



Practice Sheet-01

Syllabus : Unit 1- Number System

As per NCERT Chapter 1 has covered

SUBJECT: MATHEMATICS (Standard)

Code:041

MAX. MARKS : 30

DURATION :60 min

1. This Question Paper has 5 Sections A-E.
2. **Section A** has 6 MCQs carrying 1 mark each.
3. **Section B** has 2 questions carrying 02 marks each.
4. **Section C** has 2 questions carrying 03 marks each.
5. **Section D** has 1 questions carrying 04 marks each.
6. **Section E** has 2 questions carrying 05 marks each .

Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated

SECTION – A

Questions 1 to 6 carry 1 mark each.

1. The least number that is divisible by all from 1 to 5 is:
(a) 70 (b) 60 (c) 90 (d) 80
2. The Muscle Gym has bought 63 treadmills and 108 elliptical machines. The gym divides them into several identical sets of treadmills and elliptical machines for its branches located throughout the city, with no exercise equipment left over. What is the greatest number of branches the gym can have in the city?
(a) 7 (b) 18 (c) 108 (d) 9
3. $HCF(306, 657) = 9$, what will be the $LCM(306, 657)$?
(a) 12338 (b) 22338 (c) 23388 (d) 22388
4. The least number which when divided by 18, 24, 30 and 42 will leave in each case the same remainder 1, would be
(a) 2520 (b) 2519 (c) 2521 (d) none of these
5. The LCM of smallest two digit composite number and smallest composite number is:
(a) 12 (b) 4 (c) 20 (d) 44

6. ASSERTION-REASON BASED QUESTIONS

In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

Assertion (A): The H.C.F. of two numbers is 16 and their product is 3072. Then their L.C.M. = 162

Reason(R): If a, b are two positive integers, then $H.C.F \times L.C.M. = axb$

SECTION – B
Questions 6 to 8 carry 2 mark each.

7. Find the greatest number which divides 85 and 72 leaving remainders 1 and 2 respectively.

Or

If least prime factor of p is 3 and least prime factor of q is 5, then what is least prime factor of $(p+q)$?

8. The traffic lights at three different road crossings change every 48 seconds, 72 seconds and 108 seconds respectively. If they change simultaneously at 7:00 am, at what time will they change simultaneously again?

SECTION – C
Questions 9 to 10 carry 3 mark each.

9. Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.

10. Can the number 6^n , n being a natural number, end with the digit 5? Give reasons.

Or

Explain why $(17 \times 5 \times 11 \times 3 \times 2 + 2 \times 11)$ is a composite number?

SECTION – D
Questions 11 carry 4 mark each.

11. Shilpi, a newly appointed IAS officer wants to give thank giving party to all her mentors, teachers and guide who motivated and taught her to achieve this aim. She decided to give gifts to all of them. She has 36 diaries, 60 golden pens. She does not want to discriminate among her teachers, mentors and guide so she decided to distribute them equally among all of them.



(i) How many maximum guests Shilpi can invite?

(ii) How many diaries and golden pens each guest get?

(iii) Shilpi decided to add 42 watches also. In this case how many maximum guests Shilpi can invite?

Or

If Shilpi decides to add 3 more watches, takes 6 diaries out then what is the maximum number of guests Shilpi can invite?

SECTION – E
Questions 12 to 13 carry 5 mark each.

12. Prove that $\sqrt{3}$ is irrational hence show that $5+2\sqrt{3}$ is also irrational

13. The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.

Or

Determine the smallest 3-digit number which is exactly divisible by 6, 8 and 12.

End