

**Answer Ex-I****SINGLE CORRECT (OBJECTIVE QUESTIONS)**

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|-------|-------|-------|-------|-------|-------|-------|
| 1. C  | 2. C  | 3. B  | 4. A  | 5. C  | 6. D  | 7. B  |
| 8. B  | 9. B  | 10. D | 11. A | 12. A | 13. B | 14. C |
| 15. C | 16. D | 17. B | 18. B | 19. B | 20. A | 21. D |
| 22. B | 23. B | 24. B | 25. C | 26. C |       |       |

**Answer Ex-II****MULTIPLE CORRECT (OBJECTIVE QUESTIONS)**

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|--------|----------|----------|----------|----------|----------|------------|
| 1. A,B | 2. A,B,C | 3. B,C,D | 4. A,C,D | 5. B,C,D | 6. B,C,D | 7. A,B,C,D |
|--------|----------|----------|----------|----------|----------|------------|

**Answer Ex-III****SUBJECTIVE QUESTIONS**

1. (i)  ${}^{11}C_5 \frac{a^6}{b^5}$  (ii)  ${}^{11}C_6 \frac{a^5}{b^6}$  (iii)  $ab = 1$       2.  $r = 6$       3.  $r = 5$  or  $9$
4. (a)  $T_3 = \frac{5}{12}$ , (b)  $T_6 = 7$       5.  $\frac{(2^{mn} - 1)}{(2^n - 1)(2^{mn})}$       7. (i)  $3^n$ , (ii)  $1$ , (iii)  $a_n$       9.  $x = 0$  or  $1$
10.  $x = 0$  or  $2$       11. (a)  $101^{50}$  (Prove that  $101^{50} - 99^{50} = 100^{50} + \text{some +ive qty}$ )
12.  $1 + \sum_{k=1}^5 {}^{11}C_{2k} \cdot {}^{2k}C_k \cdot 7^k$       14. (i)  $990$ , (ii)  $3660$       15. (i)  $T_7 = \frac{7 \cdot 3^{13}}{2}$ , (ii)  $455 \times 3^{12}$       18.  $\frac{17}{54}$
19.  $n = 2$  or  $3$  or  $4$       23. (a)  $\frac{n^2 + n + 2}{2}$
24. (a)  $84b^6c^3 + 630ab^4c^4 + 756a^2b^2c^5 + 84a^3c^6$ , (b)  $-1260 \cdot a^2b^3c^4$ , (c)  $-12600$
26.  ${}^nC_r (3^{n-r} - 2^{n-r})$       27. (a)  $n = 12$ , (b)  $\frac{5}{8} < x < \frac{20}{21}$       29. (a)  $8016$ , (b)  $500$

**Answer Ex-V****JEE PROBLEMS**

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|----------|------|-----------------|-------|-------------|------|
| 1. C     | 2. D | 4. ${}^{12}C_6$ | 5. B  | 6. $-22100$ | 7. C |
| 8. (a) A | 9. D | 10. A           | 11. C | 12. D       |      |