

## Thermax Sample Paper Questions

Q1. Given, area=1m \* 1.5m wall, k=0.4, l=0.6. Find thermal resistance.

Q2. Arrange according to resistance:  
RTD, thermocouple, thermistor.

Q3. Find COP of a heat pump working between source (7 deg C) and sink (-33 deg C);  
i/p work 1000J o/p 750J.

Q4. A shaft of 100 mm diameter delivering 100 hp at 100rpm. The torque in kg-m is---

Q5. In an isothermal atmosphere, the relation between rate of pressure and rate of density change is---

Q6. Give relation between  $t_2$  and  $t_1$  in terms of  $\gamma$  and Mach number.

Q7. Which delivers least power

- i) Cylinder & piston
- ii) Cam and follower
- iii) Belt drive
- iv) Gear drive

Q8. Newtons law states that

- i) work is a fraction of heat energy transfer
- ii) Heat energy is a fraction of work transfer
- iii) No relation

Q9. Three bodies of mass 10,20,30 are connected together and pulled with a force of 60N. Calculate the acceleration.

Q10. Thermal conductivity of water

- i) water increases with temp,
- ii) decreases with temp,
- iii) increases first then decreases,
- iv) decreases first then increases.

Q11. Output of a thermocouple is measured in ---

**ANS:** mV

Q12. A ball bearing arrangement mechanism is used in ----- mechanism.

**ANS:** steering mechanism.