

NGM COLLEGE (AUTONOMOUS) :: POLLACHI

DEPARTMENT OF MATHEMATICS

COURSE NAME: B.Sc. MATHEMATICS

Maximum Marks 50

SEMESTER: III

Time : 2 hours

END OF SEMESTER EXAMINATIONS: DEC - 2022

21UMS3N1 – QUANTITATIVE APTITUDE - I

SECTION - A

(10 X 1 = 10 MARKS)

ANSWER ALL THE QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

K1

1. A man has Rs.480 in the denominations of one-rupee notes, five-rupee notes and ten rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has ?
a) 90 b) 75 c) 60 d) 45
2. $1397 \times 1397 = ?$
a) 1951609 b) 1981709 c) 18362619 d) 2031719
3. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:
a) 4:5 b) 3:5 c) 2:5 d) 6:5
4. A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?
a) Rs. 2000 b) Rs. 2500 c) Rs. 1500 d) Rs. 500
5. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is
a) 16 b) 18 c) 15 d) 25
6. If selling price is doubled, the profit triples. Find the profit percent
a) 100 b) 66 c) 33 d) 133
7. From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?
a) 756 b) 766 c) 576 d) 657
8. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?
a) 720 b) 360 c) 420 d) 270
9. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?
a) $9/20$ b) $8/15$ c) $2/5$ d) $1/2$
10. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?
a) $10/21$ b) $11/21$ c) $2/7$ d) $5/7$

SECTION – B

(5 X 8 = 40 MARKS)

ANSWER ANY 5 OF THE FOLLOWING QUESTIONS. K3

(Any 5 From Question 11 to Question 18)

11. 1) $(935421 \times 625) = ?$
 a) 584638125 b) 575648125. c) 584649125 d) 585628125
- 2) Which of the following is a prime number ?
 a) 97 b) 91 c) 83 d) 31
- 3) The sum of first five prime numbers is:
 a) 28 b) 26 c) 18 d) 11
- 4) $(12)^3 \times 6^4 \div 432 = ?$
 a) 5184 b) 5060 c) 5148 d) 5084
12. 1) If $0.75 : x :: 5 : 8$, then x is equal to:
 a) 1.2 b) 1.25 c) 1.12 d) 1.30
- 2) The sum of three numbers is 98. If the ratio of the first to second is 2 : 3 and that of the second to the third is 5 : 8, then the second number is:
 a) 30 b) 20 c) 48 d) 58
- 3) The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?
 a) 23 : 33 : 60 b) 3 : 3 : 10 c) 10 : 11 : 20 d) Cannot be determined
- 4) In a bag, there are coins of 25 p, 10 p and 5 p in the ratio of 1 : 2 : 3. If there is Rs. 30 in all, how many 5 p coins are there?
 a) 150 b) 50 c) 250 d) can't be determined
13. 1) In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?
 a) 70% b) 30% c) 100% d) 125%
- 2) A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?
 a) Rs 5 b) Rs 10 c) Rs 15 d) Rs 0.50
- 3) The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?
 a) Rs. 2000 b) Rs. 2200 c) Rs. 200 d) Rs. 1200
- 4) A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?
 a) Rs. 1190 b) Rs. 1090 c) Rs. 1160 d) Rs. 1060
14. 1) Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?
 a) 25200 b) 210 c) 1050 d) 21400
- 2) In how many ways can the letters of the word 'LEADER' be arranged?
 a) 360 b) 180 c) 720 d) 420
- 3) In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?
 a) 11760 b) 5760 c) 50400 d) 5040
- 4) In how many different ways can the letters of the word 'MATHEMATICS' be arranged so that the vowels always come together?
 a) 120960 b) 4989600 c) 10080 d) None of these

15. 1) What is the probability of getting a sum 9 from two throws of a dice?
 a) $1/9$ b) $1/6$ c) $1/3$ d) $2/9$
- 2) Three unbiased coins are tossed. What is the probability of getting at most two heads?
 a) $7/8$ b) $3/8$ c) $1/4$ d) $3/4$
- 3) If Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?
 a) $3/4$ b) $3/8$ c) $1/4$ d) $1/8$
- 4) From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?
 a) $1/221$ b) $25/57$ c) $25/57$ d) Data inadequate

Each of the following questions given below consists of one or more statements decide whether the data provided in the statement(s) is / are sufficient to answer the given question.

16. A man mixes two types of rice (X and Y) and sells the mixture at the rate of Rs. 17 per kg. Find his profit percentage.

- I.** The rate of X is Rs. 20 per kg.
II. The rate of Y is Rs. 13 per kg

- a) I alone sufficient while II alone not sufficient to answer
 b) II alone sufficient while I alone not sufficient to answer
 c) Either I or II alone sufficient to answer
 d) Both I and II are necessary to answer
 e) Both I and II are not sufficient to answer

17. What is the number?

- I.** The sum of the two digits is 8. The ratio of the two digits is 1 : 3.
II. The product of the two digit of a number is 12. The quotient of two digits is 3.

- a) I alone sufficient while II alone not sufficient to answer
 b) II alone sufficient while I alone not sufficient to answer
 c) Either I or II alone sufficient to answer
 d) Both I and II are not sufficient to answer
 e) Both I and II are necessary to answer

18. By selling a product with 20% profit, how much profit was earned?

- I.** The difference between cost and selling price is Rs. 40.
II. The selling price is 120 percent of the cost price.

- a) I alone sufficient while II alone not sufficient to answer
 b) II alone sufficient while I alone not sufficient to answer
 c) Either I or II alone sufficient to answer
 d) Both I and II are necessary to answer
 e) Both I and II are not sufficient to answer
