

VITHALBHAI PATEL & RAJRATNA P.T. PATEL SCIENCE COLLEGE  
VALLABH VIDHYA NAGAR

S.Y. B.Sc. SEM: IV  
SUB: Industrial chemistry  
SUB CODE: US04CICH02  
Q1. MCQ

INTERNAL TEST

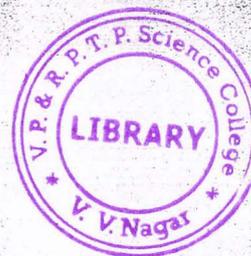
DATE: 11<sup>th</sup> March 2019  
TIME: 3:00 pm to 5:00 pm  
TOTAL MARKS: 50

1. Temporary hardness in water can be removed by:  
(a) Filtration (b) Boiling (c) Sedimentation (d) None of these
2. Permanent hardness in water is caused by presence of:  
(a) Calcium chloride (b) Magnesium sulphate (c) Both of them (d) None of these
3. Which of the following is an external combustion engine?  
(a) Steam Power Plant (b) Diesel engine (c) Petrol engine (d) None of these
4. The maximum temperature reached, when coal is completely burnt in the theoretical amount of air, called:  
(a) Fusion temperature (b) Calorific intensity (c) Ignition temperature (d) None of these
5. Bomb calorimeter is used for determining the calorific value of:  
(a) Solid fuel (b) Liquid fuel (c) Gaseous fuel (d) Both (a) and (b)
6. The heat removing capacity of one tonne refrigerator is equal to  
(a) 21 kJ/min (b) 210 kJ/min (c) 420 kJ/min (d) 620 kJ/min
7. The engine which used water as cooling media is known as  
(a) Air cooled engine (b) Oil cooled engine (c) Water cooled engine (d) none of these
8. Which of the following is an external combustion engine?  
(a) Steam Power Plant (b) Diesel engine (c) Petrol engine (d) None of these

**Q.2 Answer the following in short.(Attempt five, each two marks)**

[10]

- (1) Name the impurities present in natural water.
- (2) Name any two coagulants.
- (3) What is meant by chemical value of fuel?
- (4) What is meant by ignition temperature?
- (5) Enlist the desirable properties of an ideal refrigerant.
- (6) Enlist name of any four inorganic refrigerants
- (7) Enlist the factors affecting the selection of boiler.
- (8) Give the function of safety valve in boiler.



**Q.3** Write a note on Sources of water.

[08]

OR

**Q.3** Explain Common impurities present in natural water.

[08]

**Q.4** Explain advantages of solid, liquid and gaseous fuels over each other.

[08]

OR

**Q.4** With the help of labelled diagram explain construction and working of bomb calorimeter

[08]

**Q.5** Explain with flow diagram of Multi-stage compressor

[08]

OR

**Q.5** Explain with the help of neat sketch, work done by single stage, single acting reciprocating compressor without clearance volume

[08]

**Q.6** Differentiate between internal combustion engine and external combustion engine.

[08]

OR

**Q.6** With the help of neat and labelled diagram explain construction and working of simple vertical boiler.

[08]