

PRSU BCA PART 1 QUESTION PAPER
PAPER 3: INTRODUCTORY ELECTRONICS - 2017

Time: Three Hours] [Maximum Marks: 50

Note: Attempt any two parts from each question. All questions carry equal mark.

UNIT -1

1. (a) Classify the solid on the basis of energy bands and forbidden gap. Explain the most important energy bands in brief.
- (b) What is P-N junction? Draw and explain V-I characteristics curve of PN junction.
- (c) Draw and explain NOR gate circuitry in RTL family, Write down its specifications.

UNIT - 2

2. (a) Differentiate between Discrete circuit and Integrated circuit.
- (b) Write down the steps to fabricate diode in IC.
- (c) Write short notes on the following :
 - (i) Epitaxial layer
 - (ii) Scaling of ICs

UNIT - 3

3. (a) What do you understand by overflow and underflow ? Explain it with suitable example.
- (b) What is Gray Code? Describe it with suitable example.
- (c) Perform the following operations :
 - (i) $(17225)_8 = (?)_{16}$
 - (ii) $(10110)_2 - (101)_2$ by 1's complement

UNIT - 4

4. (a) Distinguish among various basic logic gates with their truth table.
- (b) Write down the various Boolean laws and describe it.
- (c) Simplify the following Boolean function in SOP form by using K-map :
 $f(A,B,C,D) = \sum(0,1,2,3,7,8,14,15)$

UNIT - 5

5. (a) Distinguish between combinational circuit and sequential circuit.
- (b) Draw and explain the function of S-R flip-flop using NOR gate.
- (c) What is Shift Register? Draw and explain SISO shift register with neat diagram.