



**First Term Examination
Even Semester, 2018-19**

Course: B.Tech.

Title of Paper: Engineering Chemistry

Time: 1 Hour

Univ. No. _____

Paper Code: BCHS0101

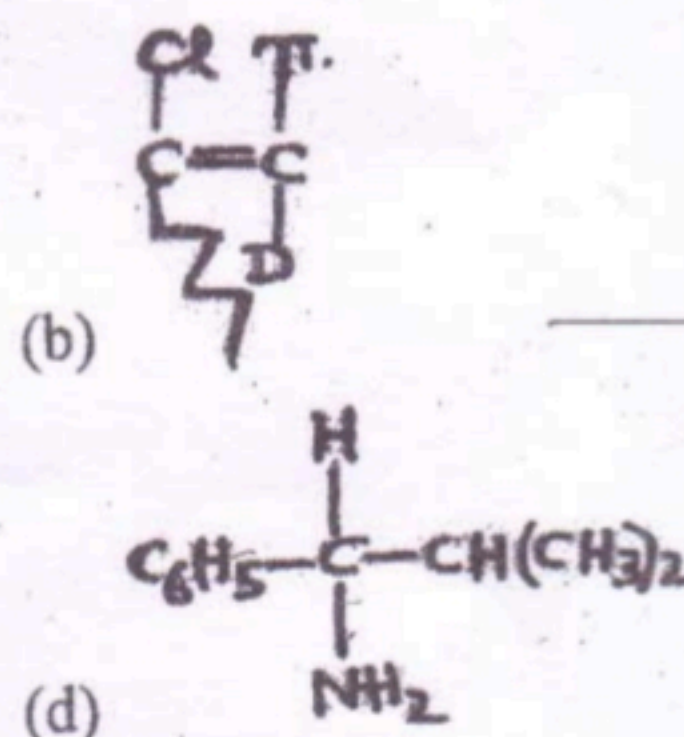
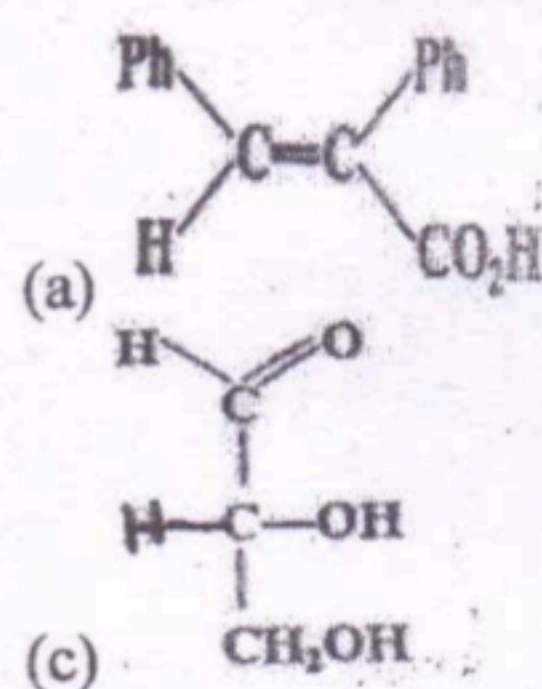
Max. Marks: 15

Section-A

Note: Attempt All Questions

3 × 2 = 6 Marks

- (I) Draw MO diagram of O₂ molecule and calculate its bond order.
- (II) (a) What do you mean by lubrication?
(b) Write important applications of ceramics.
- (III) Assign E or Z configuration for (a) & (b) and R or S configuration for (c) & (d) molecules with proper leveling in their order of priority.



Section-B

Note: Attempt All Questions

3 × 3 = 9 Marks

- (I) What do you understand by hydrogen bond? Discuss its types with example. How does it affect the properties of the compound?
- (II) Explain the Bergius process for preparation of synthetic petrol with neat diagram.
- (III) (a) Differentiate HCV and LCV.
(b) A gas has following composition by volume: H₂ = 32%, CH₄ = 14%, C₂H₄ = 10% N₂ = 30% and O₂ = 14%. If 30% excess air is used, find the weight of air actually needed for combustion of gas.

