

B.Sc. Semester - 2 (NEP-2020) Examination**MARCH/APRIL-2026****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) Give the colour of flame for any four alkali metals. (02)
 - (2) Compare ionization enthalpies of alkali and alkaline earth metal. (03)
- (B) Answer the following question.
- (1) Define oxide. Explain classification of oxides based on chemical behavior. (05)
- OR
- Que.1 (A) Answer the following question.
- (1) Give the colour of flame for any four alkaline earth metals. (02)
 - (2) Write note on Charcoal test. (03)
- (B) Answer the following question.
- (1) Discuss diagonal relationship of lithium with magnesium. (05)
- Que.2 (A) Answer the following question.
- (1) Name any two methods to minimize the errors. (02)
 - (2) Explain composition of soil. (03)
- (B) Answer the following question.
- (1) Discuss effect of substituents on reactivity of benzene and give examples of o/p and m directing groups. (05)
- OR
- Que.2 (A) Answer the following question.
- (1) Describe method to determine TDS of water. (02)
 - (2) Write only General mechanism of Electrophilic Aromatic Substitution reaction of benzene. (03)
- (B) Answer the following question.
- (1) Discuss types of errors. (05)
- Que.3 (A) Answer the following question.
- (1) Discuss diseases caused by deficiency of any two vitamins. (02)
 - (2) Give classification of polymer based on source. (03)
- (B) Answer the following question.
- (1) Differentiate: Amorphous and crystalline solid (05)
- OR
- Que.3 (A) Answer the following question.
- (1) Give scientific name of at least four vitamins. (02)
 - (2) Write note on Frenkel defects. (03)
- (B) Answer the following question.
- (1) Discuss application of polymer in various fields. (05)
- Que.4 (A) Answer the following question.
- (1) Discuss preparation of original solution in inorganic qualitative analysis. (02)
 - (2) Explain preparation and structure of Boric acid. (03)
- (B) Answer the following question.
- (1) Explain chelation and chelating agents for soil. (05)

OR

- Que.4 (A) Answer the following question.
- (1) State the name of different water purification methods. (02)
 - (2) Explain water sampling methods. (03)
- (B) Answer the following question.
- (1) Explain preparation method, physical properties and uses of Na_2CO_3 (05)
- 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.
- (1) Give preparation of (i) Dacron and (ii) PHBV (05)
- Que.5 (A) Answer the following question.
- (1) Write note on Schottky defects. (02)
 - (2) Explain classification of vitamins with examples. (03)
- (B) Answer the following question.
- (1) What are the criteria for compound to be aromatic, antiaromatic and non-aromatic? (05)
Give at least one example of each.
