

Kolhan University, Chaibasa

M.Sc (Geology) Semester - III, Core Course (CC-7)  
(Model questions) Full marks : 70

Answer five questions, of which Q.No.1 is Compulsory

(1) Answer the following :

1X10 = 10

- (i) A long and thin column of calcium carbonate hanging downward from the ceiling of an underground cavern is known as —  
(a) Stalactite (b) Stalagmite (c) doline (d) uvala
- (ii) A pattern of drainage similar to tree branches in appearance, developed in less permeable rocks is called — drainage  
(a) trellis (b) radial (c) dendritic (d) rectangular
- (iii) The postulate that 'the present is the key to the past' was proposed by —  
(a) Charles Lyell (b) James Hutton  
(c) Alfred Wegener (d) W.M. Davis
- (iv) Natural levee is a depositional feature produced by —  
(a) wind (b) glacier (c) river (d) sea.
- (v) Pedestal rock is formed due to erosion by —.
- (vi) Photogrammetry is the science of obtaining reliable measurements of horizontal distance, direction and elevation using aerial photographs. (True/False)

(vii) Visible part of EM spectrum ranges from ———  $\mu m$  to ———  $\mu m$ . (Sem-III, CC-7)

(viii) Vector data model is a grid or cellular organization of spatial data (True/False)

(ix) The range of electromagnetic band for which the atmosphere is relatively transparent, is called ———.

(x) Green healthy vegetation appears red in IR images (True/False)

(2) Give an account of fluvial cycle of erosion describing the concept of Davis and Penck. (15)

(3) Describe important landforms produced by glacial action. (15)

(4) Describe the development of landforms in relation to structures. (15)

(5) Describe the interaction of EMR with the atmospheric constituents and with the earth's surface. (15)

(6) Write notes on any two of the following : (15)

(a) Electromagnetic spectrum

(b) Microwave remote sensing

(c) India's remote sensing programme.

(7) Describe the methods of aerial photo and image interpretation. (15)

(8) Describe the application of remote sensing in geomorphological mapping. (15)

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M.Sc. (Geology) Semester - III

Core Course (CC-8), Full marks : 70

(Model questions)

(1) Answer five questions, of which Q.No. 1 is compulsory  
Answer the following : 1x10 = 10

- (i) Which of the following ore of copper contains highest percentage of Cu?  
(a) Chalcopyrite (b) Cuprite  
(c) Malachite (d) Chalcocite
  - (ii) Which of the following place is known for copper deposit?  
(a) Khetri (b) Zawar (c) Koderma (d) Lohardaga
  - (iii) Which of the following mineral is used in fertilizer industry?  
(a) Magnetite (b) Kyanite (c) Apatite (d) Calcite
  - (iv) The unit of resistivity is \_\_\_\_  
(a) Ohm (b) Ohm meter (c) Volt (d) ~~tesla~~ tesla
  - (v) Supergene Sulphide enrichment takes place above the water table (True/False)
  - (vi) Tertiary coals have higher Sulphur content as compared to Gondwana coals (True/False)
  - (vii) During coalification process, Carbon content increases while hydrogen and oxygen contents decrease (True/False)
  - (viii) Rank of Lower Gondwana coal is \_\_\_\_
  - (ix) \_\_\_\_ wave is most commonly utilized in seismic prospecting.
  - (x) \_\_\_\_ oil field is situated in Assam.
- Describe important modes of occurrence and morphology of ore bodies. (15)

Sem-III (1C-8)

- (3) Describe the processes of magmatic Concentration of Ore formation. (15)
- (4) Give an account of iron ores, their occurrence and distribution of iron ore deposits in India (15)
- (5) Describe the modes of occurrence, and distribution of mica deposits in India. Add a note on the uses of mica. (15)
- (6) Describe the structure and geology of Tharia coalfield. (15)
- (7) Discuss the processes of migration and accumulation of petroleum. (15)
- (8) Give an account of Gravity method of prospecting describing the principle, method and gravity data interpretation. (15)



Kolhan University, Chaibasa  
M.Sc. (Geology) Semester - III  
Elective (EC-2) Group A: Fossil Geology  
(Model Question), Full marks: 70

- (1) Answer five questions, of which Q.No.1 is compulsory  
Answer the following: 1x10 = 10
- (i) An underground excavation made for removing the ore is called \_\_\_\_  
(a) Stope (b) raise (c) Winze (d) adit
  - (ii) The longwall method of mining is suitable for \_\_\_\_ coal seam.  
(a) Very thick (b) thick (c) thin (d) shallow depth.
  - (iii) The term 'Goaf' is related to \_\_\_\_  
(a) open cast mine (b) underground mine  
(c) drilling (d) washing
  - (iv) Lignite deposits of India belong to \_\_\_\_  
(a) Permian (b) Carboniferous  
(c) Tertiary (d) Quaternary
  - (v) Coal carbonization involves heating of coal to high temperature in the presence of air (True/False)
  - (vi) Coke is used as fuel in the smelting of iron ores in a blast furnace (True/False)
  - (vii) Adit is a tunnel excavated from the hill side to meet the lode or ore body and is open only at one end. (True/False)

- (viii) The largest lignite deposit in India is located in \_\_\_\_\_
- (ix) Singrauli coalfield is located in the state of \_\_\_\_\_.
- (x) The techniques density separation and froth flotation are utilized in \_\_\_\_\_
- (2) Describe the processes of coal washing. Why coal is washed? (15)
- (3) Describe the processes and product of coal carbonization. (15)
- (4) Describe Gondwana palynology and its application in coal exploration. (15)
- (5) Describe important methods of underground coal mining. (15)
- (6) How coal mining causes environmental pollution? Describe the mitigation measures to be taken to control environmental pollution. (15)
- (7) Briefly describe the geographical distribution of coal deposits in Jharkhand. (15)
- (8) Describe lignite deposits of Palana. (15)

Answer sheet of Q.No.1 of Sem -III

CC-7 — (i) — a , (ii) — c  
(iii) — b , (iv) — c  
(v) — wind (vi) — True  
(vii) — 0.4  $\mu$ m to 0.7  $\mu$ m (viii) — False  
(ix) Atmospheric window (x) — True

CC-8 — (i) — b (ii) — a  
(iii) — c (iv) — b  
(v) — False (vi) — True  
(vii) — True (viii) — Bituminous  
(ix) P-wave (x) Digboi

EC-2 (Group-A : Fossil Geology)

(i) — a (ii) — c  
(iii) — b (iv) — c  
(v) — False (vi) — True  
(vii) — True (viii) — ~~Palaeozoic~~ Neyveli (Tamilnadu)  
(ix) — M.P. (x) — Coal Washing.