

I B. Tech II Semester Regular Examinations, September- 2021**APPLIED CHEMISTRY**

(Com. To CSE, CSE-CS&T, IT, CSE-CS, CSE-IOT&CS Incl BCT, CSE-CS&BS, CSE-IOT, Cyber Security)
Time: 3 hours Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

UNIT-I

1. a) Discuss the importance and advantages of biodegradable polymers. (7M)
b) Explain (i) stress-strain graph relating to strength of polymers (ii) two advantages and disadvantages of plastic materials. (7M)

Or

2. a) Write the functions of carbohydrates and proteins which act as biopolymers. (7M)
b) Mention the preparation, properties and applications of an elastomer which cannot be vulcanized. (7M)

UNIT-II

3. a) Discuss how pH is measured by using glass electrode. (7M)
b) Discuss briefly special paints giving examples. (7M)

Or

4. a) What is a fuel cell? Discuss any two types of fuel cells. (7M)
b) Explain electroless plating taking nickel as example. (7M)

UNIT-III

5. a) Explain Stoichiometric and controlled valency semiconductors. (7M)
b) Explain nematic, cholesteric and smectic liquid crystals. (7M)

Or

6. a) Explain Hall effect and mention its applications. (7M)
b) Discuss arc discharge method for preparation of nanotubes. (7M)

UNIT-IV

7. a) List the components in the instrumentation of UV and explain the working of double beam spectrophotometer. (7M)
b) Explain the advantages and disadvantages of tidal and wave power. (7M)

Or

8. a) Discuss the applications of IR. (7M)
b) Discuss the working of photovoltaic cell and mention its advantages. (7M)

UNIT-V

9. Discuss the importance of computational chemistry. (14M)

Or

10. Write notes on rotaxanes. Discuss about an autonomous light-powered molecular motor. (14M)

