



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



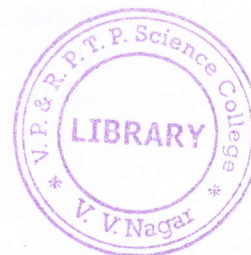
Bachelor of Science (Semester 1) External Examination - 2024
US01MICHE01: Basic Chemistry-I

Date: 20th November 2024, Wednesday
Time: 11:00 AM to 12:30 PM

Total marks: 25

Q-1 Choose the most appropriate option. (05 Marks)

- Which carbocation is least stable?
a) 1° b) $^+\text{CH}_3$
c) 3° d) 2°
- Which following reagent behaves as a Baeyer's reagent?
a) Alcoholic NaOH b) HCOOH
c) Alcoholic KOH d) Alkaline cold KMnO_4
- SP^3 hybridization orbital has _____% S-character?
a) 25 b) 75
c) 0 d) 50
- _____ is not gas at room temperature?
a) Bromine b) Hydrogen
c) Neon d) Nitrogen
- The Electron affinity of _____ elements is either close to zero.
a) Alkaline earth b) Alkali metals
c) Halogen d) Nobel gas



Q-2 A. Give the preparation of alkane. **(05)**

Q-2 B. Calculate % yield of the product obtained upon mono chlorination of n-butane. The relative reactivity of 1° , 2° and 3° H-atom is 1: 3.8 : 5 respectively. **(05)**

PTO.

Or

Q-2 A. Give the difference between E_1 & E_2 reaction. (05)

Q-2 B. Calculate % yield of isomeric products obtained upon mono chlorination of n-pentane.
The relative reactivity of 1° , 2° and 3° H-atom is 1: 3.8 : 5 respectively. (05)

Q-3 A. Calculate Z_{eff} for the last electron in Cl atom ($Z=17$) and Cl^- ion. (05)

Q-3 B. Explain any three factors affecting the magnitude of ionization energy. (05)

Or

Q-3 A. Discuss the application of electronegativity. (05)

Q-3 B. Give answers of any two questions out of three in short. (05)

(i) Define Ionization energy.

(ii) Define term electron affinity.

(iii) Define term principle quantum number (n).

BEST OF LUCK

