



**K. K. Wagh Institute of Engineering Education and Research,
Nashik**

(An Autonomous Institute from A. Y. 2022-23)

Marking Scheme

Exam Seat No.:

End-Sem Examination-II

Academic Year: 2025-26

Class: F.Y.B. Tech Civil Engineering

Branch Code: CIV222012

Name of Course: Introduction to Civil
Engineering

Max. Marks: 60

Winter Year 2025

Sem: II

Program: B.Tech

Pattern: 2023

Course Code: 2300118C

Duration: 2:30 Hrs.

Q. No.	Details	Max. Marks
Q.1	Explain the interdisciplinary role of Civil Engineer in different branches. (6 Marks) Urban planning, Environmental Engg, IT, Mechanical Engg, Economics, Project Management etc.....6 marks	[6]
Q.2	Explain surveying as basic area of Civil Engineering (6 Marks) Surveying def.....1 mark Importance, uses..... 5 marks	[6]
Q.3	<p>a) Differentiate between Natural and Artificial Sand (6 Marks) Points: Source, shape, Quality, Gradation, Cost, Availability, Enviro. Impact etc.....6 marks</p> <p align="center">OR</p> <p>b) State the definition and Purpose of Foundation (6 Marks) Definition.....2 marks Purpose..... 4 marks</p> <p>c) Explain the following materials and list their uses in building construction: 1. Reinforcement 2. Stone 3. Cement (6 Marks) Explanation of each individually..... 3marks Uses of each 3 marks</p> <p align="center">OR</p> <p>d) Explain the following materials and list their uses in building construction: 1. Rapid Hardening Cement 2. Plain Cement Concrete (6Marks) Explanation of each individually..... 3marks Uses of each 3 marks</p> <p>e) What are the various types of steel used in building construction? Also state their uses in construction (4 Marks) Mild, stainless, TMT, Corrosion resistant etc..... 4 marks</p>	[16]



**K. K. Wagh Institute of Engineering Education and Research,
Nashik**

(An Autonomous Institute from A. Y. 2022-23)

	<p>OR</p> <p>f) What do you mean by grade of Concrete? State the various grades of Concrete with their nominal proportion (4 Marks)</p> <p>Definition of grade..... 1 mark Different grades with proportion..... 3 marks</p>	
Q.4	<p>a) Define Foundation. Also state the various purpose of providing foundation (6 Marks)</p> <p>Definition of foundation..... 1 mark Purpose of Foundation..... 3 marks</p> <p align="center">OR</p> <p>b) Define Raft Foundation. Also explain under what circumstances Raft Foundation is desirable? (6 Marks)</p> <p>Definition of Raft foundation..... 1 mark Explanation.....2 marks Circumstances 4 marks</p>	[16]
	<p>c) Explain the following with a neat sketch: 1. Isolated Footing 2. Combined Footing 3. Continuous Footing (6 Marks)</p> <p>Explanation of each..... 1mark each Sketch of each.....1mark each</p>	
	<p>OR</p>	
	<p>d) Explain the following: 1. Settlement 2. Superstructure 3. Substructure (6 Marks)</p> <p>Explanation od each..... 2 marks each</p>	
	<p>e) Discuss in brief the merits and demerits of Load Bearing Structure (4 Marks)</p> <p>Merits..... 2 marks Demerits..... 2 marks</p>	
	<p>OR</p>	
<p>f) Discuss in brief the various loads to be considered while designing residential buildings. (4 Marks) All the loads and explanation4 marks</p>		
Q.5	<p>a) Explain in brief the following principles of planning: 1. Aspect 2. Grouping 3. Roominess (6 Marks) Explanation of each..... 2 marks each</p> <p align="center">OR</p> <p>b) Explain in brief the following principles of planning: 1. Orientation 2. Economy (6 Marks) Explanation of each..... 3 marks each</p>	[16]



**K. K. Wagh Institute of Engineering Education and Research,
Nashik**

(An Autonomous Institute from A. Y. 2022-23)

<p>c) For the given data, A) Calculate the total FSI consumed: (i) Built up area-200m² (ii) Total Plot area is 300 m² (iii) Carpet area is 0.7 times built up area B) If allowable FSI is 1, will the plan be sanctioned? Justify your comment. (6 Marks)</p> <p>FSI calculation..... 3 marks Justification..... 3 marks</p> <p style="text-align: center;">OR</p> <p>d) A rectangular plot measures 20 x 30 m. The front and rear spacing is 3 m and side margin is 1.5 m. Permissible FSI is 1.2. A G + 1 storeyed building is to be constructed to consume full FSI. Calculate the Built up area on each storey. (6 Marks)</p> <p>Plot area-600m².....2 mark Allowed Built up-720m²..... 2 mark GF-max. 408m².....1 mark FF-max. 312m² (OR 360m² on both floors).....1 mark</p>	
<p>e) State the different considerations for selection of a site for a Commercial Building. (4 Marks)</p> <p>Location, zoning, site characteristics, utilities, services etc..... 4 marks</p> <p style="text-align: center;">OR</p> <p>f) State the list of important documents to be submitted to the competent authority for sanction of building plan (4 Marks)</p> <p>Application form, site plan, location plan, Land ownership documents, zoning compliance document, enviro clearance, etc..... 4 marks</p>	