CLASS:-11th
ELECTRONICS

Time: 3 hours   **Max.Marks 70**
Section A (01 mark each)

Q1 One's complement of 1011 is_____

Q2 Binary equivalent of $(11)_{10}$ is_____

Q3 In binary addition 1+1=10 (True/False)

Q4 Capacitor is used to store charge (True/False)

Q5 Equivalent resistor of two resistors of 10kΩ each connected in series is

  (a) 10kΩ   (b) 5k Ω   (c) 20 kΩ   (d) none of a, b and c

Q6 When two Capacitors are connected in series their effective Capacitance_____

    (a) Increases (b) decreases   (c)   remains constant

    (d) Sometimes increases and sometimes decreases

Q7 Frequency of AC Signal is inversely proportional to time period   (True/False)

Q8 CRO can be used to measure voltage (True/ False)

Q9 KCL is applied at junction   (True/False)

Q10 Loop is a point where two or more branches join   (True/ False)

Section B (2 Marks each 2x9=18)
Q11   Find 2'S Complement of1101
Q12   Find the output of OR- gate if its input is 1 and 0

Q13   Draw Truth –table of NAND-gate

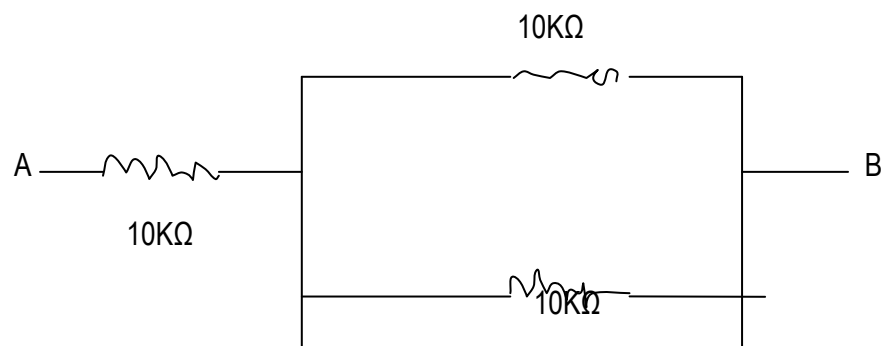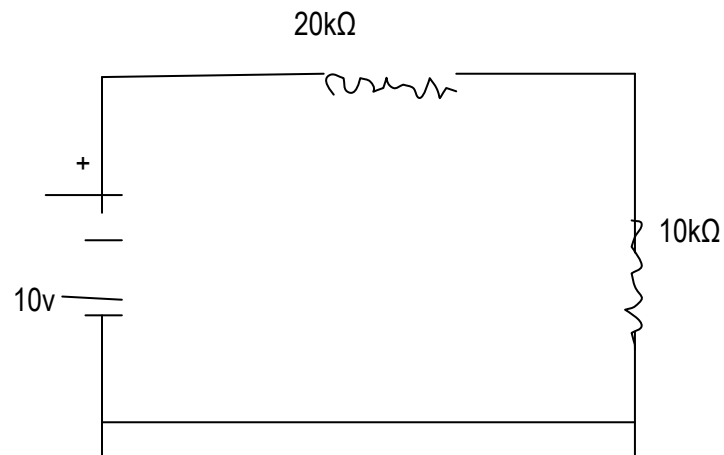**Q14** Find equivalent resistance of a circuit shown in the figure (1

Fig (1)

Q15 Define resistance. What is SI unit of resistance?

Q16 Definition of Instantaneous value, Average value, Peak value, Form factor

Q17 Find voltage drop across 10k resistor in following circuit

$$20k\Omega$$

10kΩ

10v

Q18 Convert $(B9F.AE)_{16}$ to Octal

Q19 when the input to an inverter is HIGH (1), the output is

    (a)   HIGH or 1   (b) LOW or 1   (c) HIGH or 0 (d) LOW or 0

Section C (3 MARKS EACH 3x9=27)

Q20 Draw Switching Circuit for AND – gate and explain its function

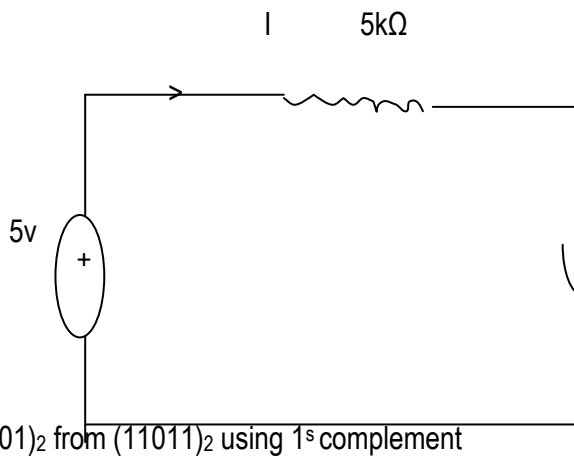**Q21** Draw Truth-table for expression Y= (A+B) C

Q22 what is difference between resistance, resistivity and resistor?

Q23 Define amplitude, frequency and time-period of AC signal.

Q24 Write three applications of CRO.

Q25 Explain KCL with suitable examples.

Q26 Find current I flowing through circuit shown in fig (a)

I   5kΩ

5v

+

Q27 Subtract $(01101)_2$ from $(11011)_2$ using 1^s complement

Q28 Write the output expression for a NAND gate with inputs A,B and C

Section D (5marks each 5X3=15)

**Q29** Convert following decimal numbers into binary
(a) 26   (b) 42

Or

Explain Universal characteristics of NAND- gate. Draw NOT-gate and AND –gate with the help of NAND-gate.

Q30 Find resistance and tolerance of a resistor with color bands RED, BLACK, ORANGE and SILIVER.

Or

What is Sinusoidal signal? And Give its Characteristics.

Q31 Find current through5 kΩ resistor of the circuit shown in following figure

10kΩ   10

5kΩ

+

-
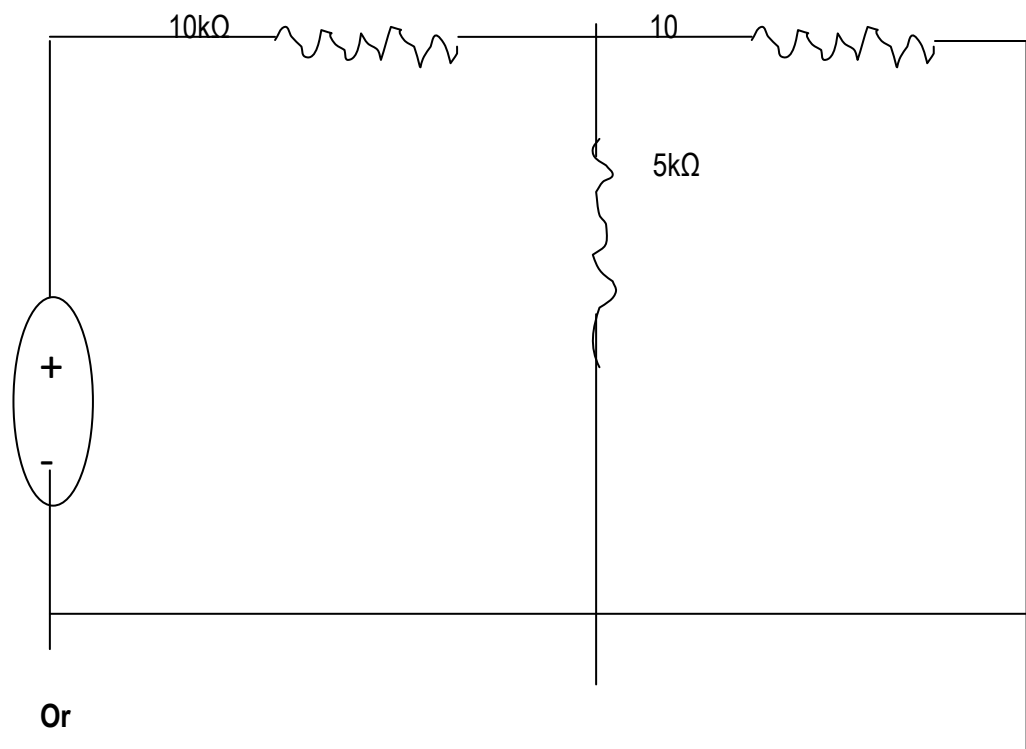
Or

Give the advantages of Octal Number system.