

PART B — (5 × 16 = 80 marks)

11. (a) Define and explain the static characteristics of an instrument.

Or

- (b) (i) Classify and explain the different types of standards of measurements. (8)
(ii) Explain about the basic elements of a generalized measurement system with a neat diagram. (8)

12. (a) Describe the constructional details and working of the electro-dynamometer type wattmeter and also derive the torque equation and state the advantages and disadvantages of electro-dynamometer type wattmeter.

Or

- (b) Explain in detail mechanical resonance type frequency meter and electrical resonance type frequency meter.

13. (a) Explain in detail the working of the following bridges and derive their balance equation.

- (i) Wheatstone's bridge.
(ii) Maxwell's bridge. (8 + 8)

Or

- (b) Write a short note on techniques used to reduce the ground loop interference signals.

14. (a) Describe the principle of operation of LED and LCD display devices.

Or

- (b) Explain various types of printers in detail giving all the important aspects of them.

15. (a) What are the selection criteria for a transducer? Write a note on Inductive transducer and Piezoelectric transducer.

Or

- (b) With neat diagrams, explain any two types of analog to digital converters and any one type of digital to analog converter.