

661/5 Chem/PR UG/5th Sem/Chem(H)DSE-2C/PR/20

U.G. 5th Semester Examination - 2020

CHEMISTRY

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : CHEM(H)DSE-P-2C/PR

[PRACTICAL]

Full Marks : 20

Time : 2 Hours

The figures in the right-hand margin indicate marks.

1. Answer any **two** of the following: $10 \times 2 = 20$

a) Briefly discuss the principle of atom economy. Write down the green procedure of bromination of trans-stilbene. Also, write down the overall chemical reaction stating the materials used in this greener transformation. State, why this bromination is safer than conventional method using liquid bromine? $2+4+3+1$

b) Write down the detail procedure and chemical reaction involved in the enzyme-catalyzed Benzoin condensation reaction. What is the role of thiamine hydrochloride in this synthesis? Why it is green compared to the conventional method using cyanide as catalyst? $6+2+2$

[Turn over]

c) Write two alternative energy sources other than thermal energy used in chemical reaction? Write down the detail procedure and chemical reaction involved in the photo-reductive dimerization of benzophenone. Why the test is completely filled up with isopropanol during photo-reductive dimerization of benzophenone?

$2+6+2$