

(2)

2. (a) Explain working principle of motor (d.c.). 5
(b) Explain Nuclear power plant with Block diagram. 10
3. (a) A long shunt compound generator delivers a load current 50A at 500V has armature resistance, series field and shunt field resistance of 0.05 ohm 0.03 ohm and 250 ohm respectively. Calculate the generated voltage and armature current. Allow 1V per brush for contact drop. 5
(b) A capacitor $20\mu\text{F}$ is connected with 120 ohm resistor across 100V, 50Hz supply. Calculate
(i) Voltage across resistance (ii) The phase difference between the current and supply voltage (iii) Power consumed. Also draw vector diagram. 10
4. (a) Derive emf equation of d.c. generator. 5
(b) Explain different types of wiring and their comparison. _____ 10