

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc (Non-Medical) (Sem.-4)

ELECTRONICS

Subject Code : BSNM-404-18

M.Code : 77682

Date of Examination : 08-07-22

Time : 3 Hrs.

Max. Marks : 50

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Draw the block diagram of RC oscillator.
- b) Write down the formula for voltage gain in FET amplifier.
- c) Give significance of Class A amplifier over Class B amplifier.
- d) Derive relationship between α and β .
- e) What do you mean by dependent voltage source?
- f) Write down the formula for voltage gain in FET amplifier.
- g) Define ripple factor in rectifiers and give its significance.
- h) Why amplification in common emitter configuration is better than other two configurations?
- i) What is the importance of DC load line?
- j) Distinguish between Avalanche and Zener breakdown.

SECTION-B

2. Compare various number system in detail.
3. What is the concept of load line and Q point of transistor along with neat and clean diagram?
4. Describe the concept of bias stabilization in transistors and amplifiers.
5. Design AND-OR logic for the expression $(A+B)(C+D)(E+F)$.
6. How an op-Amp will act as differentiator and integrator? Explain.

SECTION-C

7. Draw and explain the h-parameter equivalent circuit of a transistor in CE configuration. Derive the expressions for input impedance, output impedance, voltage gain and current gain.
8. Explain the fixed bias and voltage divider biasing circuits. Explain which one is better in these two and why?
9. Simplify the Boolean expression using K map :

$$F(A,B,C,D) = \Sigma (0,3,6,7,9,13,14,15)$$

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.