2500 -/30/30/40

BA-208

September 2018

Bachelor of Computer Application (BCA) Examination

Second Semester

BCA-203 : PHYSICS - II

Time 3 Hours]

Max Marks 40

Note : Attempt all the five questions. Solve any two parts from each question. All questions carry equal marks.

1. (a) What are guided and unguided media ?
   (b) Write a short note on standing waves.
   (c) Describe Maxwell's equations.

2. (a) What do you mean by interference of light ? Derive the condition for constructive and destructive interference.
   (b) Find the effective path difference between the interfering waves in parallel thin film.
   (c) If the ratio of intensities of two waves is β. Find the value of :

$$\frac{I_{max} + I_{min}}{I_{max} - I_{min}}$$

3. (a) Differentiate Fresnel's class diffraction and Fraunhoffer class diffraction.
   (b) Explain diffraction of light at a single slit.
   (c) What do you mean by Resolving Power of Grating ?

4. (a) Explain Nicol's Prism with diagram.
   (b) Explain Huygen's theory of double refraction.
   (c) What is meant by optical activity ? Explain it with the help of suitable example.

5. (a) What is population inversion ? How it is achived in He-Ne laser ?
   (b) Explain construction and working of Ruby Laser.
   (c) Write the application of Laser in industries and medical services.