NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN COMPUTER ENGINEERING & IT INFRASTRUCTURE – CP08
II SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JUNE 2023

Subject: Mathematics-II   **Total Time: 2 Hr.**
Subject Code: CP08203T   **Total Marks: 50**

PART B
1.0 ANSWER ANY EIGHT OF THE FOLLOWING   2*8=16

1.1 Find 15% of 250

1.2 Find the area of rectangle whose length is 24cm and breadth is 16cm

1.3 Find the area of parallelogram with one side is 17 cm and height is 21 cm

1.4 Find the slope of the line passing through the points.(4, 1) & (5, 4)

1.5 $Evaluate \int (x^3 + 4x^2 + \frac{1}{x})\, dx$

1.6 Define positive correlation. Give one example.

1.7 Flip a coin. What is the chance of getting a head (H)?

1.8 Evaluate $\int (2x + 3)(x - 1)dx$

1.9 Determine the probability that a number chosen at a random from the digit

1,2,3,.......,10 will be a multiple of 4?

1.10 Evaluate $\int_2^3 \frac{1}{x}dx$

2.0 ANSWER ANY SIX OF THE FOLLOWING   3*6=18

2.1 Find the value of x, if (x+7): (x+4) =3:2

2.2 Find the perimeter and area of a triangle whose sides are of length 13cm, 14cm, 15cm

2.3 The vertices of a triangle are (1,1), (2,-3) and (3,4). Find its centroid.

2.4 $Evaluate \int_0^{\pi/2} sinxdx$

2.5 Find the equation of the line joining (5,6) and (5,8) .

2.6 There are 5 marbles in a bag: 4 are blue, and 1 is red. Put the hand in the bag and pick a marble. What is the probability that a blue marble gets picked?

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2.7 There are 2 blue and 3 red marbles in a bag. What is the probability of drawing 2 blue marbles?

2.8 $Evaluate \int_0^{\pi/4} cosxdx$

3.0 ANSWER ANY FOUR OF THE FOLLOWING   **4*4=16**

3.1 Prove that the points (3,4) , (7,1) and (4,-3) are the vertices of a right angled isosceles triangle

3.2 Prove the line passing through (5, 6) and (2, 3) is parallel to the line passing through (9, -2) and (6, -5).

3.3 Find the area under the curve $y = x^3$ between x=2 & x= 5

3.4 What is the probability of drawing 2 Kings from a Deck (52 card)?

3.5 A box contains 6 white balls and 4 red balls. We randomly (without replacement) draw two balls from the box. What is the probability that the first ball selected is white and the second ball selected is red?

3.6 The sessional marks of 10 students out of 100 and also out of 20 is as given.

Out of 100: x=50, 75, 65, 82,60,40,64,80,55,45

Out of 20 : y=10, 15,13,16,4,1 2, 8,16,11,9.

Find the correlation between the two variables

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