Physics - FSC Part 1 Physics Chapter 9 Short Questions Preparation

Q1. What is the usual way to obtain plane wavefront from a point source?

Ans 1: A usual way to obtain a plane wavefront is to place a point source of light at the focus of a convex lens. The rays coming out of the lens will constitute plane waves.

Q2. How can the distance between interference fringes affect by the separation between the slits of young's experiment? Can fringes disappear?

Ans 1:

Q3. What do you mean by the term wavefront and ray of light?

Ans 1: Such a surface on which all the points have same phase of vibration is known as wavefront.
A line normal to wavefront including the direction of motion is called a ray of light.

Q4. In Newton's rings, Why are the fringes circular?

Ans 1: The thickness of the air film between plano-convex lens and plane glass plate is almost zero at the point of contact "o" and gradually increases as we proceed towards the periphery of the lens. Thus, points where the thickness of air film is constant will lie on a circle with "o" as centre. That is why circular fringes are produced.

Q5. In Newton's rings, Why are the fringes circular?

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Q6. What is diffraction of light?

Ans 1: The slight bending of light as it passes around the edge of an object is called diffraction of light.

Q7. What are conditions for detectable interference of light?

Ans 1: For detectable interference,light beam should be

- Monochromatic
- Coherent

Q8. Center of Newton ring is dark. Why? Although thickness of air film is zero.

Ans 1:

Q9. Under what conditions two or more sources of light behave as coherent sources?

Ans 1: Toe or more sources of light behave as coherent sources if

1. They emit monochromatic wave.
2. They are phase coherent.

Q10. How would you manage to get more orders of spectra using a diffraction grating?

Ans 1:
