

Date:

Registration number:

ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27

SEMESTER EXAMINATION: JULY 2022

 **EL OE 419 - Digital Electronics and General Electricals**

Time- 90 MIN. Max Marks-35

This question paper contains two printed pages and three parts

**Part A**

**Choose the Correct Answer from the Options Given** 10 X 1 =10

1. The next number after the octal number 107 is
2. 1O8 b)200 c)210 d)110
3. Name the logic gate to give an output 1 if and only if all inputs are logic 1
4. AND b) OR c) XOR d)NAND
5. XS-3 code for 2110
6. 01010100 b) 54 c) 24 d) 11000
7. The BCD code for decimal number 26 is
8. 00100110 b) 00011010 c) 1A d) 59
9. Sum of 9H and AH  =
10. 19H b) 13H c) 17H d) 1FH
11. The output of the following logic circuit is Q =
12. A’+ BC b) ( A + BC)’ c) (A + B )’ + BC d) ( AB)’ + BC



1. 2’S complement of 1010100 is

a) 0101011 b) 0101010 c) 0101111 d) 0101100

1. Domestics power supply voltage in India is

a) 220 V average b) 220 V peak value c) 220 V rms d) 220 V peak to peak

1. Unit of power is measured in household meter in

a) watts b) volt c) kilowatts d) kwH

1. Phase difference between any two phase lines in a three phase system is

a) 3600 b) 1800 c) 2700 d) 1200

**PART-B**

1. **Match the following** 5 marks

a) 2 AH i) 87

b) gray code of 0011010 ii) 57

c) 1110012 iii) 00101010

d) Not an octal number iv) 0010111

e) Nibble v) 4

**PART-C**

**Answer any 10 of the following** 10 x 2 = 20

1. Convert C8H into decimal.
2. Using 2’s complement method, subtract 27 from 54.
3. Convert gray code 100100 into binary.
4. a) State De Morgan’s theorems.
5. Draw the symbol of NOR gate and its truth table.
6. Show that (AC’ + ABC’)’ = A’ + C
7. Construct OR gate using NAND gates.
8. Draw the logic symbol of an EXOR gate and its truth table.
9. Compare AC and DC.
10. What are the uses of a transformer in power transmission?
11. Mention any four methods of power generation.
12. Draw the internal diagram of an extension board.

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