



**PBC-003-1273003** Seat No. \_\_\_\_\_

**M. Sc. (ECI) (Sem. III) (CBCS) Examination**

**November / December - 2018**

**Paper - 12 : Circuit Simulation & PCB Designing Tools**  
*(New Syllabus)*

**Faculty Code : 003**


**Subject Code : 1273003**

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

[Total Marks : 70



**Instructions :** (1) Figures on right hand side indicate marks.  
(2) Assume suitable data if necessary.

**1 Answer the following : (Any Seven) 14**

- (1) What is the use of Wire Label Mode in PROTEUS? Also draw its symbol.
- (2) What is the use of circuit simulator?
- (3) Draw NOR & NOT logic gate with truth table.
- (4) What is the full form of PCB? Also explain working of PCB.
- (5) Name the given symbols. 
- (6) What is the use of Graph Mode in PROTEUS? Also draw its symbol.
- (7) Draw any pattern for Capacitor and IC7805.
- (8) What is the full-form of ISIS and ARES in PROTEUS?
- (9) What is the use of DipTrace Software?
- (10) Draw the symbol of Diode and Op-Amp.

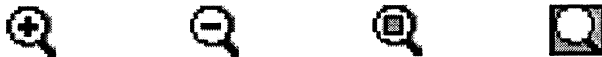
**2 Answer the following : (Any Two)**

- (1) Draw & explain Half Wave Rectifier circuit. 7
- (2) Write a note on GENERAL EDITING FACILITIES 7  
in PROTEUS.
- (3) Draw all symbols of 2D GRAPHICS and write use 7  
of each of them.

- 3 Answer the following :
- (1) What is the use of Oscilloscope, Function Generator, AC-DC Ammeter and AC-DC Voltmeter? 5
  - (2) Identify the following symbols. Draw a circuit by using them & also explain its working in PROTEUS. 5
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- (3) Draw an AND & NOT logic gate circuit using transistor. 4

**OR**

- 3 Answer the following :
- (1) Draw & explain 5V regulated power supply. 5
  - (2) Give basic introduction about DipTrace. Also explain all Program Modules that are available in Dip Trace. 5
  - (3) Identify the following symbols & explain working of them in PROTEUS : 4



- 4 Answer the following :
- (1) Write a function of Junction Dot Mode and Terminal Mode in PROTEUS. What is the use of Rotate and Mirror Icons in PROTEUS? Also draw a symbol of each. 7
  - (2) Explain about two types of windows used in PROTEUS. 7

- 5 Answer the following : (Any **Two**)
- (1) Design & explain Decade Counter using J-K flip-flop. 7
  - (2) Write a short note on CO-ORDINATE SYSTEM in PROTEUS. 7
  - (3) Explain Inverting and Non-Inverting Operational Amplifier. 7
  - (4) Write a note on ANNOTATING THE DIAGRAM. 7