

7. (a) What is Isotope stratigraphy? Which isotopes commonly used for stratigraphic purpose and why?
- (b) 'Stable carbon isotopes are an extremely useful tool from which to monitor and trace the carbon cycle'. Explain this statement with proper examples.
8. (a) Define 'Geomagnetic Polarity Time Scale'. On what basis this time scale is devised?
- (b) How do you explain 'Linear Magnetic Anomaly' in oceanic crust? What is mean duration of polarity reversal in last 35 Myr?

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7327

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Unique Paper Code : 2193010017

Name of the Paper : Applied Stratigraphy {DSE-12(ii)}

Name of the Course : **B.Sc. (H) Geology (NEP)**

Semester : VIII – Theory Examination
December-2026

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
 2. Attempt any **five** questions.
 3. **All** questions carry equal marks.
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1. (a) With a suitable figure define upstream-controlled and downstream-controlled areas in a sedimentary basin. What are the controlling factors of deposition in these two areas?

- (b) With suitable figures illustrate the stratal stacking patterns in downstream- controlled settings at the times of i) normal regression, ii) forced regression and iii) transgression
2. (a) What is 'Forced Regression'? Define with example of 'Base level' curve.
- (b) How and why does nature of forced regression differ between open wave- dominated shoreline and River-dominated delta?
- (c) Give an idea how strata architecture of shallow-marine forced regressive deposits differs as a function of sediment supply, rates of base level fall and gradient of the sea floor.
3. (a) What do you understand by 'Sequence stratigraphic surface'? How these surfaces help in defining different Systems Tract boundaries?
- (b) With figure discuss how Sequence stratigraphic surfaces are formed depending on Base level curve and Transgressive-Regressive (T-R) curve.

4. Write short notes on :
- (a) Use of paleosol in sequence stratigraphic interpretation
- (b) Maximum Flooding Surface
- (c) Magnetic epoch
- (d) Glauconite as a Sequence boundary marker
5. (a) What is a carbonate platform? Discuss with figures different geometries of carbonate platforms.
- (b) With suitable figures explain response of a carbonate platform in rising relative sea level. What will happen to a carbonate platform if Sea level falls?
6. (a) Define Thermal Remanent Magnetism (TRM) and Depositional Remanent Magnetism (DRM). How samples for paleomagnetic study are collected?
- (b) With a suitable figure define 'Declination' and 'Inclination' of magnetic vector.