

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous College U/s UGC Act 1956)

B.Tech. SEMESTER-I, SEMESTER END EXAMINATION - WINTER 2024

Subject Code: 1CV101

Date: 16-12-2024

Subject Name: FUNDAMENTALS OF CIVIL ENGINEERING

Time: 11:00 AM to 01:30 PM

Total Marks: 70

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Write answers of **Section A** and **Section B** in **separate answer books**.
3. Attempt all questions from both **Section A** and **Section B**.
4. Each section carries **35 marks**, with a total of **70 marks** for the examination.
5. The figures to the right of each question indicate full marks, make suitable assumptions with justification.
6. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

	Marks		BL	CO
Q.1 Objective-Type Questions	[05]			
(a) Which of the following imparts greenish grey colour to cement?	1		R	3
(i) Calcium silicate				
(ii) Calcium aluminate				
(iii) Calcium aluminate ferrite				
(iv) Calcium carbonate				
(b) In absorption test on brick, how many hours it has to be soaked in cold water?	1		U	3
(i) 19 hours				
(ii) 5 hours				
(iii) 6 hours				
(iv) 24 hours				
(c) _____ are structural members design to carry and transfer transverse loads across space to support elements.	1		R	3
(i) Beams				
(ii) Columns				
(iii) Lintels				
(iv) Sills				
(d) The treatment given to the roof of a building to prevent the roof from the leakage of water is known as	1		U	3
(i) Fire proofing				
(ii) Damp proofing				
(iii) Termite proofing				
(iv) Sound proofing				
(e) What is the level below window called?	1		U	3
(i) Pane level				
(ii) Lintel level				
(iii) Sill level				
(iv) Plinth level				

Q.2	Attempt Any Two			[10]
	(a) Explain physical and chemical properties of cement.	5	U	3
	(b) Discuss the classification of bitumen.	5	R	3
	(c) Draw and explain with neat sketch of an exogenous tree and show its component parts.	5	R	3
Q.3	Attempt Any Two			[10]
	(a) Draw a detailed sketch of a cross section of a wall showing the components of the building.	5	R	3
	(b) What are the elementary principles of building planning? Describe any two.	5	R	3
	(c) Explain Floor Space Index and its importance in building planning.	5	U	3
Q.4	Attempt Any Two			[10]
	(a) Explain Energy efficient Building.	5	R	5
	(b) What do you mean by green building? Write its objectives.	5	R	5
	(c) Explain the concept and advantage of locally available materials in construction of green buildings	5	U	5

SECTION B

	Marks	BL	CO
Q.5 Objective-Type Questions	[05]		
(a) The rocks formed from molten magma, are called	1	R	3
(i) Igneous rocks			
(ii) Sedimentary rocks			
(iii) Metamorphic rocks			
(iv) None of the these			
(b) The curvature of the earth's surface, is taken into account only if the extent of survey is more than	1	U	2
(i) 100 sq. km			
(ii) 260 sq. km			
(iii) 150 sq. km			
(iv) 350 sq. km			
(c) Hydrology is the science which deals with _____	1	U	4
(i) Surface and underground water			
(ii) Rain Water			
(iii) Palatable Water			
(iv) None of these			
(d) The head of public works department of any Indian state, is _____	1	R	4
(i) Executive Engineer			
(ii) Assistant Engineer			
(iii) Chief Engineer			
(iv) Junior Engineer			
(e) The first Indian railway was laid in _____	1	R	4
(i) 1840			
(ii) 1857			
(iii) 1875			
(iv) 1852			
Q.6 Attempt Any Two	[10]		
(a) Distinguish between plan and map	5	A	2
(b) Explain the importance of Planning, Scheduling and Construction Management	5	A	1
(c) Explain the various methods used in chain surveying.	5	A	2
Q.7 Attempt Any Two	[10]		
(a) Explain the significance of errors in chain surveying.	5	A	2
(b) Elaborate the concept of green building in the field of Civil Engineering.		A,U	5

(c) Explain the role of Civil Engineers in the field of Transportation. 5 A 4

Q.8 Attempt Any Two [10]

(a) Elaborate the principles of surveying and levelling. 5 U,A 2

(b) Illustrate the components and regulations of building construction. 5 A 3

(c) Elaborate the importance of watershed development and water conservation. 5 A 4
