Question Bank for Engineering Physics

Questions for 2 Marks

Unit – I

1) What is at the center of Newton's rings pattern? Is it dark or bright? Why?

2) Define the term Diffraction and Polarization.

3) Write any two Properties of Laser.

4) Write any two Medical and Engineering Applications of laser.

5) What is Population Inversion? Why it is necessary for Lasing Action?

6) Define the term Optical Activity and Specific Rotation.

7) Distinguish between Fresnel and Fraunhoffer's Diffraction.

8) Define Interference properties of Light.

9) How Plane Transmission Grating is formed? What is Grating Constant?

10) State the condition to obtain Stable Interference pattern.

11) Define and Explain Spontaneous and Stimulated Emission.

13) Explain testing of optical flatness.

14) What is diffraction of light? State the classes of diffraction

15) What is interference of light? State the types of interference of light.

16) Draw a well labeled diagram for interference in thin film.

17) Define the terms a. active medium b. pumping

18) Write the applications and properties of LASER

19) Draw a well labeled diagram Ruby laser set up

20) Explain the concept of metastable state in LASER.

21) What is laser? Write the characteristics of laser.

Unit – II

1) Define Zero electric Resistivity.

2) Define the term Echo and Absorption Coefficient.

3) State the Properties of Ultrasonic Waves.

4) What is SONAR? How it is used?

5) What is the effect of Magnetic field on Superconductors?

6) Define the Term Reverberation and Reverberation Time.

7) Draw well labeled diagram for Magnetostriction Method for the production of Ultrasonic waves

8) Explain in short Silsbee's rule of Superconductors.

9) Write Sabine's formula for Acoustics and explain the terms present in it

10) Write any two applications of Superconductors.

11) Define Critical magnetic Field and Critical Temp. in Superconductors.

12) Draw well labeled diagram of Piezoelectric Transducers.

13) State the applications of Ultrasonic Waves.

14) What is SQUID? Explain its Functioning.

Unit – III:

1) How X-Rays are Produced / Originated?

2) What are the types of X-Rays spectra? How do we get the continuous and sharp line spectrum of X- Rays?

3) Draw a neat diagram of Bragg's X-ray Spectrometer.

4) Give any two applications of X-Rays.

5) Give any two Important Characteristics of X-Rays.

6) Define the term Unit Cell.

7) State Bragg's law in X-ray diffraction

8) What are the differences between continuous and characteristic X-ray spectra?

9) Explain X-ray diffraction.

Unit – IV :

1) Explain in short Nuclear Chain Reaction.

2) Define the term Nuclear Fission and Fission.

3) Draw only diagram for C - N Cycle.

4) State the Important properties of matter waves.

5) What is wave Particle duality of Radiation?

6) State Heisenberg's Uncertainty Principle.

7) State De-Broglie's hypothesis of Matter wave.

Unit – V :

1) Define the Term Dielectric Strength and Dielectric Constant.

2) What is Dielectric Breakdown?

3) What is Hall Effect in Semiconductor?

4) Write the important applications of Soft and Hard Magnetic materials.

5) Define the term Dielectrics.

6) Write any two applications of Magnetic materials.

7) Differentiate Insulator and Semiconductor.

8) Write any two applications of Nanotechnology.

9) Define the Term Nanotechnology

10) What are Ferrites? State the different types of Magnetic Material..

Unit – VI :

1) What is Acceptance angle and Acceptance cone?

2) What is Fiber optic Technology? State the Principle of working of Optical Fiber.

3) Write any two applications of optical Fiber.

4) Draw typical diagram for Fiber Optics

5) Define the term Numerical Aperture and explain it with its equation.

6) Draw Neat labeled diagram for Bain-bridge Mass Spectrograph.

7) State the important properties of Positive rays.

8) State Bethe's law of Electron refraction.

9) What are positive rays?

10) State Bethe's law