



**2023/TDC(CBCS)/EVEN/SEM/
BTCHCC-403T/285**

TDC (CBCS) Even Semester Exam., 2023

BIOTECHNOLOGY

(Honours)

(4th Semester)

Course No. : BTCHCC-403T

(Chemistry—II)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer any ten of the following questions : $2 \times 10 = 20$

- 1. Write a brief note on classification of organic molecules.**
- 2. Write a note on resonance effect.**



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3. Write about mesomeric effect.
4. Write a note on free radicals.
5. What do you mean by electrophiles?
6. Give a brief account of nucleophiles.
7. Write a note on chirality.
8. Define enantiomers.
9. Write about relative configuration.
10. Write a note on halogenation.
11. Write about carbon-carbon sigma bonds.
12. Give a brief account of diastereomers.
13. Write a note on Huckel's rule.
14. Give a short account of sulphonation.
15. Briefly explain E_1 and E_2 reactions.

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(Continued)

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SECTION—B

Answer any *five* of the following questions : $6 \times 5 = 30$

16. Give a detailed account of hybridization and its influence on bond properties. 6
17. Write about inductive and electromeric effects. Add a note on dipole moment. $4+2=6$
18. Describe homolytic and heterolytic fission with suitable examples. $3+3=6$
19. Give an account of addition, elimination and substitution reactions. $2+2+2=6$
20. Define optical isomerism. Describe optical activity and specific rotation. $2+2+2=6$
21. Give a detailed account of racemic mixture and resolution. 6
22. Give an account of Wurtz-Fittig reactions. Add a note on the features of alkanes. $4+2=6$
23. Give an illustrated account of Saytzeff and Hofmann eliminations. $3+3=6$

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(Turn Over)



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24. Give an account of Friedel-Crafts alkylation and acylation. 3+3=6

25. Describe heterocyclic compounds with suitable examples. Add a note on aromatic characters of arenes. 4+2=6
