

APRIL/MAY 2019

**BAEL44 — BASIC PHYSICS – II**

Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL the questions.

1. What are called Newton's ring?
2. Define polarization.
3. Write down the types of spectroscopy.
4. What is the stimulated emission?
5. What is photoelectric emission?
6. What are called radio isotopes?
7. Give the examples for leptons.
8. What is strangeness?
9. State the Postulates of special theory of relativity.
10. Define length contraction.





SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL the questions.

11. (a) Describe the Fraunhofer diffraction.

Or

- (b) Explain the half shade polarimeter.

12. (a) Give a brief account on quantum theory of Raman Effect.

Or

- (b) Explain the working of He-Ne laser.

13. (a) Describe the Bainbridge mass spectrometer.

Or

- (b) Outline the followings

(i) Quantum numbers

(ii) Pauli's principle

14. (a) Explain the liquid drop model.

Or

- (b) Enumerate the classification of elementary particles.

15. (a) Describe the followings

(i) Length contraction

(ii) Time dilation

Or

- (b) Obtain the mass energy equation.

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

Answer any THREE questions.

16. Explain how wavelength and radius of curvature are measured by Newton's rings.

17. Explain the working of Ruby laser.

18. Describe the Millikan's experiment.

19. Explain the shell model.

20. Describe the variation of mass with velocity.

