Paper ID [CE210]

(Please fill this Paper ID in OMR Sheet)

B. Tech. (Sem. - 4th)

ROCK MECHANICS AND ENGINEERING GEOLOGY (CE - 210)

Time : 03 Hours   Maximum Marks : 60

Instruction to Candidates:

1)   Section - A is **Compulsory**.

2)   Attempt any **Four** questions from Section - B.

3)   Attempt any **Two** questions from Section - C.

Section -A

Q1) $(10 \times 2 = 20)$

a)   What do you mean by rock quality designation (R.Q.D.)?

b)   What do you mean by Cirques?

c)   What are the methods of sediment transport by wind?

d)   How faults are recognised in the field?

e)   What do you mean by dip and strike in a rock strata?

f)   Explain the terms throw, heave and strike of fault.

g)   What do you mean by hardness of rock?

h)   List physical properties of Zircon mineral.

i)   What is rock bolting?

j)   What is meant by mineral fracture?

Section - B

$(4 \times 5 = 20)$

Q2)   Give an account of geological work of wind explaining briefly some major geological features produced by this agency on the land surface due to erosion and deposition.

Q3)   What do you mean by unconformity? With the help of neat sketch explain different types of unconformities.

Q4) How folds are classified? Explain with the help of neat sketch important types of folds as distinguished on the basis of a mode of occurrence.

Q5) Describe with the help of neat sketch the procedure to determine the tensile strength of rock mass.

Q6) What do you understand by internal stresses in rock mass. Explain indirect method for the determination of internal stresses in a rock mass?

Section - C

(2 × 10 = 20)

Q7) Give a detailed account of erosive work of rivers elucidating principles and important features of river erosion.

Q8) What are different types of grouting? Which one is most effective for a ground comprising fractured rocks containing enough sizeable voids?

Q9) Name and explain the agent which causes metamorphisms. Also explain different types of metamorphisms.