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Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



B. Tech (Sixth Semester - Regular) Examinations, April 2026 23BCVPE36013 - Infrastructure Engineering and Management Civil Engineering

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Define infrastructure.	CO1	K1
b. What is social infrastructure?	CO2	K1
c. What is a feasibility study?	CO3	K1
d. Define environmental impact assessment.	CO4	K1
e. What is PPP?	CO5	K1

PART – B**(10 x 5 = 50 Marks)**Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. Define infrastructure and explain its classification with suitable examples.	5	CO1	K1
b. Discuss the importance of infrastructure in national economic and social development.	5	CO1	K1
(OR)			
c. Differentiate between economic infrastructure and social infrastructure with examples.	5	CO1	K2
d. Explain the major components of transport, energy, communication, and urban infrastructure.	5	CO1	K3
3.a. Explain the stages involved in infrastructure planning and project development.	5	CO2	K2
b. Discuss the objectives and components of feasibility studies for infrastructure projects.	5	CO2	K2
(OR)			
c. Explain technical feasibility, economic feasibility, and financial feasibility in infrastructure planning.	5	CO2	K4
d. Discuss the importance of environmental impact assessment in infrastructure projects.	5	CO2	K3
4.a. Define infrastructure financing and explain its significance in project implementation.	5	CO3	K2
b. Discuss traditional sources of finance for infrastructure projects.	5	CO3	K2
(OR)			
c. Explain modern methods of infrastructure financing with suitable examples.	5	CO3	K2
d. Describe the principles and structure of project finance.	5	CO3	K3
5.a. Define infrastructure asset management and explain its objectives.	5	CO4	K2
b. Discuss the importance of operation and maintenance in infrastructure systems.	5	CO4	K2
(OR)			

c.	Explain preventive maintenance, corrective maintenance, and predictive maintenance strategies.	5	CO4	K4
d.	Describe the process of condition assessment and performance evaluation of infrastructure assets.	5	CO4	K3
6.a.	Explain the concept of sustainable infrastructure development with suitable examples.	5	CO5	K2
b.	Discuss the principles of smart infrastructure and smart city systems.	5	CO5	K2
(OR)				
c.	Explain the role of information and communication technology in smart infrastructure management.	5	CO5	K2
d.	Discuss climate-resilient infrastructure and its importance under changing environmental conditions.	5	CO5	K3

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