Multiple Choice Questions
(1 mark each)

1. Three numbers are in the ratio $3 : 4 : 5$ and their LCM is 1200. Then, their HCF is
   (a) 40
   (b) 60
   (c) 20
   (d) 120

2. The LCM and the HCF of two numbers are 1001 and 7 respectively. How many such pairs are possible?
   (a) 0
   (b) 1
   (c) 2
   (d) 7

3. Arrange the following in ascending order $\frac{17}{18}, \frac{43}{45}, \frac{59}{60}$ and $\frac{31}{36}$.
   (a) $\frac{17}{18} < \frac{59}{60} < \frac{43}{45} < \frac{31}{36}$
   (b) $\frac{31}{36} < \frac{17}{18} < \frac{43}{45} < \frac{59}{60}$
   (c) $\frac{43}{45} < \frac{59}{60} < \frac{31}{36} < \frac{17}{18}$
   (d) $\frac{59}{60} < \frac{43}{45} < \frac{31}{36} < \frac{17}{18}$

4. The total number of factors of a prime even number is
   (a) 2
   (b) 1
   (c) 0
   (d) 3

5. 144 L of liquid P and 216 L of liquid Q are to be packed in containers of the same size. The minimum number of containers required are
   (a) 6
   (b) 5
   (c) 10
   (d) 15

Short Answer Type (I) Questions
(2 marks each)

6. If LCM $(32, a) = 64$ and HCF $(32, a) = 4$, then find the value of a.

7. If HCF of two numbers is 4 and their product is 160, then find their LCM.

8. Four bells toll at intervals of 10sec, 15sec, 20sec and 30sec respectively. If they toll together at 10:00 am, at what time will they toll together for the first time after 10 am?

9. Find the HCF and LCM of the smallest composite number and the smallest prime number.

10. Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topicwise and the height of each stack is same. The number of English books is 96, the number of Hindi books is 240 and the number of Mathematics books is 336. Assuming that the books are of same thickness. Determine the number of stacks of English, Hindi and Mathematics books.

11. The sum of two numbers is 528 and their HCF is 33, then find the number of pairs satisfying the given condition.

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

Short Answer Type (II) Questions
(3 marks each)

13. There is a circular path around a sports field. Sonia takes 18 min to drive one round of the field, while Ravi takes 12 min for the same. Suppose they both start at the same point and at the same time and go in the same direction. After how many minutes will they meet again at the starting point?

14. Prove that $\frac{1}{\sqrt{2}}$ is a irrational.

Long Answer Type Question
(5 marks each)

15. There are 156, 208 and 260 students in groups A, B and C, respectively. Buses are to be hired to take them for a field trip. Find the minimum number of buses to be hired, if the same number of students should be accommodated in each bus.

16. Find the largest number that divides 1251, 9377 and 15628 leaving remainders 1, 2 and 3, respectively.

Answers

1. (c)	2. (c)	3. (b)	4. (a)	5. (b)
6. 8	7. 40	8. 10 : 01 AM	9. 4	10. 48
11. 4	13. 36	15. 12	16. 625	

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