

II ND /COMMON / 2022(S)

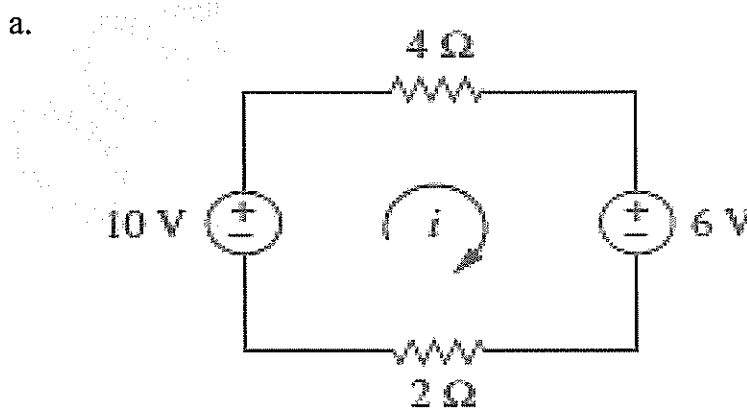
Th4-A&B Basic Electrical and Electronics

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1 & 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. What is the importance of pole and pole shoes in DC machine?
 - b. With a 8 ohm resistor and a 6 ohm inductive reactance, what is the total impedance?
 - c. What is the function of penstock in hydroelectric power plant?
 - d. What is fuse? Why it is used?
 - e. Write down 2 uses of PMMC & MI type instrument.
 - f. What is transducer and classify different types of transducer?
 - g. What is the function of filter?
 - h. What is the function of delay line in CRO?
 - i. What is ripple and ripple factor?
 - j. Write down the relationship of output and input current gain in CE, CB configuration.
2. Answer **Any Six** Questions 6 x 5



Find out (i) current (ii) voltage drop across 4 ohm and 2 ohm (iii)
Power absorbed by resistance 4 ohm and 2 ohm.

- b. Write down the construction and principle of filament lamp.
 - c. Discuss the torques required in measuring instruments in briefly.
 - d. With a neat block diagram explain the working of unregulated DC power supply system.
 - e. With a neat circuit diagram explain full wave center tap rectifier.
 - f. Explain different types of modulation.
 - g Explain the construction and working principle of a PN junction diode.
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| 3 | A coil of resistance 10 ohm and inductance 0.1H is connected in series with a capacitor 150 μ F across a 200V,50 Hz supply. Calculate (i)Inductive reactance (ii)Capacitive reactance (iii)Impedance (iv) Power factor(v) Current | 10 |
| 4 | A building has the following electrical appliances
(i) A 1.5 HP motor running for 6 hrs in a day.
(ii) Four fans each of 80W running for 10 hrs. in a day.
(iii) Four tube lights of 40W running for 15 hrs. per day.
Find the monthly bill for the month of February 2022 if unit cost of bill is Rs.2.50. | 10 |
| 5 | Draw the block diagram of Thermal Power Plant and explain the function of each elements of it. | 10 |
| 6 | (a) Explain the working principle of single-phase CE amplifier.
(b) Explain working principle of multimeter with block diagram. | 10 |
| 7 | Define Oscillator and classify it. Also explain working of basic Oscillator with simple block diagram. | 10 |