

# SREE CHAITANYA MAHAVIDYALAYA

(Affiliated by WEST BENGAL STATE UNIVERSITY)

**B.Sc. Sem-III, Internal Theory Examination, 2021-22**

**Chemistry (General)**

**CEMGCOR03T:** Chemical Energetics, Equilibria, Organic Chemistry-II

Answer-scripts to be sent within 01 hour after exam at

[scm.chem.exam@gmail.com](mailto:scm.chem.exam@gmail.com)

**Time: 30 Minutes**

**Full Marks: 8**

**A. Answer the following questions: (any four) (2 X 4 = 8)**

1. Correlate the equilibrium constants  $K_p$  and  $K_c$  for the reaction



2. Show that for ideal gas  $C_p - C_v = nR$ .

[Where  $C_p$  = Heat capacity at constant pressure &  $C_v$  = Heat capacity at constant volume]

3. Aniline doesn't undergo Friedel-Crafts reaction, though it contains an electron donating group. Why?

4. Explain why bromination of benzene requires  $\text{FeBr}_3$  as catalyst, while bromination of anisole doesn't require any catalyst.

5. Convert:

a) para-nitrobenzoic acid from benzene

b) Benzene from phenol