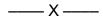
- (e) Justify the following statements: 5
 - (i) Adhesion ripples are not ripples in proper sense.
 - (ii) Reverse grading is more common in eolian environments, as compared to aqueous regime.

5

- (f) Distinguish between
 - (i) Load cast and Flute cast.
 - (ii) Swaley cross-strata and through cross-strata.



INTER BACHELOR OF SCIENCE EXAMINATION, 2019 (2nd Year, 1st Semester)

GEOLOGICAL SCIENCES

Sedimentology

Paper - CORE/TH/05

Time: Two hours Full Marks: 50

Use a separate answer script for each group.

GROUP - A (25 marks)

Answer *q.no.* 1 and any *three* from the rest.

- 1. What is the geological significance of: 5x2=10
 - (a) (i) Broken quartz overgrowth
 - (ii) Mineralogical maturity of sandstone without textural maturity.
 - (iii) Inclined Stromatolite.
 - (iv) Oligomictic and polymictic conglomerate
 - (v) Arkose.

OR

Discuss the mineralogical classification of limestone. Discuss the difference in depositional conditions between oosparite and oomicrite. 8+2

- 2. (a) Why are angularities of the constituting particles high in shale?
 - (b) What are the processes that help to develop microfabric in shale?
- 3. (a) Why are primary sedimentary structures less frequent in occurrences within limestones, as compared to sandstones?
 - (b) Why does siliciclastic supply at high rates hinder carbonate sedimentation? 2+3
- 4. (a) Why is quartz the most abundant mineral in sedimentary rocks?
 - (b) Can matrix in greywacke be of secondary origin? Explain. 2+3
- 5. What are ooids? Discuss the origin of ooids. 5
- 6. How do you define quartz arenite? What are the conditions that favour deposition of quartz arenite?

 What is the geological significance of quartz arenite?

 1+3+1

GROUP - B (25 marks)

- 7. Answer *q.no.* (a) and any *three* from the rest: 5x5=25
 - (a) What are the factors controlling the formation of bedforms? Describe (with suitable sketches) different types of erosional primary structures in sedimentary environments. 2+8

OR

Write a detailed note on shape of sedimentary rocks and their geological significance. Why are 'b' axis imbricatons of pebbles more common in fluvial conglomerates?

8+2

- (b) Are primary structures usually environmentspecific? Explain. Describe one environmentspecific primary structure, highlighting how it signifies the environment. 2+3
- (c) How do sediment gravity flows differ from fluid gravity flows? Why are turbidity currents always subaqueous? 1+4
- (d) Describe the different stages of textural maturities in sandstone. What is the significance of textural inversion?