Question Bank Paper 101 Physics

1. What are scalars and vectors quantities?
2. Give two examples of scalars and vectors quantities.
3. Explain scalar product of two vectors.
4. Give any three properties of scalar product of two vectors.
5. Explain scalar triple product.
6. Explain addition of vectors.
7. Explain vector product of two vectors and give any three important results of vectors product of two vectors.
8. Give the important results of scalar product of two vectors.
9. Explain resolution of vectors.
10. Explain integral calculus.
11. Explain differential calculus as rate measurer.
12. Velocity is which type of quantities scalar or vector?
13. Which type of the quantity density is?
14. What will be the magnitude of 4j-j?
15. If $\underset{A}{\rightarrow}$ = 5i and $\underset{B}{\rightarrow}$ = 3j, then $\underset{A}{\rightarrow}.\underset{B}{\rightarrow}$ =?
16. Discuss the cross product of two vectors when the angle between them is (i) 0 ' (ii) 90 '(iii)180.
17. Discuss maxima and minima as a differential calculus.
18. The three edges of a parallelepiped are i+2j+3k; and 4j+4k. What should be the volume?
19. What will be the resultant capacitance of 0.5μF and 1.0 μF Parallel connected capacitors?
20. What will be the internal impedance of an ideal voltage source?
21. Give the types of electronic components?
22. What is called active component? Give one example.
23. What is called passive component? Give one example.
24. Give the names of various types of capacitors.
25. What is relation between current and voltage in case of a pure capacitor?
26. Discuss capacitors.
27. Write note on resistors.
28. Explain ideal and practical voltage source.
29. Explain ideal and practical current source.
30. Show that in RC- circuit charge and current are the exponential functions of time.

31. Draw the symbols of various semi-conductor devices.
32. What is working voltage of mica, paper, ceramic and electrolytic, capacitors?
33. What is capacitance range of mica, paper, ceramic and electrolytic capacitors.
34. Give the formula of series and parallel resistors.
35. Give the formula of series and parallel capacitors.
36. What do you mean by a semiconductor material?
37. Is there any charge carriers exists at room temperature in intrinsic semiconductor?
38. Explain the frame of reference.
39. Explain: work and Power.
40. Define center of mass
41. Explain the elastic collision in two dimension.
42. The value of velocity of escape on the surface of earth is _____Km/s
43. Statement of kepler's first, second and third law of planetary motion.
44. What do you mean by state of weightlessness?
45. State and prove the theorem of M.I. of parallel and perpendicular axis.
46. Explain angular momentum of a right body and prove that $\tau = I\alpha$.
47. Define mean or equilibrium position.
48. Explain: Damped harmonic oscillation.
49. Explain simple harmonic motion with the help of block spring system.
50. Obtain the equation of motion of a simple harmonic motion.