

B.Sc. Semester - 2 (NEP-2020) Examination

JUNE – 2024

CHE: Foundation in Chemistry (Multidisciplinary Course)

Time: 2:00 Hours

Marks: 50

Instructions:

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que.1 (A) Answer the following question.

(1) Compare ionization enthalpies of alkali and alkaline earth metal. (02)

(2) Write note on Flame test. (03)

(B) Answer the following question. (05)

(1) Discuss diagonal relationship of lithium with magnesium.

OR

Que.1 (A) Answer the following question.

(1) Give the flame colour of any four alkali metals. (02)

(2) Write note on Charcoal test. (03)

(B) Answer the following question. (05)

(1) Define oxide. Explain classification of oxides based on chemical behavior.

Que.2 (A) Answer the following question.

(1) Name any two methods to minimize the errors. (02)

(2) Write only reaction and mechanism for nitration of benzene. (03)

(B) Answer the following question. (05)

(1) Discuss types of errors.

OR

Que.2 (A) Answer the following question.

(1) Describe method to determine TDS of water. (02)

(2) Explain composition of soil. (03)

(B) Answer the following question. (05)

(1) What are the criteria for compound to be aromatic, antiaromatic and non-aromatic? Give at least one example of each.

Que.3 (A) Answer the following question.

(1) Give scientific name of at least four vitamins. (02)

(2) Give classification of polymer based on source. (03)

(B) Answer the following question. (05)

(1) Differentiate: Amorphous and crystalline solid.

OR

Que.3 (A) Answer the following question.

(1) Discuss disease cause by deficiency of any two vitamins (02)

(2) Write note on Schottky defects (03)

(B) Answer the following question. (05)

(1) Give preparation of (i) Nylon-6,6 and (ii) Terylene

Que.4 (A) Answer the following question.

(1) Discuss preparation of original solution in inorganic qualitative analysis. (02)

(2) Explain preparation and structure of Borax. (03)

(B) Answer the following question. (05)

(1) Explain chelation and chelating agents for soil.

OR

- Que.4 (A) Answer the following question.
- (1) State the name of different water purification of methods. (02)
 - (2) Explain water sampling methods. (03)
- (B) Answer the following question. (05)
- (1) Explain preparation method, physical properties and uses of Na_2CO_3
- Que.5 (A) Answer the following question.
- (1) Explain determination of pH of soil. (02)
 - (2) Discuss Source responsible for contamination of water. (03)
- (B) Answer the following question. (05)
- (1) Discuss application of polymer in various field.
- OR
- Que.5 (A) Answer the following question.
- (1) Calculate number of atoms per unit cell in FCC. (02)
 - (2) Explain classification of vitamins with examples. (03)
- (B) Answer the following question. (05)
- (1) Discuss effect of substituents on reactivity of benzene and give examples of o/p and m directing groups.
