* 3 4 7 1 *

C09–EC–405

# 3471

## BOARD DIPLOMA EXAMINATION, (C–09)

## MARCH/APRIL—2014

## DECE—FOURTH SEMESTER EXAMINATION

ELECTRONIC MEASURING INSTRUMENTS

*Time* : 3 hours ] [ *Total Marks* : 80

**PART—A** 3×10=30

***Instructions*** : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

**1.** What is meant by meter loading effect?

**2.** What is an ohmmeter? Classify the ohmmeters.

**3.** Draw the neat block diagram of distortion factor meter.

**4.** State the use of spectrum analyzer.

**5.** Draw the block diagram of ramp-type DVM.

**6.** Draw the neat block diagram of digital frequency meter.

**7.** What is the deflection sensitivity of a CRT?

**8.** What are the various types of probes used in oscilloscopes?

**9.** List the applications of RF signal generators.

**10.** List the specifications of signal generators.

## PART—B

10×5=50

***Instructions*** : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**11.** Explain the principle of extending the range of voltmeter with an example. 5+5

**12.** Draw Schering bridge circuit and explain the capacitance measurement using Schering bridge.

**13.** Explain the working of digital multimeter with neat block diagram.

**14.** Explain the working of digital IC tester with a neat block diagram.

**15.** Explain the working of X-Y plotter with neat block diagram.

**16.** *(a)* Write the principle of sampling oscilloscope. 4

*(b)* Explain how a single-trace oscilloscope can be converted into dual-trace oscilloscope. 6

**17.** Draw the block diagram of a function generator and explain its working.

**18.** Explain the working of bolometer-type RF power meter with a schematic diagram.

★ ★ ★