

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular), November 2016
B. Tech in Civil Engineering, Semester III

Roll No.....

CE304: ENGINEERING GEOLOGY AND
CONSTRUCTION MATERIAL

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A	Objective type multiple choice questions (10 questions @ 1 mark)	10
i.	Wind-blown Deposits of silt and clay grade particles are known as: (a) Crescentic dunes (b) Yardangs (c) Loess (d) Scree Deposits	
ii.	Arenites Rocks made up of : (a) sediments of coarse grain size (b) sediments of finest grain size (c) sediments of sand grade grain size (d) None of these	
iii.	"Disconformity" a kind of structural disturbance in rocks may be identified by one of the following feature: (a) Different inclination (b) No angular variation (c) Both of above (d) None of these	
iv.	Typical character associated with metamorphic rocks are: (a) Plastic Deformation (b) Recrystallization of mineral constituents (c) Development of features like cleavage, foliation, etc. (d) b and c are correct (e) All are correct	
v.	Some mineral show rainbow color either in their interior or on the exterior of surface. This is called : (a) Lustre (b) Fluorescence (c) Phosphorescence (d) Iridescence	

vi.	Corrosion of Concrete is a : (a) Chemical process (b) Physical Process (c) Physico-chemical process (d) None of these	
vii.	Which mortar type is best suited for situations requiring high lateral strength? (a) Type M (b) Type S (c) Type N (d) Type O (e) None of the above	
Viii.	Which of the following is not considered to be a type of safety glass? (a) Wired glass (b) Plate glass (c) Laminated glass (d) tempered glass (e) All of these are types of safety glass.	
ix.	Wooden, metal or masonry vertical member supporting a hand rail in a stairs is known as: (a) Flight (b) Baluster (c) Rise (d) Flier	
x.	Which of the following is shallow foundation system: (a) Wall footings (b) Pier Foundation (c) Pile Foundation (d) both b and c (e) None of above	

Q.2	Short answer type questions (4 questions @ 2.5 marks) Write brief note on the following: i. Stretcher Bond ii. English Bond Define the following terms : a. Scree deposit and Talus slope b. Eluvium and Deluvium	10
Q.3A	Explain the dominant process of chemical weathering for the following types of rocks: (a) Iron containing rocks (b) Silicate bearing rocks	05
Q.3B	How winds are born? Explain at least three methods by which wind performs the work of erosion.	05
Q.4A	Write short note on: i. Fault in Earth's crust ii. Darcy's Law	05

Q.4B	During the course of stream erosion the process of valley deepening give rise to magnificent surface features. Write about any two such features with diagram.	05
Q.5A	Explain shallow foundation system in detail.	05
Q.5B	Explain the modes of formation of minerals in nature.	05
Q.6A	As per national building code, classify the building according to their use or character of occupancy.	05
Q.6B	Explain briefly the main components of any Building.	05
	OR	
Q.6B	Explain the difference between the following : i. Dog-legged Stairs ii. Open newel Stairs	05
Q.7A	Write the short note on the following : i. Potholes ii. Escarpment	05
Q.7B	Explain the difference between the following : (a) Plutonic Rocks & (b) Hypobasal Rocks	05
	OR	
Q.7B	Classify and explain any four types of doors in a building depending upon the type of material used arrangement of different component and method of construction.	05
Q.8A	Describe the structural features of rocks that are responsible for failure in earth crust?	10
Q.9A	Explain the phenomenon of "Double Refraction" in minerals and write the short note on each of the following optical properties of minerals related to double refraction : i. Birefringence ii. Isotropic substances iii. Anisotropic substances iv. Optic Axis	10
Q.9B	Explain the causes of failure of foundation system in detail.	10
	OR	
Q.9B	Write the various defects caused due to dampness in a building and explain the various methods of damp proofing in a building in detail.	10