



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester 5) Internal Examination - 2025
COURSE CODE: US05MIICH07

FUNDAMENTALS OF PHYSICAL CHEMISTRY

Date: 24.09.2025, Wednesday

Time: 10:45 AM to 11:45 AM

Total marks: 20

Q-1 Select the most appropriate option out of four provided to you. (06)

(i) How many phases are present in the system which consists of liquid water and alcohol?

- (a) 1 (b) 2 (c) 3 (d) 4

(ii) Which of the following exists in four different phases?

- (a) water (b) alcohol (c) sulphur (d) all of these

(iii) When degree of freedom $F = 0$, the system is called _____.

- (a) uni-variant (b) bi-variant (c) tri-variant (d) in-variant

(iv) Which one from the followings is a copolymer?

- (a) Nylon -6,6 (b) PVC (c) Teflon (d) Polybutadiene

(v) _____ is a natural polymer.

- (a) cotton (b) polyethylene (c) nylon (d) poly phosphoric acid

(vi) Which one from the followings is step growth polymer?

- (a) teflon (b) PVC (c) polybutadiene (d) bakelite

Q-2 Draw and explain the phase diagram of water. (07)

OR

Q-2 Derive Gibbs phase rule. (07)

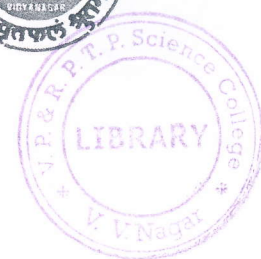
Q-3 Distinguish between addition polymerization and condensation polymerization. (07)

OR

Q-3 Explain the kinetics of anionic polymerization. (07)



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B.Sc. (Semester 5) Quiz – 2025
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Date: 24.09.2025 Day: Wednesday

Time: Maximum 10 minutes

Total marks :05

Q-1 Fill in the blanks with appropriate answer given in the bracket. OR Answer with either true or false.

- (i) The temperature at which one form of sulphur changes into another, at a given pressure is known as _____ temperature.
(1) freezing (2) transition
- (ii) The maximum number of phases in any equilibrium state of a two component system having zero degree of freedom will be _____.
(1) 2 (2) 3
- (iii) The temperature corresponding to the eutectic point is called the _____ temperature.
(1) boiling (2) eutectic
- (iv) Anionic polymerization is called living polymerization. True or False?
- (v) Branched chain polymers are hard. True or False?