

Enrolment No. _____

SARVAJANIK UNIVERSITY

S-2025 Date: 22-05-25 Time: 09:30 AM to 12:30 PM

Backlog Exam

B. Interior Design - SEMESTER– I EXAMINATION

Course Code: BIID11103

Total Marks: 180

Course Name: BASICS OF BUILDING MATERIALS, COMPONENTS AND STRUCTURE

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1. (A) Do as Directed

(20)

1. Cement is a binding material in mortar. (True or False)
2. _____ Metals do not have a significant amount of iron in its chemical composition.
3. _____ is a good quality wood used to make shutters for a wooden paneled door.
4. For the manufacture of plywood, veneers are placed so that grains of adjacent veneers run at right angles. (True or False)
5. Building can be broadly divided into two components sub-structure and _____
6. Sand stone is a _____ type of rock.
7. Stability means to allow movement (True or False)
8. A column can fail, if its strength is less (True or False)
9. When we add water in cement heat of hydration is generated (True or False)
10. Granite stones cannot be used for construction. (True or False)

(B) Select the correct answer

(20)

1. A construction system where walls are used as filler material between structural members is known as
a) Frame structure b) Load bearing structure c) Hybrid structure d) none of these
2. The rocks which are formed due to cooling of magma at a considerable depth from earth's surface are known as
a) Dynamic rocks b) Sedimentary rocks c) Volcanic rocks d) Igneous rocks

3. Which of the following is the pure st form of iron?
 - a) Cast iron
 - b) Wrought iron
 - b) Mild steel
 - d) High carbon steel
4. Wrought Iron contains carbon up to?
 - a) 0.25%
 - b) 1.0%
 - c) 1.5%
 - d) 2%
5. The cement becomes unsound by the presence of excess
 - a) Sulfur
 - b) Magnesia
 - c) Lime
 - d) All of these
6. Select the incorrect statement from the following
 - a) Hydraulic Lime is generally obtained by burning residual soil
 - b) Hydraulic lime sets slowly as compared to fat lime
 - c) Hydraulic lime is generally used in lime mortar
 - d) None of these
7. Cantilever slab means
 - a) One end fixed & other free
 - b) both ends fixed
 - c) One end hinged & other roller
 - d) both ends free
8. Center to center distance between two column is known as
 - a) Span of a beam
 - b) span of slab
 - c) span of column
 - d) none of these
9. Beam at plinth level of a structure is known as
 - a) Plinth beam
 - b) Ground beam
 - c) Top beam
 - d) foundation beam
10. Inverted beam means
 - a) Beam projecting downward from slab
 - b) Beam projecting upward from slab
 - c) All of these
 - d) None of these

Q2. (A) Explain with sketch (Any Five)

(20)

1. What are sedimentary rocks?
2. Describe Sill and Lintel in a building.
3. Explain Cantilever slab.
4. Define Toughened Glass.
5. Define Metal alloys and its uses.
6. List three types of sand based on the size of their grain.
7. Fixed support & its reaction.

(B). Answer in Brief (Any Four)

(20)

1. Explain glass as a building material.
2. Explain different types of cement and its properties.
3. Enlist various Constituents of Limestone.
4. What are the properties of plastic as a building material?
5. Explain classifications of aggregates.
6. Explain bending action.

Q3: Sketch and Label the following in detail (Any Five)

(50)

1. Steel I-section, L-section and channel section
2. Natural Seasoning process of timber
3. Canopy and Balcony
4. Example showing Axial Tension
5. Foundation for load bearing structure
6. Example showing Torsion.

Q4. Answer in detail with proper sketches. (Any Two)

(50)

1. What are characteristics of a good timber? Explain with the help of neat sketches the structure of a tree with all the components.
2. What are ferrous and Non-Ferrous metals? Elaborate with its properties and applications.
3. Compare Frame structure and Load bearing structure with respect to construction and load transfer action.