



**PART - B**

**ANSWER ALL THE QUESTIONS**

**(5X7=35)**

11. a) Explain photoelectric equation

**(OR)**

b) Describe De – Broglie concept of matter wave. Derive De – Broglie wavelength.

12. a) Write in detail about Nuclear forces and its characteristics

**(OR)**

b) Explain nuclear fission with an example.

13. a) What are the conditions needed for laser actions

**(OR)**

b) Explain stokes and anti-stokes lines

14. a) Draw the circuit diagram and explain the working of Zener diode

**(OR)**

b) Explain the working principle and applications of LED

15. a) Discuss the conversion of Decimal to Binary with an example.

**(OR)**

b) Describe the Demorgan's theorem in detail.

**PART - C**

**ANSWER ANY THREE QUESTIONS**

**(3X10=30)**

16. Establish Einstein's Photoelectric Equation. Describe an experiment of verify this equation.

17. Describe the construction and working of Betatron

18. Explain the energy level diagram of He-Ne Laser with diagram

19. Explain with block diagram about the working of a RADAR

20. State and prove NAND and NOR as an universal logic gates.