Class-XII (Applied) Class Test Date: 16/04/25

Modulo Arithmetic F.M.- 10

Q.1) Subtraction modulo 5 when $a = 9$ and $b = 3$ is

(i) 6 (ii) 1 (iii) -1 (iv) 5

Q.2) The last two digits of the product $231 \times 525 \times 74$ are —

(i) 50 (ii) 74 (iii) 25 (iv) 31

Q.3) Which one of the following integer lies in the equivalence class of $2 \pmod 7$?

(i) 7 (ii) 15 (iii) 24 (iv) 23

Q.4) The least non-negative remainder, when 3^{15} is divided by 7 is —

(i) 1 (ii) 5 (iii) 6 (iv) 7

Q.5) The value of $-98 \bmod 13$ is —

(i) -7 (ii) 7 (iii) -6 (iv) 6

Q.6) If $2x \equiv 1 \pmod 3$, then the least positive integral value of x is —

(i) 1 (ii) 2 (iii) 3 (iv) 4

Q.7) The unit's place digit of 6^{600} is —

(i) 0 (ii) 3 (iii) 6 (iv) 5

Q.8) If it is 7:00 p.m. currently, then the time in next 1500 hours will be →

(i) 7:00 p.m. (ii) 6:00 a.m. (iii) 7:00 a.m.

(iv) 5:00 p.m.

Q.9) Assertion (A): $-94 \bmod 14 = 4$

Reason (R): $a \bmod b = r$, where r is the remainder when a is divided by b and $0 \le r < |b|$

(i) A ✓ R ✓ E ✓

(ii) A ✓ R ✓ E ✗

(iii) A ✓ R ✗

(iv) A ✗ R ✓

Q.10) Assertion (A): If $x \equiv 8 \pmod 5$, then the possible values of x are $\ldots -12, -7, -2, 3, 8, 13, 18, \ldots$

Reason (R): If $x \equiv a \pmod n$, then $x = a - nk$, where k is any integer.

(i) A ✓ R ✓ E ✓ (ii) A ✓ R ✓ E ✗ (iii) A ✓ R ✗

(iv) A ✗ R ✓