CSIR NET Exam 2022 Exam Analysis (29th January)

Memory Based Questions

Memory Based Questions (Quantitative Aptitude)

Topic: Average + Aligation

Ques 1: The average height of students in a class is 160 cm. The average height of boys is 165 cm and that of girls is 150 cm. Find the ratio of girls to boys.

Ans. 1:2

Sol. The average height of students in a class = 160 cm.

   The average height of boys = 165 cm

   The average height of girl = 150 cm

By allegations:

Topic : Probability

Ques 2: The probability of a question attending is 1/2 then what is the probability of a question not attended by a set of 5 questions?

Answer. 1/2

Sol. Here it is given that the probability of question attended is ½

   The total number of question = 5

    So, According to the question,

   The probability of a question not attended by a set of 5 questions will be   same i.e. 1/2

Topic : Ratio

Ques 3: A rank is double of "B", triple of "C", 7 times of "D" with the total class of 83, then the sum of ABCD ranks is ?

Ans. 83

Sol. A = 2B = 3C = 7D = K (say)

$$K : \frac{K}{2} : \frac{K}{3} : \frac{K}{7}$$ [Multiplied by 42 because LCM (2, 3, 7)]

42 : 21 : 14 : 6

Therefore, Total Rank = 42 + 21 + 14 + 6 = 83

Topic : Geometry

Ques 4: A circle is inscribed in an equilateral triangle whose height is **3√3** cm. Then, find the ratio of the area of an equilateral triangle to the area of the circle inscribed in an equilateral triangle.

Ans. $$: \frac{9\sqrt{3}}{3\pi} = \frac{21\sqrt{3}}{22}$$

Sol. Let the side of an equilateral triangle be 'a' cm

$$\frac{\sqrt{3}}{2} a = 3\sqrt{3}$$

a = 6 cm

Area of equilateral triangle = $$\frac{\sqrt{3}}{4}(6)^2 = \frac{\sqrt{3}}{4} \times 36 = 9\sqrt{3} \text{ cm}^2$$

The radius of the circle inscribed in an equilateral triangle = $$3\sqrt{3} \times \frac{1}{3} = \sqrt{3} \text{ cm}$$

Area of inscribed circle =

$$\because \pi\left(\sqrt{3}\right)^2 = 3\pi \, cm^2$$

Required ratio =

$$\because \frac{9\sqrt{3}}{3\pi} = \frac{21\sqrt{3}}{22}$$

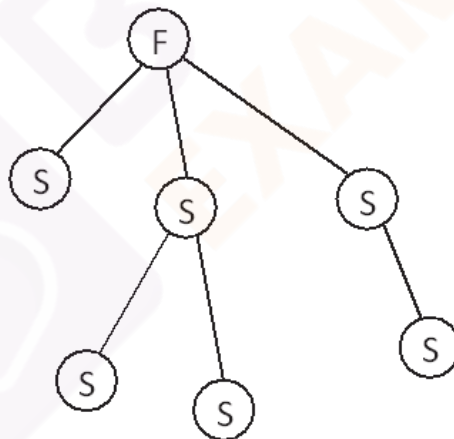**Topic : Puzzle**

Ques 5: In a room there are 3 fathers and 6 son.If everyone's father son is present.

Then find the minimum number of people present in the room.

Ans. 7

Solutions: According to the questions, family tree can be drawn.

In the 1st row "F" is the grandfather who has 3 sons and from these 3 sons, 2 sons have 2 and 1 sons respectively.

So,there are only 3 father and 6 son minimum conditions applied.

Hence the minimum people in the room are 7.

Topic: Number System

Ques 6: Find the last digit of expression $(489)^{86}$ - $(351)^{63}$.

Ans. 0

Sol. First divide power 86 by 4 , we get remainder 2

so, in 489, last digit is 9

9^2= 81 ; Last digit (1)

Now, in power 63, by dividing by 4, we get remainder 1

So, in 351, last digit is 1

1^1 = 1 ; Last digit (1)

= 1 − 1
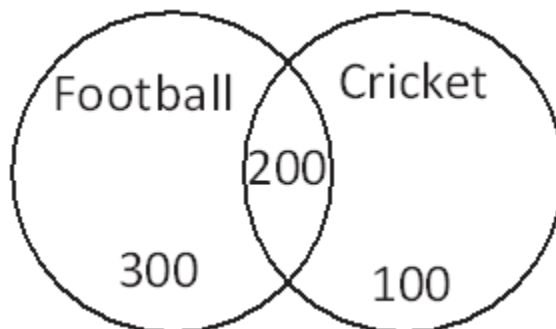
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Memory Based Questions (Reasoning)

Topic : Venn Diagram

Ques 7: In players of 2000, 500 play football, 300 play cricket, 200 play both.

Then numbers of players who don't play cricket or football ?

Ans. 1400

Sol.

But, 200 plays both.

So, 500 - 200 = 300

300 - 200 = 100

Hence, total number of players who don't play cricket or football will be

= 2000 - (300 +100 +200)

= 2000 - 600
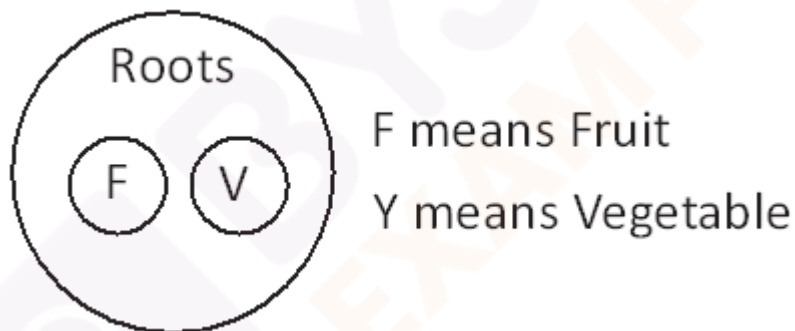
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Topic : Venn Diagram

Ques 8: Vein diagram of vegetables, fruits, roots.

Sol.

F means Fruit

Y means Vegetable

Here, both fruit and vegetables could be on the form of roots

Topic : Calendar

Ques 9: If today is Thursday after 59 days it will be?

Ans. Sunday

Sol. 59 days = 8 weeks 3 days = 3 odd day

Hence, if today is thursday,

After 59 days , it will be = Thursday + 3 odd days

= Sunday

Topic : Permutation & Combination

Ques 10: How many type the number of Atm pin of 4 digits, right to left, left to right are the same can be written ?

Ans. 100

Sol. 4 digit pin is a palindrome number i.e. XYYZ

"X" and "Y" can have 0 to 9 i.e 10 digit.

So, the total number of ways = 10 X 10

= 100

Memory Based Questions (General Science)

Topic : Physics

Ques 11 : Sun is at 45 degrees, the shadow of the wall is rectangular, which depends on ?

Ans. According to the question, the shadow of the wall is rectangular. So, it depends on the height and width only, not on the thickness of the wall.

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