

Part – B

5x6=30

Answer the following

Answer should not exceed 400 words or two pages

11. a. Discuss about the measurement of charge sensitiveness of a ballistic galvanometer.
(or)
11. b. Explain the properties of antiferromagnetism.
12. a. Describe the characteristics of a semiconductor diode.
(or)
12. b. Compare the operation of NOR & NAND gates.
13. a. What is photoelectric effect? State and explain the laws of photoelectric effect.
(or)
13. b. List any six properties of X - rays.
14. a. Define and explain coherence length and coherence time.
(or)
14. b. Explain about Raman Shift.
15. a. Give an account of Electroencephalography.
(or)
15. b. Discuss in detail about MRI.

Part – C

5x12=60

Answer the following

Answer should not exceed 800 words or 4 pages

16. a. Compare the properties of dia, para and ferromagnetic materials.
(or)
16. b. Define thermo emf. Describe the measurement of thermo emf by using potentiometer.
17. a. With a neat diagram explain the forward and reverse bias characteristics of a Zener diode.
(or)
17. b. State and prove De Morgan's Theorems.
18. a. Describe Millikan's experimental verification of Einstein's photo-electric equation.
(or)
18. b. Discuss about (i) Mosley's law
(ii) Bragg's law
(iii) Miller indices
19. a. With a neat diagram explain the construction and working of a ruby laser.
(or)
19. b. Explain the construction and working of a Laser Raman Spectrometer.
20. a. Outline the features of EMG & EOG.
(or)
20. b. Discuss about (i) Computer Tomography
(ii) Digital subtraction angiography