



IPE MODEL :: MATHS-A(40 Marks)

SYLLABUS: Combinations : Ex : 5.5 SAQ :1 TO 7, BINOMIAL THEOREM : EX : 6.1 : VSAQ : ALL, LAQ : 1,2

SECTION - A

- I. VSAQ: Answer ALL of the following questions. 5 x 2 = 10 M**
- Find the 4th term from the end in the expansion of $(2a + 5b)^8$
 - Find the number of terms in the expansion of $(2x + 3y + z)^7$
 - If the coefficients of $(2r + 4)^{th}$ term and $(3r + 4)^{th}$ term in the expansion of $(1 + x)^{21}$ are equal then find r.
 - Find the 6th term in the expansion of $\left(\frac{2x}{3} + \frac{3y}{2}\right)^9$
 - Find the number of diagonals of a polygon with 12 sides

SECTION - B

- II. SAQ: Answer any FOUR of the following questions. 4 x 4 = 16 M**
- If a set A has 12 elements, find the number of subsets of A having
i) 4 elements ii) at least 3 elements iii) at most 3 elements
 - Find the number of ways of forming a committee of 5 members out of 6 Indians and 5 Americans so that always the Indians will be in majority in the committee
 - Find the coefficient of x^{-6} in $\left(3x - \frac{4}{x}\right)^{10}$
 - Find the number of ways of forming a committee of 4 members out of 6 boys and 4 girls such that there is atleast one girl in the committee
 - Find the number of ways of giving away 4 similar coins to 5 boys if each boy can be given any number (less than or equal to 4) of coins

SECTION - C

- III. LAQ: Answer any TWO of the following questions. 2 x 7 = 14 M**
- Find the sum of the coefficients of x^{32} and x^{-18} in the expansion of $\left(2x^3 - \frac{3}{x^2}\right)^{14}$
 - Find the number of ways of selecting 11 members cricket team from 7 batsmen, 6 bowlers and 2 wicket keepers with atleast 4 bowlers and 2 wicket keepers
 - i) Find the term independent of x in the expansion of $\left(\frac{3}{\sqrt[3]{x}} + 5\sqrt{x}\right)^{25}$
ii) Find the number of irrational terms in the expansion of $(5^{1/6} + 2^{1/8})^{100}$

* * *

**IPE MODEL :: ECONOMICS(50 Marks)****SYLLABUS:** Natural Resources to growth of Agriculture in Indian Economy**SECTION - A****I. VSAQ: Answer any FIVE of the following questions.****5 x 2 = 10 M**

1. Sustainability development
2. Share of agriculture in the National Income
3. Capital Formation
4. Environmental degradation
5. Renewable Resources
6. Non Renewable Resources
7. continuous resources
8. share of agriculture in employment

SECTION - B**II. SAQ: Answer any FOUR of the following questions.****4 x 5 = 20 M**

9. What are the objectives of environment sustainability ?
10. What are the natural resources, Discuss its features ?
11. Examine the growth of agriculture in Indian economy ?
12. Discuss the importance of Natural Resources in economic development ?
13. Explain the classification of Natural Resources ?
14. Explain the reasons for environmental degradation ?

SECTION - C**III. LAQ: Answer any TWO of the following questions.****2 x 10 = 20 M**

15. Explain the importance of agriculture in economic development ?
16. Explain the importance of sustained development ?
17. Why should we protect environment ?

* * *