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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022-23 ONLY)

SUBJECT CODE 22UPA2A2

REG.NO.

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

END-OF-SEMESTER EXAMINATIONS : MAY – 2023

B.Com. – Professional Accounting **MAXIMUM MARKS: 50**

II SEMESTER **TIME : 3 HOURS**

PART – III

ALLIED II : QUANTITATIVE APTITUDE – II

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS. (K1)

1. Diagrams and graphs are the tools of _____.
   (a) collection of data (b) analysis (c) presentation (d) summarization
2. The best measure of central tendency is _____
   (a) arithmetic mean (b) harmonic mean (c) geometric mean (d) median
3. The probability of selecting a black card or a 6 from a deck of 52 cards is _____.
   (a) 1 (b) 8 / 13 (c) 6 / 13 (d) 7 / 13
4. The difference between a statistic and the parameter is called _____.
   (a) non random (b) probability (c) sampling error (d) random
5. The index numbers are used to measure seasonal and cyclical variations in _____.
   (a) Commodities (b) Time series (c) whole sale (d) realities

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

6. What are the advantages of diagrammatic representation?
7. What is quartile deviation?
8. In a Binomial Distribution, if p = q, then find P(X = x)?
9. What do we call the population value?
10. What is the index number for the base year?

SECTION – B (5 X 3 = 15 MARKS)

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

(K3)

11. a) Discuss the rules for making a diagram.

(OR)

b) Given below is the table showing the approximate lengths, in mm, of 40 leaves taken from different parts of a certain species.

Length (mm)	25-30	30-35	35-40	40-45	45-50	50-55	55-60
Number of leaves	1	4	8	10	8	7	2

Represent the data in the form of a histogram.

12. a) The following table shows the grouped data, in classes, for the heights of 50 people.

height (in cm) - classes	120 - 130	130 - 140	140 - 150	150 – 160	160 - 170
frequency	2	5	25	10	8

Calculate the mean and Standard deviation.

(OR)

b) A sequence consists of 7 terms arranged in descending order. The mean value of the sequence is 70. If 30 is added to each term, and then each term is divided by 2 to get the new mean as 'K'. Find the difference between K and the original mean.

13. a) What is the probability of getting at least 3 heads when flipping 4 coins?

(OR)

b) X is a normally distributed variable with mean $\mu = 30$ and standard deviation $\sigma = 4$.

Find a) $P(x < 40)$ b) $P(x > 21)$?

14. a) What are the principal steps in a Sample Survey?

(OR)

b) Explain the errors in sampling.

15. a) From the following data compute price index number for the year 2014 taking 2013 as the base year using simple aggregative method:

Commodity	Prices in the year 2013	Prices in the year 2014
A	1	5
B	2	4
C	3	3
D	4	2

(OR)

b) Write some of the uses of Index numbers.

SECTION – C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 / K5)

16. a) In a batch of 400 students, the height of students is given in the following table. Represent it through a frequency polygon.

Height (in cm)	140 - 150	150 – 160	160 - 170	170 - 180
No. of students	74	163	135	28

(OR)

b) The table given below shows the marks obtained by 80 students in science. Construct (i) less than Ogive (ii) more than Ogive.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	3	8	17	29	15	6	2

17. a) The length of 20 similar crystals is measured (in mm) in a chemistry experiment. Calculate the standard deviation and the coefficient of variation for the observations taken.

Crystal No.	1	2	3	4	5	6	7	8	9	10
Length (mm)	9	2	5	4	12	7	8	11	9	3

Crystal No.	11	12	13	14	15	16	17	18	19	20
Length (mm)	7	4	12	5	4	10	9	6	9	4

(OR)

b) Calculate the quartile deviation and coefficient of quartile deviation from the data given below

Maximum load	9.3-9.7	9.8-10.2	10.3-10.7	10.8-11.2	11.3-11.7	11.8-12.2	12.3-12.7	12.8-13.2
Number of Cables	22	55	12	17	14	66	33	11

18. a) A manufacturer of metal pistons finds that on the average, 12% of his pistons are rejected because they are either oversize or undersize. What is the probability that a batch of 10 pistons will contain (a) no more than 2 rejects? (b) at least 2 rejects?

(OR)

b) If electricity power failure occurs according to a Poisson distribution with an average of 3 failures every twenty weeks, calculate the probability that there will not be more than one failure during a particular week?

19. a) Briefly explain the types of sampling.

(OR)

b) Differentiate Sample Survey and Complete Enumeration.

20. a) From the following data, calculate Laspeyre's Index number

Commodity	**2001**		**2000**	
	Price	**Quantity**	**Price**	**Quantity**
A	5	15	7	12
B	4	5	6	4
C	7	4	9	3
D	52	2	55	2

(OR)

b) Calculate the cost of living index number using the weighted geometric mean

Group	**Index No**	**Weights**
Food	700	10
Fuel and Lighting	300	2
Clothing	400	2
House Rent	300	2
Miscellaneous	450	4

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ETHICAL PAPER