

Nov - Dec - 2012

Total No. of Questions : 12]

SEAT No. :

P925

[Total No. of Pages : 7

[4263] - 218
T.E. (Mechanical)
(Common to Mech. S/W)
TURBO MACHINES
(2008 Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:-

- 1) Answer any 3 questions from each section.
- 2) Answers to the two sections should be written in separate books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
- 6) Assume suitable data, if necessary.

SECTION - I

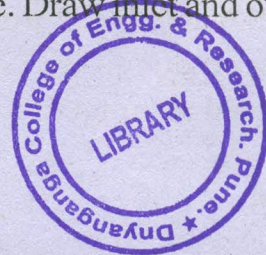
Unit - I

Q1) a) A jet of water having a velocity of 45m/s impinges without shock on a series of vanes moving at 15 m/s. The direction of motion of the vanes is inclined at 20 degrees to that of the jet, relative velocity at outlet is 0.9 of that at inlet, and absolute velocity of water at exit is to be normal to the motion of vanes. [8]

Determine:

- i) Vane angles at inlet and outlet.
 - ii) Work done on vanes per N (newton) of water supplied by the jet; and
 - iii) Hydraulic efficiency.
- b) What do you mean by gross head, net head and efficiency of turbine? Explain the different efficiency of a turbine. Draw inlet and outlet velocity triangles for a pelton wheel. [8]

OR



P.T.O.

