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BETCK105B



MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE

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First Semester B.E Degree Examination, February/March 2024
Green Buildings

Duration: 3 hrs

Max. Marks: 100

- Note: 1. Answer five full questions choosing one complete question from each module.
2. M: Marks, L: Bloom's level, C: Course outcomes.

Sl. No.	Questions	Marks	CO	RBT Level
Module 1				
1 a)	It is proposed to construct a building with conventional or traditional materials. Elaborate the environmental issues involved in these materials.	10	CO1	L3
b)	A Fibre Reinforced Cement (FRC) composite is preferred for the construction of runway and pavements. Explain the features of FRC.	10	CO1	L3
OR				
2 a)	If you are advised to build a cost-effective structure. enumerate the different low-cost building materials available. and provide an explanation for any two of them.	10	CO1	L3
b)	Suggest suitable building material for construction in coastal regions. Justify your answer by appraising its salient features	10	CO1	L3
Module 2				
3 a)	If you notice a pre-engineered structure next to your traditional building, identify the differences you can draw between both the buildings in terms of various parameters.	10	CO2	L3
b)	If you are assigned to a green building project, identify the different cost-effective building techniques adopted for wall construction. Illustrate any two techniques with a salient feature.	10	CO2	L3
OR				
4 a)	As a structural design engineer, suggest an alternate cost-effective roofing system which reduces the weight of the structure. Discuss the steps to be followed during construction.	10	CO2	L3
b)	Suggest a suitable composite light weight material used for the light weight constructions and illustrate its features.	10	CO2	L3
Module 3				
5 a)	In the context of global carbon emission, buildings are crucial. Demonstrate the contribution of buildings in the carbon footprint and the various ways to reduce it.	10	CO3	L3
b)	Elaborate the concept of life cycle cost assessment of buildings.	10	CO3	L3
OR				
6 a)	To achieve green aspects in a building, discuss its necessity and features which characterize the design and construction of green building. Also mention its economic benefits.	10	CO3	L3
b)	Illustrate the concept of embodied energy in materials.	10	CO3	L3

Module 4				
7a)	Describe the general framework and design process of integrated life cycle design of materials and structures along with the salient features.	10	CO4	L3
b)	A newly constructed commercial building is situated in Bengaluru. Award the building as per LEED rating system.	10	CO4	L3
OR				
8 a)	A building has to be performed using sustainable design concept that demonstrates sustainable development ideas and principles with proper justification.	10	CO4	L3
b)	If a building has scored the points more than 86 according to the GRIHA, identify and explain the main green building aspects it has successfully implemented.	10	CO4	L3
Module 5				
9 a)	As a green infrastructure engineer, suggest a suitable low energy approaches to water management.	10	CO5	L3
b)	As a green infrastructure engineer, how will you use your knowledge in treating the solid waste effectively in terms of low energy?	10	CO5	L3
OR				
10a)	As a green infrastructure engineer, suggest a low energy cooling approach which can be adopted for the building. With a neat sketch illustrate its types.	10	CO5	L3
b)	A building needs to be constructed with cost-effective heating techniques. Suggest any two passive heating techniques to make the building economical.	10	CO5	L3
