

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

- |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. B  | 2. C  | 3. B  | 4. A  | 5. D  | 6. A  | 7. A  | 8. A  |
| 9. B  | 10. D | 11. A | 12. D | 13. A | 14. B | 15. A | 16. A |
| 17. B | 18. D | 19. A | 20. D | 21. A | 22. B | 23. A | 24. D |
| 25. A | 26. A | 27. D | 28. D | 29. C | 30. C | 31. B | 32. A |
| 33. C | 34. D | 35. C | 36. A | 37. B | 38. A | 39. C | 40. D |
| 41. B | 42. C | 43. C | 44. B | 45. B | 46. C | 47. A | 48. A |

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

- |         |        |        |        |       |        |      |       |
|---------|--------|--------|--------|-------|--------|------|-------|
| 1. AB   | 2. AB  | 3. BD  | 4. AC  | 5. AD | 6. ABC | 7. C | 8. BD |
| 9. ABCD | 10. AB | 11. BC | 12. BC |       |        |      |       |

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

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|--|---|--|
| 2. $(1/2, 1/2, 1/2)$   | 3. $(a/2, b/2, c/2)$  | 4. $3 : 2 ; (0, 13/5, 2)$                                  |
| 5. $(2/3, -2/3, -1/3)$   | 6. $60^\circ$   | 8. $2 - 2\sqrt{2}$   |
| 9. $x + y \pm \sqrt{2} z = 1$  | 10. $\pi/2$   | 11. $11x - y - 3z = 35$                                    |
| 12. $\frac{x-4}{9} = \frac{y+1}{-1} = \frac{z-7}{-3}$  | 13. $\sqrt{26}$   | 14. $x^2 + y^2 + z^2 - y - 2z - 14 = 0, \frac{317\pi}{24}$ |
| 15. $7x + 13y + 4z - 9 = 0 ; \left( \frac{12}{117}, \frac{-78}{117}, \frac{57}{117} \right)$ | 16. $\frac{x-2}{1} = \frac{y+1}{13} = \frac{z+1}{9}$                                      |  |
| 17. $\alpha = -1, \frac{80}{63}$   | 19. $\frac{x}{1} = \frac{y}{2} = \frac{z}{-1}; \frac{x}{-1} = \frac{y}{1} = \frac{z}{-2}$ |  |
| 20. $\frac{x+1}{11} = \frac{y-1}{9} = \frac{z-1}{-15}$                                       | 21. $\cos^{-1} \frac{4}{9}$   | 22. $\sin^{-1} \frac{4}{\sqrt{30}}$                        |
|  |   | 24. $x + y + z = 0$  |

### ADVANCED SUBJECTIVE QUESTIONS

**21.**  $x - 2y + 2z - 1 = 0$ ; 2 units

## JEE PROBLEMS

**15. B,C**