

**III/SEM/E&TC/2015 (W)**

**( 2 )**

**ELECTRONIC MEASUREMENT AND INSTRUMENTATIONS**

**Sub Code-ETT 303**

**Full Marks : 70**

**Time : 3 hours**

**Answer any five questions**

*The figures in the right-hand margin indicate marks*

- 1. (a) Define reproducibility. 2
- (b) Explain the measurement of self inductance using Maxwell's AC bridge. 5
- (c) With a neat sketch write the working principle of PMMC type moving coil instrument and its advantages and disadvantages. 7
- 2. (a) State the balanced equation used in AC bridge. 2
- (b) Define Transducer. Discuss the classification of transducer. 5
- (c) Explain the principle of operation of series-type ohm meter and write its application. 7
- 3. (a) What is deflecting torque ? 2

*( Turn Over )*

- (b) Discuss the operation of MI type instrument. 5
- (c) What is Digital storage oscilloscope and describe briefly with a neat block diagram. 7
- 4. (a) Define sensitivity of Digital Meter. 2
- (b) Briefly explain the dynamic characteristics of a measuring instrument. 5
- (c) With a neat diagram explain the operation of CRO. 7
- 5. (a) State any two uses of thermistor. 2
- (b) Explain Working Principle of Load cell. 5
- (c) Discuss the measurement of frequency and working principle of Wein bridge. 7
- 6. (a) What is Proximity Sensors ? 2
- (b) With necessary block diagram explain the principle of operation of frequency meter. 5
- (c) Describe the working operation of LVDT with a neat diagram. 7
- 7. (a) Define Lissajous and write its any two uses. 2

( 3 )

- (b) Draw and explain basic block diagram of function generator. 5
- (c) Describe the principle of operation of a Digital Multimeter with neat diagram. 7

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