

## U.G. 5th Semester Examination - 2020

**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:  $2 \times 5 = 10$
- What is alloy?
  - Write down the composition of monel metal.
  - Give two catalytic application of zeolite in chemical industry.
  - What is a primary battery? Give an example.
  - What is a fuel cell?
  - Give an example of PTC.
  - What is borosilicate glass?
  - What is RDX?
2. Answer any **two** questions:  $5 \times 2 = 10$
- Write the composition and uses of optical glass.

*[Turn over]*

- What is meant by non-silicate glass?  $3+2=5$
- Write a brief account on composition and classification of cement. 5
  - Write a short note on properties and applications of ceramics. 5
  - How explosives are classified? What is detonation?  $3+2=5$
3. Answer any **two** questions:  $10 \times 2 = 20$
- Write a brief account on setting and hardening of cement. 10
  - What is a rocket propellant? How are rocket propellants classified? Give example. What are the requirements for the selection of a propellant?  $2+5+3=10$
  - What are fertilizers? How urea, ammonium phosphate and super phosphate fertilizers are manufactured?  $1+3+3+3=10$
  - 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?  $1+2+2+2+3=10$