O. P. JINDAL SCHOOL, SAVITRI NAGAR

Periodic Test -1(Round – 1) (2025 – 2026)

Class : X **Max Marks : 20**

Subject: Mathematics **Time: 1 Hour**

General Instructions:

(i) All the questions are compulsory.

(ii) The question paper consists of 13 questions divided into 3 sections. Section A has 8 questions of 1 mark each, section B has 3 questions of 2 marks and section C has 2 questions of 3 marks each.

(iii) There is no overall choice. However, internal choice has been provided in 2 questions You have to attempt only one of the alternatives in all such questions.

Section - A

1. The product of two irrational numbers is
   (a) always rational (b) always irrational
   (c) may be rational or irrational (d) a terminating decimal
2. If $x = 2^2 \times 3^3 \times 7^2$ and $y = 2^3 \times 3^2 \times 5 \times 7$, then HCF (x, y) is:
   (a) 250 (b) 252 (c) 160 (d) 140
3. The (HCF × LCM) of the numbers 60 & 40 is
   (a) 1200 (b) 2000 (c) 1800 (d) 2400
4. The HCF of two consecutive numbers is
   (a) equal to their product (b) 0 (c) 1 (d) always 2
5. If the HCF of 65 and 117 is 65n – 117 then value of n is
   (a) 13 (b) 5 (c) 2 (d) 65
6. If the LCM (24, 84) = 168, then the HCF (24, 84) is
   (a) 12 (b) 24 (c) 36 (d) 18
7. The HCF of smallest composite number and the smallest prime number is
   (a) 1 (b) 2 (c) 4 (d) 8
8. If two positive integers p and q can be expressed as $p = a^3 b^4$ and $q = a^2 b^3$; a, b being prime numbers, then LCM (p, q) is
   (a) ab (b) a^2b^3 (c) a^3b^4 (d) a^3b^3

Section - B

9. Check whether 6^n can end with the digit 0, for any natural number n.
10. Explain why $11 \times 13 \times 17 + 17$ is a composite number.

OR

Prove that $3 + 2\sqrt{5}$ is an irrational number.

11. Find the LCM and HCF of 18, 24, 75 by prime-factorization method.

Section - C

12. Prove that $\sqrt{3}$ is an irrational number.

13. Two tankers contain 500 litres and 380 litres of petrol respectively. Find the maximum capacity of a container that can be used to measure the petrol of both tankers.

OR

Find the smallest number which when divided by 42, 63 and 102 leaves remainder 7 is each case?

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