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(FOR THE CANDIDATES ADMITTED **21 UPA 2A2**

DURING THE ACADEMIC YEAR 2021 ONLY) **REG.NO. :**

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS: JULY 2022

B.COM.-PA **MAXIMUM MARKS: 70**

II SEMESTER **TIME: 3 HOURS**

PART – III

QUANTITATIVE APTITUDE- II

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS. (K1)

1. _____is those which are collected for the first time and they are original in character.

a) Primary data b) Secondary data c) Questioner d) All

2. Method of measuring dispersion_____.

a) Range b) standard deviation c) mean deviation d) All

3. Probability of impossible event is_____.

a) 0 b) 1 c) $0 \le \Pr obability \le 1$ d) $0 \le \Pr obability \le \infty$

4 _____ is a branch of statistics that deals with estimating the values of parameters based on measured empirical data that has a random component.

a) Complete enumeration b) Estimation theory c) Sample survey d) Sample size

5._____formula is the G.M of Laspeyre's and Paasche's.

a) Bowley's b) Kelly's c) Marshall-Edgeworth d) Fisher's

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Define secondary data.
7. For a frequency distribution median=20.6, mode=26, find mean.
8. From a bag containing 10 black and 20 white balls, a ball is drawn at random. What is the probability that it is black?
9. Write any four important terms associated with sampling.
10. Write the types of index numbers.

SECTION – B (5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Represent the following data by a Histogram.

Marks	No. of students	Marks	No of students
0-10	8	50-60	60
10-20	12	60-70	52
20-30	22	70-80	40
30-40	35	80-90	30
40-50	40	90-100	5

(CONTD…2)

(OR)

b) Following table gives the birth rate per thousand of different countries over a certain period:

Country	Birth rate	Country	Birth rate
India	33	China	40
Germany	16	New Zealand	30
U.K	20	Sweden	15

Represent the above data by a suitable diagram.

(OR)

12. a) Calculate the standard deviation from the following observations:

240.12 240.13 240.15 240.12 240.17
240.15 240.17 240.16 240.22 240.21

(OR)

b) The following table shows the ages (X) and blood pressure (Y) of 8 persons.

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

Obtain the regression equation of Y on X and find the expected blood pressure of a person who is 49 years old.

13. a) One bag contains 4 white and 2 black balls. Another contains 3 white and 5 black balls. If one ball is drawn from each bag, find the probability that (a) both are white (b) are black (c) one is white and one is black.

(OR)

b) A problem in statistics is given to two students A and B. The odds in favour of A solving the problem are 6 and against B solving the problem 12 to 10. If A and B attempt, find the probability of the problem being solved.

14. a) Explain the determination of sample size

(OR)

b) Explain comparison between sample survey and complete enumeration.

15. a) Calculate the Index number using the aggregate expenditure method for the year 2007 with 2006 as base year, from the following data:

Commodity	**Quantity in units**	**Price per unit in 2006 (Rs)**	**Price per unit in 2007 (Rs)**
A	100	8	12
B	25	6	7.5
C	10	5	5.25
D	20	48	52
E	65	15	16.5
F	30	19	27

(OR)

b) From the following data calculate an Index number using family budget method for the year 2007 with 2006 as base year.

Commodity	**Quantity (2006)(in units)**	**Price per unit (Rs)**	
		2006	**2007**
A	100	8	12
B	25	6	7.5
C	10	5	5.25
D	20	48	60
E	25	15	16.5
F	30	9	27

(CONTD…3)

SECTION - C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS

(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS

(FROM Qn. No : 17 to 21) (K4 (Or) K5)

16. Calculate the two regression equations of X and Y and Y on X from the data given below, taking deviations from actual means of X and Y.

Price (Rs)	10	12	13	12	16	15
Amount demanded	40	38	43	45	37	43

Estimate the likely demand when the price is Rs 20.

17. Explain the parts of a table and difference between Classification and Tabulation

18. Ten competitors in a beauty contest are ranked by three judges in the following order

1st judge	1	6	5	10	3	2	4	9	7	8
2nd judge	3	5	8	4	7	10	2	1	6	9
3rd judge	6	4	9	8	1	2	3	10	5	7

Use the rank correlation coefficient to determine which pair of judges has the nearest approach to common tastes in beauty.

19. A and B play for a prize of Rs 1,000. A is to throw a dice first and is to win if he throws 6. If he fails B is to throw and is to win if he throws 6 or 5. If he fails, A is to throw again and to win if he throws 6,5 or 4 and so on. Assuming the above, find their respective expectations.

20. Explain the methods of sampling.

21. Compute Laspeyre's, Paasche's and Fisher's price and quantity index number from the following data:

Commodity	**Base year**		**Current year**	
	Price (Rs)	**Quantity (kg)**	**Price (Rs)**	**Quantity (kg)**
A	5	25	6	30
B	10	5	15	4
C	3	40	2	50
D	6	30	8	35

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