S.Y.B.SC. SEM – III (CBCS - 2016 Course) : WINTER - 2018

SUBJECT: CHEMISTRY: ORGANIC & INORGANIC CHEMISTRY - III

Day : Tuesday
Date : 16/10/2018

W-2018-0711

Time: 11.00 A.M. To 02.00 P.M.
Max. Marks: 60

N. B.:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Answer to the both sections should be written in **SEPARATE** answer book.

SECTION - I

Q.1 Attempt **ANY TWO** of the following: **(12)**

a) What is aldol condensation? Discuss the mechanism with suitable example.
b) Explain *e*-methyl cyclohexane is more stable than *a*-methyl cyclohexane.
c) What are heterocyclic compounds? Discuss the Skraup synthesis of quinoline.

Q.2 Attempt **ANY THREE** of the following: **(12)**

a) Discuss any two methods for the preparation of ether.
b) What is the action of following reagents on Quinoline?
i) Conc. H_2SO_4 ii) KOH/Heat
c) Explain Saytzeff and Hofmann elimination with suitable example.
d) What are different types of organic reagents? Give one example of each.

Q.3 A) Attempt **ANY ONE** of the following: **(06)**

a) Explain in detail factors affecting the stability of conformations.
b) Explain the following terms with suitable examples.
i) Locking of conformation **ii)** SN^1reaction

SECTION -II

Q.3 B) Attempt **ANY ONE** of the following: **(06)**

a) Explain the trend in following properties of the d-block elements:
i) Melting and boiling points ii) Reactivity
b) What do you mean by Roasting? Explain different types of Roasting in metallurgy.

Q.4 Attempt **ANY TWO** of the following: **(12)**

a) Describe following processes for extraction of Aluminium:
i) Serpek's process ii) Hall's process
b) Explain biological role of Iron.
c) Define 'Smelting'. Describe different methods of smelting in metallurgy.

Q.5 Attempt **ANY FOUR** of the following: **(12)**

a) Explain the process of Electrostatic separation in metallurgy.
b) Write different applications of Aluminium metal.
c) Explain 'Complex formation ability' of d-block elements.
d) How calcium is important in biological systems.
e) Describe in brief Froth floatation process in metallurgy.
f) Comment on trend in 'density' of d-block elements.

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