http://www.punjabpapers.com

S.B. Roll No……

BASIC OF THERMAL AND HYDRAULIC ENGINNERING
3rd Exam/Auto/0930/Nov'18

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Fill in the blanks. **1.5x10=15**

a. _____ is the heart of the hydraulic system.
b. COP stands for _____.
c. Constant pressure cycle is also called _____.
d. Viscosity is _____ to the flow of liquid.
e. Everything external to the system is known as _____.
f. Boyle's law `is applicable when _____is constant.
g. In mines, the compressed air is used to drive the pneumatic tools. (T/F).
h. Zeroth law determines temperature. (T/F).
i. The properties of a thermodynamic system, which are dependent on its _____ are known as extensive properties.
j. One bar is equal to _____ N/m2.

SECTION-B

Q2. Attempt any five Questions. **5x6=30**

i. Explain the various modes of heat transfer.
ii. What are the various components of hydraulic system?
iii. Explain in brief Otto cycle.
iv. Explain briefly with examples First law of thermodynamics.
v. Define the following.
    a. System.
    b. Surrounding.
    c. Boyle's law.
    d. Internal energy.
vi. Explain the various types of air cylinder or actuator.
vii. What are the components of air-conditioning system and their functions?

SECTION-C

Q3. Attempt any two Questions. **2x15=30**

a. Explain with a neat sketch the construction and working of centrifugal compressor.
b. Explain with a neat sketch the construction and working of hydraulic jack.
c. Write short note on the following.
    i. Unit of refrigeration.
    ii. Human comfort.
    iii. Super charger.
    iv. Pascal's law.
    v. Air filter.

http://www.punjabpapers.com