



MBV-003-027604 Seat No. _____

M. Sc. (E.C.I) (Sem. VI) (CBCS) Examination

April / May - 2018

Electronic Techniques : Paper - 24

(Department of Electronics)

(New Course)

Faculty Code : 003

Subject Code : 027604

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions carry equal marks.
(2) Figures on right hand side indicate marks.

- 1 Answer the following : (Any **Seven**) **14**
- (i) What is the main function of Logic Analyzer?
 - (ii) Write the types of logic analyzer.
 - (iii) Draw the master-slave configuration block diagram of In-Circuit Emulator.
 - (iv) Write any four features of In-Circuit Emulator.
 - (v) What are the advantages of surface mount technology?
 - (vi) Write the steps for assembly process of surface mount devices.
 - (vii) Write the all the menu items of menu bar of the Protel schematic capture.
 - (viii) What is the function of place command used in Protel schematic capture?
 - (ix) Write the voltage equation for transformers.
 - (x) Define the eddy currents in transformers.

- 2** Answer the following : (Any **Two**) **14**
- (a) Write a note on Hysteresis loss, Remnant flux density and induced EMF in context of transformer. **7**
- (b) Explain the Transformer on load and derive the equations for leakage inductances. **7**
- (c) Explain the power handling capacity of a transformer. **7**
- 3** Answer the following : **14**
- (a) Write a note on Window Utilization Factor for Transformer. **7**
- (b) Write a note on factors affecting efficiency of the Transformer. **7**
- OR**
- 3** Answer the following : **14**
- (a) Explain the Place command of Protel schematic capture. **7**
- (b) Explain the use of drawing tools: Arcs, Elliptical Arcs, Pie charts, Rectangle, Polygons, Beziers, Line. **7**
- 4** Answer the following : **14**
- (a) Explain the detailed working of a logic analyzer. **7**
- (b) Draw and explain the architecture of In-Circuit Emulator. **7**
- 5** Answer the following : (Any **Two**) **14**
- (a) Write brief introduction of surface mount technology and surface mount devices. **7**
- (b) Write the process of designing SMD boards. **7**
- (c) Write a note on thermal considerations and substrate selection in context of SMT. **7**
- (d) Write a note on adhesives used in SMT. **7**