

U.G. 5th Semester Examination - 2021

CHEMISTRY

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : CHEM-H-DSE-T-1B

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions: $2 \times 5 = 10$

- a) What is RDX?
- b) Write down the composition of monel metal.
- c) Give two catalytic application of zeolite in chemical industry.
- d) What is a primary battery? Give an example.
- e) What is a fuel cell?
- f) Give an example of PTC.
- g) What is borosilicate glass?
- h) What is alloy?

2. Answer any **two** questions: $5 \times 2 = 10$

- a) Write the composition and uses of optical glass.

What is meant by non-silicate glass? $3+2=5$

b) Write a brief account on composition and classification of cement. 5

c) Write a short note on properties and applications of ceramics. 5

d) How explosives are classified? What is detonation? $3+2=5$

3. Answer any **two** questions: $10 \times 2 = 20$

a) Write a brief account on setting and hardening of cement. 10

b) What is a rocket propellant? How are rocket propellants classified? Give example. What are the requirements for the selection of a propellant? $2+5+3=10$

c) What are fertilizers? How urea, ammonium phosphate and super phosphate fertilizers are manufactured? $1+3+3+3=10$

d) Give two catalytic application of zeolite in chemical industry. What is heterogeneous catalysis? Give an example. What is catalyst fouling? What is catalyst regeneration? How it can be regenerated? $1+2+2+2+3=10$

[Turn over]