Fr. Agnel School

Waliv, Vasai (E)

1st Unit Test Exam

Std. : 10th **Sub : Mathematics -I** **Total Marks : 20**

Q I. A. Choose the correct alternative answer for each of the following sub questions. **(2)**

i) _____ is the sum of the first 30 natural numbers.

A) 464 B) 465 C) 462 D) 461

ii) _____ number cannot represent a probability?

A) $\frac{2}{3}$ B) 1.5 C) 15% D) 0.7

B. Solve. **(2)**

i) If n(A) =2, P(A) =$\frac{1}{5}$, then find n(S).

ii) Find the sum of first five multiples of 3.

Q. II A. Complete the following activity Any 1 **(2)**

i) -3, -8, -13, -18, ……

Solution: Here t_4 = -18, t_3= -13, t_2= -8, t_1= ☐

t_3 - t_2 = -13-(-8) = -13+8= -5

t_2 - t_1= ☐

∴ a = ☐ , d= ☐

ii) A card is drawn from a well shuffled pack of 52 playing cards. Find the probability of event A that the card drawn is a face card.

Solution: S is the sample space.

∴ n(S)=52

Event A: The card drawn is a face card

Total face card = ☐

∴ n(A) = ☐

∴ P(A) = $\frac{n(A)}{\square}$= ☐ =$\frac{3}{13}$

Q. II B. Solve any 2 **(4)**

i) Find the 19th term of an A.P 9,4,-1,-6,-11,……

ii) One coin and one die are thrown simultaneously. Write sample space and no. of sample points.

iii) Find the sum of all even numbers from 1 to 100.

Q. III A. Complete the following activity **(3)**

Sample space

$S=\{11,12,13, \ldots .26\}$

$\therefore n(S) =$ ☐

The condition for event A is getting a prime number

A={ }

$\therefore n(A) =$ ☐

$\therefore P(A) =$ ☐ $=$ ☐

B. Solve any 1. **(3)**

i) There are 37 terms in an A.P the sum of three terms placed exactly at the middle is 225 and the sum of last three terms is 429. Write the A.P

ii) The faces of a die bear number 0,1,2,3,4,5. If the die is rolled twice, then find the probability that the product of digits on the upper face is zero.

Q. IV Solve any 1 **(4)**

i) There is an auditorium with 27 rows of seats. There are 20 seats in the first row, 22 seats in the second row, 24 seats in the third row and so on. Find the number of seats in the 15^{th} row and also find how many total seats are there in the auditorium?

ii) In a certain race, there are three boys A,B,C. The winning probability of A is twice than B and the winning probability of B is twice than C. If $P(A)+P(B)+P(C)=1$, then find the probability of win for each boy.

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