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**BTECH**  
**(SEM IV) THEORY EXAMINATION 2021-22**  
**MATERIALS, TESTING & CONSTRUCTION PRACTICES**

**Time: 3 Hours****Total Marks: 100****Notes:**

- Attempt all Sections and Assume any missing data.
- Appropriate marks are allotted to each question, answer accordingly.

SECTION-A	Attempt All of the following Questions in brief	Marks (10X2=20)	CO
Q1(a)	Why is it important to study the properties of building materials?		1
Q1(b)	How the structure of brick tested?		1
Q1(c)	Why steel is preferred as a reinforcing material?		2
Q1(d)	Why are mechanical and properties important of bio plastics?		2
Q1(e)	What is the importance of layout in the construction?		3
Q1(f)	Identify floor materials.		3
Q1(g)	What is the difference between lintel and beam?		4
Q1(h)	How many principles of building planning are important?		4
Q1(i)	What are the examples of natural ventilation?		5
Q1(j)	What is the purpose of escalator?		5

SECTION-B	Attempt ANY THREE of the following Questions	Marks (3X10=30)	CO
Q2(a)	Elaborately discuss the engineering properties of civil engineering materials such as steel, stone and timber that are considered for selecting these materials.		1
Q2(b)	Discuss about properties and characteristic of the glass.		2
Q2(c)	What are the various measure which are taken during termite control?		3
Q2(d)	With neat sketch explain typical cross-section depicting various elements of a building.		4
Q2(e)	Explain with the help of a diagram, the working of a Flushing Cisterns.		5

SECTION-C	Attempt ANY ONE following Question	Marks (1X10=10)	CO
Q3(a)	State and explain the slump cone test on cement concrete . Correlate the slump and workability of cement concrete.		1
Q3(b)	Describe timber moisture test. Define seasoning for timber.		1

SECTION-C	Attempt ANY ONE following Question	Marks (1X10=10)	CO
Q4(a)	Name different processes of manufacture of steel and describe one process in detail with the help of a flow-chart.		2
Q4(b)	Discuss about how do you achieve thermal insulation of exposed doors and windows		2

SECTION-C	Attempt ANY ONE following Question	Marks (1X10=10)	CO
Q5(a)	Describe in detail the construction of a geometrical stair and state where this is commonly used?		3
Q5(b)	Write the advantages of cavity wall. And explain with neat sketch rubble masonry cavity wall.		3

SECTION-C	Attempt ANY ONE following Question	Marks (1X10=10)	CO
Q6(a)	Draw a neat sketch of a timber door with shutter , label various parts and draw the details of various joints.		4
Q6(b)	Explain with neat sketch Mud-phuskka terracing treatment with tile paving.		4

SECTION-C	Attempt ANY ONE following Question	Marks (1X10=10)	CO
Q7(a)	Discuss about factors effecting the Acoustic design of buildings.		5
Q7(b)	Draw neat sketches of the following types of pointing : (i) Vee -Pointing (ii) Groove- Pointing (iii) Beaded Pointing (iv) Tuck - Pointing		5