

CLASS: B.Sc. CHEMISTRY

15A/ 76

St. JOSEPH'S COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002

SEMESTER EXAMINATIONS – APRIL 2015

TIME: 2 Hrs. 20 Mins.

MAXIMUM MARKS: 70

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14UCH230202	GENERAL CHEMISTRY – II

SECTION – B

Answer all the questions:

5 x 5 = 25

31. a. Write three general methods for preparing alkanes.

OR

b. Explain the free radical mechanism for chlorination of methane.

32. a. Explain froth floatation process.

OR

b. Write any five general characters of alkaline earth metals.

33. a. Define the following: half-life period, mass defect and Soddy-Fajans law.

OR

b. Explain the fusion reactions taking place in Sun.

34. a. Derive the relationship between C_p and C_v .

OR

b. Calculate q , w , Δv and ΔH for the reversible isothermal expansion of one mole of an ideal gas at 27°C from a volume of 10 dm^3 to a volume of 20 dm^3 .

35. a. Write the confirmatory tests for Copper, aluminium and calcium.

OR

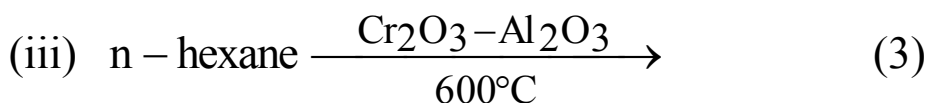
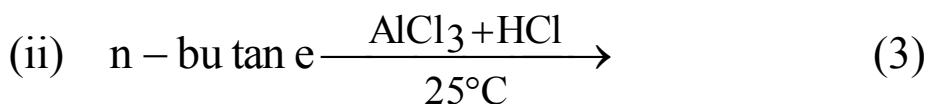
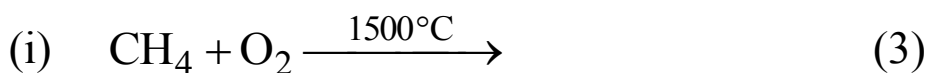
- b. Discuss how the amount of FeSO_4 in a given solution is estimated using KMnO_4 ?

SECTION – C

Answer any THREE questions:

3 x 15 = 45

36. a. Complete the following reactions



- b. Explain the conformation of n-butane. (6)

37. Write note on (5+5+5)

- (a) aluminothermic process
(b) Isotopes of hydrogen
(c) Ionisation energies and electro positive nature of alkalimetals.

38. a. Explain the principle and mechanism of nuclear fission. (5)

- b. Write note on nuclear power reactors and hydrogen bomb.(10)

39. a. Explain Joule – Thomson effect and Joule – Thomson coefficient. (10)

- b. Derive the relation to calculate the work done in reversible isothermal compression of a gas. (5)

40. a. Explain how different metals are separated into groups in qualitative analysis. (8)
- b. Write a note on EDTA titrations. (7)
