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TEN – 401

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0068

Roll No.

B. Tech.

(SEM. IV) EXAMINATION, 2007

EARTH SCIENCE & GIS

Time : 3 Hours]

[Total Marks : 100

- Note :*
- (i) *Attempt all questions.*
 - (ii) *Be precise in your answer.*

1 Attempt any **two** parts of the following : **10×2=20**

- a) Define geology. Give a brief account of the scope of the subject of geology and of its different branches.
- b) Enumerate various hypothesis of the origin of the earth. Describe the Nebular and Gaseous tidal hypothesis.
- c) What do you understand by subsidence? Describe the various causes of subsidence. Suggest some precautionary measures for it.

2 Attempt any **two** parts of the following : **10×2=20**

- a) How will you distinguish between the following :
 - i) Haematite and magnetite
 - ii) Calcite and barite
 - iii) Pyrolusite and psilomelane
 - iv) Kyanite and Bauxite.

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- b) Discuss the geological work of wind in respect of erosion, transportation and deposition. Describe briefly its erosional and depositional features. Explain its importance in civil engineering.
- c) Explain any **four** of the following:-
 - i) Accessory plates
 - ii) Pleochroism
 - iii) Extinction angle
 - iv) Weathering
 - v) Refractive index.

3 Attempt any **two** parts of the following : **10×2=20**

- a) What is fault? Describe with the help of neat sketches different parts of a fault give a short account of different types of fault. Enumerate significance of faults in civil engineering works.
- b) Explain the following :
 - a. DIP and Strike
 - b. Joints.
- c) How will you distinguish between the following:-
 - i) Axial plane and axis of fold
 - ii) Asymmetrical and overturned fold
 - iii) Dome and basin
 - iv) Plunging fold and drag fold.

4 Attempt any **two** parts of the following : **10×2=20**

- a) Compare the surface water and ground water for their quality, quantity and collection aspects.

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- b) What is the salinity of soil? What are the causes of salination? Also suggest measures adopted to prevent soil pollution.
- c) Give an account of effect of sedimentary rocks on the quality of groundwater.

5 Attempt any **two** parts of the following : **10×2 = 20**

- a) What are various platforms for remote sensing? Explain their necessity.
- b) Explain the atmospheric absorption of electromagnetic radiation. What are atmospheric windows ?
- c) List the advantages and disadvantages of vector data structure and raster data structure.