

**S.NO: 22N1- UE**

**Course Code: EUA3**

**A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM**

**(AUTONOMOUS)**

**B.A (Economics) Degree Examination**

**III Semester –November– 2022**

**AC III – STATISTICS FOR ECONOMICS III**

**Time: 3 hours**

**Maximum Marks: 75**

**Section –A**

**(10X2=20)**

Answer **ALL** the Questions

1. What do you mean by discrete variable?
2. Mention any two properties of Binomial distribution.
3. Define 'Index Number'.
4. State the meaning of weighted index number.
5. What is time series analysis?
6. Give the meaning of random variation.
7. What is Law of Inertia of Large Numbers?
8. What is large sample?
9. Write a short note vital statistics.
10. What do you mean by standardized death rate?

**Section -B****(5X5=25)**Answer **ALL** the Questions

11. a) Explain the Poisson distribution. Explain the properties of it.

**(or)**b) The mean of a binomial distribution is 20 and standard deviation is 4.  
Find  $n, p$  and  $q$ .

12. a) List out the problems encountered while constructing index number.

**(or)**

b) Compute a price index for the following by average of price relative method by using both arithmetic mean and geometric mean.

Commodity	A	B	C	D	E	F
Price in 2020 (Rs.)	20	30	10	25	40	50
Price in 2021 (Rs.)	25	30	15	35	45	55

13. a) Describe the components of time series analysis.

**(or)**b) Assess the *trend in profit* of the firm with the help *3-yrly moving average*:

Year	2015	2016	2017	2018	2019	2020	2021
Profit (in thousands)	15,420	14,470	15,520	21,020	26,120	31,950	34,670

14. a) Briefly explain the methods of *non-random sampling*.

**(or)**

b) List out the merits and limitations of *non-random sampling*.

15. a) Distinguish between *specific birth rate*, *crude death rate* and *standardized death rate*.

**(or)**

b) Explain the *registration method* of obtaining *vital statistics*.

**Section –C**

**(3 X 10 = 30)**

Answer any **THREE** Questions

16. Discuss properties of *normal distribution*.

17. With the help of the following data prove that Fisher's Ideal index satisfy both the time reversal test and factor reversal test.

Commodity	2020		2021	
	Price	Quantity	Price	Quantity
A	5	10	6	12
B	7	12	10	8
C	10	8	12	8
D	4	5	5	6
E	8	7	8	8

18. Fit a straight line trend by the method of least square to the following data; and estimate the profit for the year 2024.

Year	2015	2016	2017	2018	2019	2020	2021
Profit (Rs. In lakhs)	300	700	600	800	900	700	1000

19. Examine the advantages and limitations of *random sampling methods*.

20. Describe the analytical methods of obtaining *vital statistics*.