V.P. & R. P. T. P. SCIENCE COLLEGE
INDUSTRIAL CHEMISTRY
B. Sc. - Semester – V

COURSE NO: US05CICH06
Date & Day: 10/10/19 Thursday
TIME: 11.00 A.M 12.15 P.M   TOTAL MARKS –25

Q.1 Answer the following MCQs   (05)
1) The branch of engineering science which deals with the behavior of liquid in motion is called__

a) Aerodynamic b) aerostatic C) Hydrodynamics d) none

2) If the density of fluid is affects appreciably by changes in temp. &pressure, the fluid is to be___

a) Compressible b) non-compressible c) statics fluid d) dynamic fluid

3) Volute converts the --------------------------energy of the liquid imparted by the impeller to pressure
Energy.

a) Mechanical   b) kinetic   c) potential   d) translational

4) Resistance (R) is equal to ....

a) X/R.A b) R/X.A c) A/R.X d) None

5) The shortest distance between the two tubes is called as..............

a) pitch b) Clearance c) amplitude d) None

Q.2 Derive an equation for Bernoulli's theorem. Also write its limitations   (05).

OR
Q.2 Derive an equation for loss of head due to sudden enlargement.   (05)

Q.3 Write notes on: - Valve.   (05)

OR
Q.3 Write the difference between Reciprocating pump & Centrifugal pump.   (05)

Q.4 Derive an equation for heat flow through cylinder.(05)

OR
Q.4 Thermic fluid is flowing at a rate of 5000 kg/hr is to be cooled from 150^0C to 90^0C by   circulating water at a rate of 15,000 kg/hr. If the water is available at 30^0C. Find the outlet temperature of water.
Data: specific heat of thermic fluid = 0.65 kcal/kg^0

Specific heat of water = 1.0 kcal/kg^{0}C   (05)

Q.5 Write a note on shell & tube heat exchanger.   (05)

OR
Q.5 Write a note on scrapped surface heat exchanger.   (05)