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GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester – Regular) Examinations, November – 2022

BOECV7041 – GREEN BUILDING

(Civil Engineering)

Time: 3 hrs

Maximum: 70 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)

(1 x 10 = 10 Marks)

- Q.1. Answer ALL questions** [CO#] [PO#]
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|--|-----|-----|
| <p>a. When does Sustainable Construction take place?</p> <p>(i) During the design phase of a building's development</p> <p>(ii) During the construction phase of a building's development</p> <p>(iii) After construction of the building</p> <p>(iv) None of above</p> | CO1 | PO1 |
| <p>b. unsustainable construction considers the _____ and _____ impacts of construction activities on the surrounding neighbourhood.</p> <p>(i) operational; economical</p> <p>(ii) environmental; operational</p> <p>(iii) environmental; social</p> <p>(iv) None of above</p> | CO1 | PO1 |
| <p>c. Economy can be achieved in doors, windows, ventilator by:</p> <p>(i) No frame</p> <p>(ii) Steel frames</p> <p>(iii) Less width</p> <p>(iv) Less height</p> | CO3 | PO1 |
| <p>d. For a gold LEED certification, how many points are required?</p> <p>(i) 40-49</p> <p>(ii) 50-59</p> <p>(iii) 60-79</p> <p>(iv) 80-110</p> | CO1 | PO3 |
| <p>e. Which of the below is a global scale environmental issue?</p> <p>(i) Eutrophication</p> <p>(ii) Regional ozone</p> <p>(iii) Climate change</p> <p>(iv) Pollution</p> | CO1 | PO1 |
| <p>f. LEED is a building rating system developed and maintained by</p> <p>(i) The New Jersey Board of Public Utilities</p> <p>(ii) The US Department of Energy</p> <p>(iii) The US Environmental Protection Agency</p> <p>(iv) The US Green Building Council</p> | CO3 | PO1 |
| <p>g. Green building practices include</p> <p>(i) Only energy efficiency.</p> <p>(ii) Only recycled materials</p> <p>(iii) Only Environmental Protection</p> <p>(iv) All of these</p> | CO1 | PO1 |
| <p>h. the difference of temperature between the outside air and inside air tends to the deposition of moisture in the room surfaces known as _____</p> <p>(i) Ventilation</p> <p>(ii) Condensation</p> <p>(iii) Diffusion</p> <p>(iv) Dissipation</p> | CO3 | PO1 |
| <p>i. the _____ plays an important role in the comfort of persons affected by ventilation system.</p> <p>(i) Carbon monoxide</p> <p>(ii) Purity of air</p> <p>(iii) Volume of room</p> <p>(iv) Health of occupant</p> | CO1 | PO1 |
| <p>j. The relatively clean wastewater from baths, sinks, washing machines and other kitchen appliances is called _____</p> <p>(i) Grey water</p> <p>(ii) Black water</p> <p>(iii) Yellow water</p> <p>(iv) Wastewater</p> | CO1 | PO1 |

PART – B: (Short Answer Questions)**(2 x 10 = 20 Marks)**

<u>Q.2. Answer ALL questions</u>	[CO#]	[PO#]
a. What are the new challenges in green building?	CO1	PO1
b. How can the biodiversity of urban parkland ecosystems be protected and developed?	CO1	PO3
c. How do you think an energy-independent house can be built?	CO3	PO3
d. To what extent can gardens established on the roofs of buildings in cities increase the biodiversity levels of natural ecosystems in cities?	CO1	PO1
e. Do green lending banks take into account the future impacts of climate change in their creditworthiness screening process?	CO3	PO3
f. How will you reduce electricity consumption in a situation where electricity prices would rise by several tens of percent?	CO1	POQ
g. Which technologies can be used to build a climate-neutral, zero-energy house?	CO1	PO1
h. With which technologies can a climate-neutral, zero-carbon and energy autonomous residential building be built?	CO2	PO1
i. How to Plan Rooms in Passive Solar Building?	CO1	PO3
j. How to set boundaries between the Cost, Time, Quality, and Sustainability performance criteria in sustainable construction projects?	CO2	PO1

PART – C: (Long Answer Questions)**(10 x 4 = 40 Marks)**

<u>Answer ALL questions</u>	Marks	[CO#]	[PO#]
3. a. What is the use of paper insulator in green building?	5	CO4	PO1
b. Explain about the bamboo replacement instead of steel?	5	CO3	PO3
(OR)			
c. What are the merits and demerits of green building?	5	CO1	PO1
d. Explain about the LEED certification system?	5	CO2	PO1
4. a. How would you deal with the assignment problems when some assignments are prohibited?	5	CO2	PO3
b. What are the different criteria for LEED certification system?	5	CO1	PO1
(OR)			
c. What is history of green building?	5	CO2	PO3
d. What are the key attribute of sustainable building?	5	CO1	PO3
5. a. What are the different site protection planning?	5	CO1	PO1
b. Explain about the waste material generated during the construction and demolition of green building?	5	CO2	PO3
(OR)			
c. Briefly explain the HVAC system?	5	CO2	PO1
d. What are the method and tools for building assessment?	5	CO3	PO3
6. a. Explain about silver building case study?	5	CO4	PO1
b. What are the different trends in building rating system?	5	CO1	PO1
(OR)			
c. Explain about the active and passive solar lightning system?	5	CO2	PO2
d. What are the different process for certification in green building?	5	CO1	PO3

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