

NOVEMBER/DECEMBER 2019

BAEL44— BASIC PHYSICS II

Time : Three hours

Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. Define interference.
2. State Biot law.
3. List the types of spectra.
4. What is LASER?
5. Write properties of positive rays.
6. Mention the applications of radio isotopes.
7. What are elementary particles?
8. Mention the properties of quarks.
9. Write the postulates of special theory of relativity.
10. What is meant by time dilation?



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Describe in detail interference in wedge shaped films.

Or

- (b) Illustrate the working of half shade polarimeter.

12. (a) Explain Tindall and Rayleigh scattering.

Or

- (b) Elucidate the functions of Ruby laser.

13. (a) With a suitable sketch explain Bainbridge mass spectrometer.

Or

- (b) Sketch the significance of radio isotopes and its applications.

14. (a) Discuss in detail antiparticles and antimatter.

Or

- (b) Elaborate the basic ideas of quarks.

15. (a) Derive the expression for Galilean transformation.

Or

- (b) Obtain an expression for length contraction.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain in detail Newton's rings experiment to determine the wavelength.

17. Elaborate the experimental study of Raman effect with its application.

18. Describe the working of Millikans experiment with a neat sketch.

19. Elucidate liquid drop model.

20. Obtain the expression for Lorentz transformation.

