

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
Second Semester 2022-2023

Mid-semester Examination (Closed Book)

Course Name: Chemistry of Synthetic Drugs

Course No: PHA F416

Total Marks: 30

Date: 14-03-2023

Duration: 90 (min)

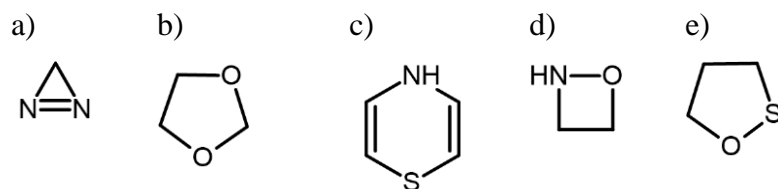
Note: Answer for all questions precisely with appropriate structures and reactions if necessary.

Give the answer for all sub-parts together in one place.

1) Draw the structure of the following, (5X0.5=2.5)

- a) Phosphole b) Oxolane c) Thiolane d) Oxirene e) 1,3,5-triazine

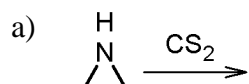
2) Name the following structure, (5X0.5=2.5)

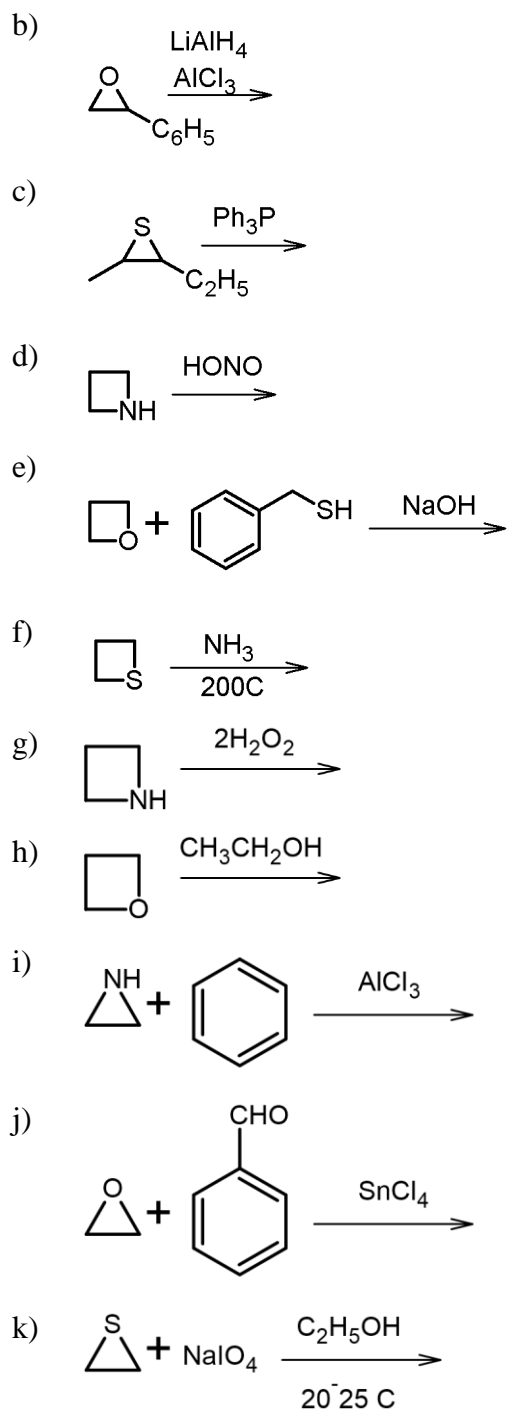


3) How will you synthesize the following, (12x1=12)

- a) 2,2-diphenyl-3-methyl aziridine from aryl oximes
b) 2-methyl oxirane from propene
c) 2-methyl thirane from thiourea
d) N-phenyl azetidone from aniline
e) 2-methyl oxetane from 1,3-butane diol
f) 3-hydroxy thietane from epichlorhydrin
g) 2-benzyl tosylaziridine from phenylalanine
h) 2,2-dimethyloxirane-3-ethylcarboxylate from ethyl chloroacetate
i) Thirane from ethylene carbonate
j) 6-oxabicyclo-[3.2.0]-heptane from cyclopentane-1,2-diol
k) 1-methylazetidone-2-acetate from 2,4-dibromo methylbutanoate
l) 3,3-dimethoxy thietane from 1,3-dibromoacetone dimethylketal

4) Complete the following, (11x1=11)





5) Write the therapeutic uses of the following and identify the heterocyclic nucleus present in it,

a) Taxol b) Azelnidipine c) Mitomycin-C d) Etomoxir (4X0.5=2)
