FOUNDATION

Class: VI, MATHEMATICS

7. DIVISIBILITY RULES

Teaching Task (Jee Mains)

01 $34\underline{x8}$ → divisible by 2 ⇒ x is any digit
Ans: D

02 2028 → 28 is divisible by 4 Ans: B

03 914 Ans: C

04 $987K$ → $K = 0$ or 5 Ans: D

05 All the above Ans: D

06 1723 → 1+7+2+3 = 13+5 = 18, which is divisible by 6
Since 1728 → divisible by both 2 and 3 Ans: D

07. 23A57 → 2+3+A+5+7 = 17+A, the least value of should be 1, so that is divisible by 3
Ans: B

08 $476\underline{a}$ → divisible by 4
∴ $6\underline{4}$ → divisible by 4 Ans: A

09 $57a\underline{68}$ → 68 is divisible by 4
: a → any single digit Ans: A

10. Not possible Ans: D

11. 72K4 → 7+2+K+4 = 13+K → K = 2
or K = 5 or K = 8 Ans: B, C, D

12. A) 12345 = 1+2+3+4+5 = 15 ✓

B) 453 = 4+5+3 = 12 ✓

C) 3690 = 3+6+9+0 = 18 ✓

D) 1235 = 1+2+3+5 = 11 ✗

Ans. A, B, C

13 Assertion: 3K2 = 3+K+2 = 5+K.

for K=0, it is not divisible by 3, hence not divisible by 6 (False)

Reason: Conceptual (True)

Ans. D

14. Assertion: Conceptual (True)

Reason: Conceptual (True)

Ans. A

15 ~~Statement~~ I: 525 = 5+2+5 = 12, divisible by 3 (True)

Statement II: 525 ~~not~~ divisible by 2 (False)

Ans. C

16 Statement I:

abcdefghij16 → divisible by 4 (True)

Statement II: Conceptual (True)

Ans. A

17 2460

A) divisible by 2 ✓

B) 2+4+6+0 = 12, divisible by 3 ✓

Ans. A, B

18 2, 3, 4, 5, 6 divides 2460

Ans. D

19. 735 is not divisible by 2, hence not divisible by 6

Ans: D

20. 735 → 7+3+5=15, is divisible by 3 (3)
Ans: A

21 Two-digit prime numbers, which are divisible by 3 does not exists.
∴ Sum = 0
Ans: 0

22 xyz → is divisible by 4
∴ 100 → is divisible by 4
Ans: 100

23 A) Divisible by 5 ~~only~~ and 10 (s)
B) Divisible by 5 only (s)
c) Divisible by 3 (p)
d) Divisible by 4 (q)
Ans: r, s, p, q

24 A) 220 → 2, 4, 5 (q)
B) 340 → 4, 5 (r)
c) 500 → 2, 4, 5 (q)
D) 630 → 2, 3, 5, 6 (p)
Ans: q, r, q, p

LEARNER'S TASK (CUQ's)

01. Conceptual — Ans: A
02 Conceptual — Ans B
03 Conceptual — Ans: C
04 Conceptual — Ans: B
05 Conceptual — Ans: B
06 Conceptual — Ans: C

07. Conceptual — Ans: C ④

08 Conceptual — Ans: C

09 66 — Ans: D

10. 4, 16, 36, 64 . . are divisible by 4 — Ans. D

JEE MAINS

01. $264 \rightarrow 2+6+4 = 12$, divisible by 3
$264 \rightarrow 64$ is divisible by 4 — Ans: A

02 Conceptual — Ans: C

03 102 — Ans. B

04 995 — Ans: A

05 1000 — Ans. A

06 1002 — Ans. B

07 324 — Ans: A

08 $7x57y \rightarrow 7x57y \rightarrow$
$7+x+5+7+y \rightarrow 19+x+y$
Here y can be zero and
x can be either 2, or 5 or 8 ...
∴ Least product = $0 \times 2, 5, 8 \ldots = 0$ — Ans: C

09 Trial and Error method.
Let the number be 9
$6)9(1$, $6)81(13$
$\underline{6}$ $\underline{78}$
(3) $(3) \rightarrow$ Remainder — Ans: D

10. 70, 35 — Ans: B, D

11. A) 12345 = 1+2+3+4+5 = 15 ✓
B) 453 = 4+5+3 = 12 ✓
C) 3690 = 3+6+9+0 = 18 ✓
D) 1235 = 1+2+3+5 = 11 ✗
Ans: A, B, C

12 A) 132 ✓ B) 264 ✓
C) 396 ✓ D) 528 ✓
Ans. A, B, C, D

13 Assertion: Mathematically (True)
Reason: Mathematically (True)
Ans: A

14. Assertion: Mathematically (True)
Reason: Mathematically (True)
Ans: A

15 Statement I: Conceptual (True)
Statement II: Mathematically (False)
Ans: C

16 Statement I: Mathematically (True)
Statement II: Mathematically (True)
Ans A

17. 72K6 → K is any digit → divisible by 2
Ans: D

18 72K6 → 7+2+K+6 → 15+K
K can be 0 or 3 or 6 → divisible by 3
Ans. D

19 m, n = 64, divisible by 4
Ans: C

20. n → 5, 0, } divisible by 5
mn → 45
Ans: D

21. 12 ⑥ Ans: 12

22 $d02 \rightarrow d+0+2 \Rightarrow$ divisible by 3

: least value of $d = 1$ Ans: 1

23 A) 2460 → divisible by 2, 3, 4, 5, 6 (p)

B) 1248 → divisible by 4 and 6 (q)

C) 540 → divisible by 3 and 5 (r)

D 735 → divisible by 3 and 5 (r)

Ans: p, q, r, r

24 A) 120 → divisible by 2, 3, 5, 6 (p)

B) 525 → " " 3, 5 (q)

C) 735 → " " 3, 5 (q)

d) 111 → Not divisible by 2, 4, 5, 6 (s)

Ans: p, q, q, s

⟹ THE END ∈