Question Bank (G scheme)

Name of subject: POWER ENGINEERING   **Unit Test :II**

Subject code: 17529   **Course : ME**

Semester: V

CHAPTER 3: AIR COMPRESSOR

Q.1   Explain the different uses of compressed air.   3M

Q.2   Compare the Reciprocating compressor and rotary compressor.   4M

Q.3   Explain the need of multistaging a compressor.   3M

Q.4   Define perfect and incomplete intercoding in air compressor and show it by graph also.   3M

Q.5   A single stage acting reciprocating air compressor has a bore 300mm and stroke 400mm is

required to compressor air from 1 bar to 5 bar if compressor run at 200rpm.Find maximum and

minimum power required to run the compressor.   4M

Q.6   Two stage compressor work between 1 bar to 10 bar. Compressor inlet air temperature 30®C Index

of compression is 1.3 neglecting clearance. Determine:

(1)   Intermediate pressure

(2)   Work done in compression   4M

CHAPTER 4: GAS TURBINES AND JET PROPULSION

Q.1   Explain the principle of Ram jet witch sketch.   3M

Q.2   Explain the reheating using T-S diagram in gas turbine.   3M

Q.3   Compare closed cycle and open cycle gas turbine.   4M

Q.4   Explain anyone method to improve thermal efficiency of gas turbine.   3M

Q.5   Explain regeneration method to improve thermal efficiency of gas turbine.

Q.6   A Constant pressure open cycle gas turbine work between temperature range of 15®C and 700®C

and pressure ratio of 6. Find the mass of air circulating through the plant if it develops 1100kw. 4M

CHAPTER 5: REFREGERATION AND AIR CONDITIONING

Q.1   Define the following:

(1) Dry bulb temperature.

(2) Wet bulb temperature.

(3) Dew point temperature.

(4) Specific humidity.   4M

Q.2 Show the following processes on psychrometry chart.

(1) Sensible heating.

(2) Sensible cooling.

(3) Heating and humidification.

(4) Cooling and dehumidification.   4M

Q.3 Define air conditioning ? State the classification of air conditioning with their applications.3M

Q.4 Explain the working of ice plant with neat sketch.   3M

Q.5 Explain the components of vapour compression cycle.   4M