Section-B
(Short Answer)

Note: Answer any SIX of the following questions.

Q.2 A heat engine operators between two reservoirs at temperatures of 25oC and 300°C. What will be its maximum efficiency?

Q.3 Why the resistance of conductor is inversely proportional to the area of cross – section of conductor?

Q.4 Define electromotive force and electric field intensity. And what are their Units.

Q.5 Define hennery and describe the mutual induction of pair o coils with the help o diagram.

Q.6 We want to convert galvanometer inot (a) an ammeter and (b) a voltmeter. Wha to do in each cose?

Q.7 What is the difference between? Fission and Fusion reaction? Why Fusior reaction is more difficult to achieve?

Q.8 Two capacitors of 3μF and 9μF, are joined in series and a potential difference o 200 Volts applied . Find P.D for each capacitor.

Q.9 What are the advantages and disadvantages of X-ray? Write some of its applications.

Q.10 Explain. Why does the resistance of a conductor rise with the rise ir temperature?

Section-C
(Descriptive Answer)

Note: Answer any TWO of the following questions.

Q.11 Describe the cyclic process of a Carnot Heat engine and derive the expressior for its efficiency.

Q.12 Determine the equivalent capacitance of three capacitors of capacitance C_1, C_2 and C_3. When connected in (i) series and (ii) Parallel.

Q.13 Write notes on any TWO of he following:

(a) Photoelectric effect

(b) Force on current carrying conductor placed in a uniform magnetic field.

(c) Transformer.