BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – Dip.CE-2022/Dip.CE-2023
Course Name – Building Material and Construction
Course Code - DCEPC301
(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Select the correct characteristic of a good building stone:
a) High porosity b) Low durability
c) Resistance to weathering d) High water absorption

(ii) Select the property that is NOT a general characteristic of a good building stone:
a) High compressive strength b) Low porosity
c) High water absorption d) Resistance to chemical attacks

(iii) Select the correct application of asphalt emulsion:
a) Salad dressing b) Road construction
c) Coffee brewing d) Airplane manufacturing

(iv) Select the industry that commonly uses bitumen for corrosion protection and insulation of pipelines:
a) Fashion b) Telecommunications
c) Oil and gas d) Music production

(v) Identify the characteristic of a good brick that relates to its ability to withstand high temperatures:
a) Color b) Soundness
c) Hardness d) Refractoriness

(vi) Identify the property that defines the density of a good brick:
a) Low compressive strength b) High water absorption
c) Low porosity d) High specific gravity

(vii) Identify the type of engineered wood product that consists of layers of wood veneers glued together with alternating grain patterns:
a) Particle board b) MDF (Medium-Density Fiberboard)
c) Plywood d) Chipboard

(viii) Select the engineered wood product that is made by compressing wood particles and adhesive under high pressure:

a) Chipboard b) Plywood
c) MDF (Medium-Density Fiberboard) d) Veneer board

(ix) Identify or select the term that refers to a decorative wall treatment or molding often used in interior design, especially in kitchens and bathrooms:

a) Concrete floors b) Wooden flooring
c) Skirting d) Dado

(x) Identify or select the flooring type that is ideal for areas where moisture is a concern, such as basements and bathrooms:

a) Concrete floors b) Wooden flooring
c) Skirting d) Dado

(xi) Identify or select the material commonly used for skirting in residential and commercial buildings:

a) Concrete b) Wood
c) Tile d) Metal

(xii) Choose the step that typically follows surface cleaning, filling, and sanding in the preparation process:

a) Applying primer b) Selecting paint colors
c) Applying the finish coat d) Drying the surface

(xiii) Choose the purpose of applying primer before painting:

a) To add color b) To seal the surface
c) To create texture d) To remove contaminants

(xiv) Choose the requirement of formwork that ensures it can withstand the weight of wet concrete and construction loads:

a) Adequate bracing b) Proper alignment
c) Sufficient strength d) Decorative finish

(xv) Choose the requirement of formwork that involves using braces, ties, and supports to keep the formwork in position and prevent bulging:

a) Adequate bracing b) Proper alignment
c) Sufficient strength d) Decorative finish

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Discuss the eco-friendliness of materials affect civil engineering projects. (3)
3. Explain the relationship between specific gravity and the durability of a stone. (3)
4. Describe the primary types of flooring tiles used in construction. (3)
5. List the key requirements for a stone to be considered a good building stone. (3)
6. Compare bitumen and tar in terms of production and use. (3)

OR

Differentiate bitumen and asphalt in terms of production and use. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Differentiate between wall footing and combined footings. (5)
8. Describe the advantages and disadvantages of flat roofs. (5)
9. Describe how a wall footing differ from other types of footings. (5)
10. Explain the primary purpose of the superstructure in a building. (5)
11. Differentiate between pain and varnish. (5)
12. Explain the use of rapid hardening cement and ordinary Portland cement. (5)

OR

Explain the purpose of conducting field tests on cement in construction. (5)