KUMARAGURU
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Register Number: ……

M.E DEGREE EXAMINATIONS: APRIL /MAY 2024

(Regulation 2018)

Second Semester.

CONSTRUCTION MANAGEMENT

P18CMT2001**:** Building Information Management

COURSE OUTCOMES

CO1: Analyze the selection of various building materials, services, and its structure

CO2: Understand the various environmental aspects involved in the building

CO3: Understand the integration of MEP systems in building construction

CO4: Identify the various components of infrastructure projects

CO5: Analyse the various aspects of safety and maintenance in construction

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Pick the incorrect statements regarding structural integration from the following: CO1 [K_2]
   1) The structure should express its function
   2) The structure should not be subjectively related with the user
   3) The structure should be as simple as possible
   4) The structure should not harmonize with surrounding context

   a) 2,4 b) 1,3

   c) 3,4 d) 1,2

2. Identify the correct statements from the following: CO1 [K_2]
   1. In single enclosure system, roof is distinguishable from the wall
   2. Roof and wall systems may be completely independent systems
   3. For load bearing walls, the roof does not depend on the walls for support
   4. Roof and walls are the important components of the architectural systems

   a) 1,3 b) 2,4

   c) 3,4 d) 1,2

3. Assertion(A): IEQ can enhance the lives of building occupants. CO2 [K_2]
   Reason (R): IEQ encompasses the conditions inside a building such as air quality, lighting, thermal conditions, and ergonomics.

   a) Both A and R are Individually true and R is the correct explanation of A

   b) Both A and R are Individually true but R is not the correct explanation of A

   c) A is true but R is false

   d) A is false but R is true

4. Assertion(A): Green building is also known as sustainable building. CO2 [K_2]
Reason (R): The objective of green buildings is to reduce the overall impact of the built environment on human health and natural environment.

a) Both A and R are Individually true and R is the correct explanation of A
b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

5. HVAC in building services stands for _____ CO3 [K_1]

a) Hot Ventilating Air Cooling systems
b) Hot Ventilating Acoustic Control systems
c) Heat, Ventilation and Air conditioning systems
d) Heat, Ventilation and Air Control systems

6. Assertion(A): The main function of a plumbing is to bring the water from the outside sources of building to wherever needed. CO3 [K_2]
Reason (R): Plumbing helps to collect wastewater at various points inside the building and deliver it to sewers outside the building.

a) Both A and R are Individually true and R is the correct explanation of A
b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

7. Assertion(A): Railroad track ensures the transportation of trains through providing a dependable surface for their wheels. CO4 [K_2]
Reason (R): Railway ties are known as rail joint bar.

a) Both A and R are Individually true and R is the correct explanation of A
b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

8. Sequence the construction of a highway project. CO4 [K_2]
   1. Sub grade course
   2. Weathering course
   3. Base course
   4. Sub-base course
   5. Binder course

a) 1-2-3-4-5
b) 1-3-2-4-5
c) 1-3-2-5-4
d) 1-3-4-5-2

9. _____ can be used as fire extinguishing agent for flammable liquids. CO5 [K_1]

a) Foams
b) Dry powder
c) Carbon-di-oxide
d) Dry chemicals

10. _____ of a building space is the maximum number of persons that may be in the space at any time. CO5 [K_1]

a) Live load
b) Dead load
c) Occupant load
d) Service load

PART B (10 x 2 = 20 Marks)

11.	Mention the elements of unity	CO1	[K_1]
12.	Define aesthetics in terms of architecture	CO1	[K_1]
13.	Differentiate between exfiltration with infiltration	CO2	[K_2]
14.	List out any 4 water proofing materials for weather resistance	CO2	[K_1]
15.	Mention the objectives of MEP integration	CO3	[K_1]
16.	Outline the of Three-Level Integration Sequencing Logic of MEP.	CO3	[K_1]
17.	List out the components of railways	CO4	[K_1]
18.	Compare transmission line and distribution line	CO4	[K_2]
19.	List out any 4 techniques of fire escape	CO5	[K_1]
20.	Discuss on the impact of design in better performance of the building envelope.	CO5	[K_2]

PART C (6 x 5 = 30 Marks)

21.	Explain the necessary functional requirements in design and construction of walls	CO1	[K_2]
22.	Discuss on the various techniques to be adopted in construction of structural elements for controlling the acoustics in a recording theater.	CO2	[K_2]
23.	List out the principles of pipeline positioning in MEP integration.	CO3	[K_2]
24.	Explain the various components of airport and its significance in detail.	CO4	[K_2]
25.	Categorize the various types of fire preventive techniques adopted for safety in in high rise buildings.	CO5	[K_2]
26.	Illustrate the role of construction management and its technological demands in the infrastructure development projects.	CO3	[K_2]

Answer any FOUR Questions

PART D (4 x 10 = 40 Marks)

27.	Identify the various factors involved in selection of construction materials for a highway project.	CO1	[K_4]

28.	Enumerate the building related factors to be considered in Indoor Environmental Quality evaluation of a hospital building	CO2	[K_4]
29.	Illustrate the Eight Criteria involved in sequencing logic of MEP system installation for interface integration in building construction	CO3	[K_2]
30.	Explain the components of highway projects. Suggest alternative solutions for sustainable roadways compared to the existing highways.	CO4	[K_4]
31.	Categorize the different types of pollution produced from construction activities and analyse the various causes and impacts of it	CO5	[K_4]

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