# O.P. JINDAL SCHOOL, SAVITRI NAGAR

**Periodic Test-1 (Round 2) - 2026-2027**

**Class: XI Commerce** **MM:20**

**Subject: Applied Mathematics** **Time :1Hour**

*General Instructions:*

*i) All questions are compulsory.*
*ii) Question no. 1 to 5 carries 1 mark each, question no. 6 to 8 carries 2 marks each, question no. 9 to 11 carries 3 marks each.*
*iii) There is no overall choice. However, internal choice has been provided.*

## SECTION A

**1.)** If A = {1, 2} and B = {3, 4}, then how many subsets A x B have
a) 4 b) 16 c) 15 d) $4^4$

**2.)** If the sum of n terms of an A.P is given by $S_n = 3n + 2n^2$, then common difference of A.P is
a) 3 b) 2 c) 6 d) 4

**3.)** Which number should be added to the number 6, 10 and 18 to make the resulting number in G.P.
a) 4 b) 2 c) 5 d) -2

**4.)** The number of 4 digit numbers that can be formed using the digits 2, 3, 4 and 7 and using each digit only once is
a) 120 b) 96 c) 24 d) 100

**5.)** In how many ways can a committee consisting of 3 men and 2 women can be chosen from 7 men and 5 women?
a) 45 b) 350 c) 4200 d) 230

## SECTION B

**6.)** If A = {2, 3, 4}, B = {4, 6, 9, 10} and R = {(x, y) : (x, y) $\in$ A×B such that x is the factor of y}, then write R is Roster form .

**7.)** Find the value of r if ${}^5P_r = 2\,{}^6P_{r-1}$.

**OR**

Find the number of arrangements that can be made out of the word 'COMMERCE' .

**8.)** Find the $7^{th}$ term from the end of the sequence : -5, -2, 1, 4, . . . 85 .

## SECTION C

**9.)** A bag contains 5 black and 6 red balls. Determine the number of ways in which 2 black and 3 red balls Can be selected from the lot, assuming that the balls of same colour are distinguishable .

**OR**

In how many ways can a student choose a programme of 5 courses if 9 courses are available and 2 are compulsory for every students.

**10.)** Insert 6 arithmetic mean between 2 and 23 .

**11.)** The $5^{th}$ , $8^{th}$ , and $11^{th}$ terms of a G.P are p, q and s respectively. Show that $q^2 = ps$ .

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