CO1**
Q 9	In Bionomial distribution, (i) Each trial has one outcome (ii) Each trial has three outcomes (iii) Each trial has two outcomes (iv) Each trial has more than three outcomes	**2**	**CO1**
Q 10	Which of the following statements is true about the correlational analysis between two sets of data? (i) The correlational analysis between two sets of data is known as a simple correlation (ii) The correlational analysis between two sets of data is known as multiple correlation	**2**	**CO1**

	(iii)The correlational analysis between two sets of data is known as partial correlation (iv)None of the above		
	SECTION B **4Qx5M= 20 Marks**		
Q 1	Discuss different types of index numbers.	**5**	**CO2**
Q 2	Discuss unweighted aggregate index number with example?	**5**	**CO2**
Q 3	Suppose, A and B are two random events and P(A)=1/2, P(B)=1/3, P(AB)=1/4 Compute: P(A+B)	**5**	**CO2**
Q 4	Discuss different sampling techniques in brief.	**5**	**CO2**
	SECTION-C **3Qx10M=30 Marks**		
Q 1	Suppose a data array has been given as follows: 2 3 4 5 12 5 9 8 10 14 18 16 21 Calculate: (i) Mean (ii) Median (iii) Mode (iv) Standard Deviation	**10**	**CO3**
Q 2	Discuss Bionomial distribution and Poisson distribution with example.	**10**	**CO3**
Q 3	Suppose you have two containers. One container carries 3 Red and 5 Black balls, other container carries 6 Red and 7 Black balls. One container is chosen and then a ball is drawn from the container. Compute the probability that you will draw a Black ball. OR Draw the probability distribution of tossing a coin two times.	**10**	**CO3**
	SECTION-D **2Qx15M= 30 Marks**		
Q 1	Suppose we are investigating the safety of dangerous intersection. Past police records indicate a mean of six accidents per month at this intersection. Estimate the probability of exactly 0, 1, 2, 3, 4, 5, 6, 7 and 8 accidents per month. Also, draw the distribution.	**15**	**CO4**

OR

Suppose the data of two variables X and Y has been given as below:

X	Y
8	14
10	18
15	27
19	32
21	34
25	40
28	44
31	49

    (i)   Calculate correlation coefficient.
    (ii)   Further elaborate the results.

Q 2	Suppose a data array has been given as follows:
	2 3 4 5 12 5 9 8 10 14 18 16 21
	
	    (i) Estimate the quartiles
	    (ii) Comment on skewness of the frequency distribution
		15	**CO3**