

# BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course  
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## Third Semester B.E. Degree Examinations, March/April 2023

### BUILDING MATERIALS AND CONSTRUCTION

Duration: 2 hrs

Max. Marks: 100

- Note:**
1. Answer all the questions. Each question carries one mark.
  2. Use only black ball point pen
  3. Darkening two circles for the same question makes the answer invalid
  4. Damaging/Overwriting using whiteners on the OMR are strictly prohibited.

#### Question

1. The crushing strength of a good building stone should be greater than \_\_\_\_\_  
A) 50 N/mm<sup>2</sup> B) 100 N/mm<sup>2</sup> C) 100 kN/mm<sup>2</sup> D) 10 kN/ m<sup>2</sup>
2. The process of giving proper size, shape and finish to the roughly broken stones is termed as \_\_\_\_\_  
A) Dressing B) Seasoning C) Appearance D) Texturing.
3. A fresh cut stone carries some natural moisture content and that is known as \_\_\_\_\_  
A) Quarry sap, B) Seasoning sap C) Cement sap D) Lime sap.
4. What are building materials?  
A) Substance that which cannot be utilised in the construction of a structure  
B) Substance that is utilised in the construction of a structure  
C) Substance that is utilised in the manufacturing of construction materials  
D) None of the above
5. Which of the following are the causes for deterioration of stones?  
A) Appearance, Durability & Fracture  
B) Deleterious substances, Wind & Nature of mortar  
C) Toughness index, Seasoning & Hardness  
D) None of the above
6. The standard size of brick without mortar is \_\_\_\_\_  
A) (200X100X100) mm  
B) (190X90X90) mm  
C) (190X9X9) cm  
D) (19X90x90) mm.
7. The desirable percentage content of Silica in brick earth is \_\_\_\_\_  
A) 25-50%, B) 50-70% C) 20-30%, D) 50-60%.
8. The crushing strength of a good brick should be greater than \_\_\_\_\_  
A) 100 N/mm<sup>2</sup> B) 10 N/mm<sup>2</sup> C) 7.5 kN/m<sup>2</sup> D) 10 kN/ m<sup>2</sup>
9. The specific gravity of a good building stone should be greater than \_\_\_\_\_  
A) 2.5 B) 1.4 C) 2.7 D) 3.7.
10. Water absorption percentage by weight for first class & second-class bricks should be \_\_\_\_\_  
A) >20% & >22% respectively  
B) =20% & >22% respectively  
C) <20% & <22% respectively  
D) =20% & =22% respectively.

11. The construction of building units bonded together with mortar is called as \_\_\_\_\_  
A) **Plastering**, B) **Masonry**, C) **Pointing**, D) **Scaffolding**.
12. An arrangement of layers of bricks or stones by which no continuous vertical joints are formed, is known as \_\_\_\_\_  
A) **Bond**, B) **Arrises**, C) **Quion**, D) **Closer**.
13. The edge formed by the intersection of plane surfaces of brick is called  
A) **Bed**, B) **Corner**, C) **Bed joint**, D) **Arrises**.
14. A course of bricks in which all the bricks are laid in longer face of the brick on facing is known as  
A) **Header course**, B) **Stretcher course**, C) **Alternate course**, D) **English bond**.
15. The exterior angle or corner of a wall is known as  
A) **Closer**, B) **Lap**, C) **Bed**, D) **Quion**.
16. The horizontal layer of mortar upon which the bricks or stones are laid is known  
A) **Course**, B) **Perpend**, C) **Bed joint**, D) **Header**.
17. A bond where bricks are laid in alternate courses of headers and stretchers is known as  
A) **English bond**, B) **Single Flemish bond**, C) **Facing bond**, D) **Flemish bond**.
18. Construction of stone units bonded together with mortar is termed as  
A) **Stone masonry**, B) **Rubble Masonry**, C) **Boulder masonry**, D) **Ashlar masonry**.
19. A bond where each course is comprised of alternate headers and stretchers is known as  
A) **Dutch bond**, B) **Single Flemish bond**, C) **Flemish bond**, D) **English bond**.
20. After the construction of brick masonry, it has to be cured for \_\_\_\_\_ cement mortar.  
A) **2-3 weeks**, B) **2-4 weeks**, C) **1-2 weeks**, D) **1 week**.
21. A horizontal member which is placed across an opening to support the position of the structure above it is known as \_\_\_\_\_  
A) **Roof**, B) **Lintel**, C) **Beam**, D) **Chejja**.
22. A lintel is thus a sort of beam in which width will be equal \_\_\_\_\_  
A) **to the width of the wall**  
B) **to the width of the beam**  
C) **to the width of the door**  
D) **to the width of the roof**
23. If timber lintels are strengthened by MS plates at top and bottom, they are known as \_\_\_\_\_  
A) **Flitched lintels**  
B) **Coated lintels**  
C) **Supporting lintels**  
D) **Tightened lintels**
24. A platform which is projected from wall of a building, constructed above ground floor, supported by columns and enclosed within balustrade is termed as \_\_\_\_\_  
A) **Balcony**  
B) **Canopy**  
C) **Chejja**  
D) **Roof top**

25. The mechanical arrangement of wedge-shaped blocks of stones or bricks mutually supporting each other and supported at the end by supports is termed as \_\_\_\_\_  
A) **Canopy**  
B) **Arch**  
C) **Chejja**  
D) **Haunch**
26. Wedge shaped units forming the courses of an arch is called as \_\_\_\_\_  
A) **Voussoirs**  
B) **Key stones**  
C) **Piers**  
D) **Spandrils.**
27. The inclined or splayed surface on the abutment which is prepared to receive the arch and from which the arch springs is called as \_\_\_\_\_  
A) **Skewback**  
B) **Abutment**  
C) **Intrados**  
D) **Extrados.**
28. The clear vertical distance between the highest point on the intrados and the springing line is \_\_\_\_\_  
A) **Rise**  
B) **Pier**  
C) **Crown**  
D) **Key.**
29. The solid construction between the plinth level and roof level are known as \_\_\_\_\_  
A) **Floors**  
B) **Floorings**  
C) **Plinth base**  
D) **All of the above.**
30. The uppermost part of a building which is constructed in the form of a frame work to given protection to the building against rain, heat, snow, wind etc. is \_\_\_\_\_  
A) **Roof**  
B) **Canopy**  
C) **Balcony**  
D) **None of the above.**
31. An openable barrier secured in a wall opening which provided to give an access to inside of a room is known as \_\_\_\_\_  
A) **Door**  
B) **Window**  
C) **Balcony**  
D) **All of the above.**
32. An opening made in a wall for the purpose of providing day light, vision and ventilation is termed as \_\_\_\_\_  
A) **Window**  
B) **Chejja**  
C) **Frame**  
D) **None of the above.**

33. \_\_\_\_\_ is an assembly of horizontal and vertical members forming an enclosure to which the shutters are fixed.
- A) **Frame**
  - B) **Primary shutter**
  - C) **Secondary shutter**
  - D) **Both B & C.**
34. The top or uppermost horizontal part of frame is known as \_\_\_\_\_
- A) **Head**
  - B) **Top rail**
  - C) **Secondary shutter**
  - D) **Style.**
35. \_\_\_\_\_ is the outside vertical member of the shutter of a door or window.
- A) **Style**
  - B) **Shutter**
  - C) **Head**
  - D) **Mullion.**
36. Series of steps suitably arranged for the purpose of connecting different floors of a building is known as \_\_\_\_\_
- A) **Stair**
  - B) **Stair-case**
  - C) **Stairway**
  - D) **All of the above.**
37. \_\_\_\_\_ is an unbroken series of steps between the landings.
- A) **Flight**
  - B) **Stair-case**
  - C) **Going**
  - D) **Run.**
38. The horizontal platform between two flights of a stair is known as the \_\_\_\_\_
- A) **Landing**
  - B) **Head room**
  - C) **Steps**
  - D) **Tread.**
39. A temporary construction used as a mould for the structure, in which concrete is placed and in which it hardens and matures is known as \_\_\_\_\_
- A) **Formwork**
  - B) **Scaffolding**
  - C) **Shuttering**
  - D) **Both A & C.**
40. The placing of new foundation below an existing foundation in the process of strengthening the existing foundation is known as the \_\_\_\_\_
- A) **Underpinning**
  - B) **Shoring**
  - C) **Raking**
  - D) **All of the above.**

41. The art of covering the surface of masonry work with a suitable material is called \_\_\_\_\_.  
A) **Plastering**  
B) **Pointing**  
C) **Painting**  
D) **Both A & B.**
42. \_\_\_\_\_ is the name given to a decorative type of plaster which provides an excellent finish.  
A) **Stucco**  
B) **Quartz plastering**  
C) **Blistering**  
D) **Popping.**
43. The development of one or more local swellings on the finished plaster surface is \_\_\_\_\_.  
A) **Blistering**  
B) **Peeling**  
C) **Grinning**  
D) **Popping.**
44. The development of a series of hair cracks on the finished plaster surface is known as \_\_\_\_\_.  
A) **Cracking**  
B) **Crazing**  
C) **Fading**  
D) **Efflorescence.**
45. Final treatment with cement or lime mortar made to the joints of the masonry to provide neat appearance is termed as \_\_\_\_\_.  
A) **Membrane damp proofing**  
B) **Pointing**  
C) **Integral damp proofing**  
D) **Both A & C.**
46. Which of the following are the causes of dampness?  
A) **Action of rain, rising of moisture from the ground & Condensation**  
B) **Temperature variation, Peeling & Fracture**  
C) **Pointing, Seasoning & Blistering**  
D) **All of the above**
47. \_\_\_\_\_ is a solid substance in a fine state of division and it forms the bulk of a paint. It determines the character of the paint and imparts durability to the surface which is painted.  
A) **Base**  
B) **Plastering**  
C) **Vehicle**  
D) **None of the above**
48. \_\_\_\_\_ are the liquid substances which hold the ingredients of a paint in liquid suspension.  
A) **Vehicles**  
B) **Bases**  
C) **Colouring pigments**  
D) **Driers.**
49. In \_\_\_\_\_ pointing, the face of the mortar joint instead of keeping it vertical, its upper side is kept about 12 mm inside the face of the masonry and the bottom is kept flush with the face of the wall.  
A) **Flush pointing**  
B) **Struck pointing**  
C) **Recessed pointing**  
D) **Tuck pointing.**

50. The development of one or more fissures not assignable to structural cause is known as \_\_\_\_\_  
A) **Cracking**  
B) **Guniting**  
C) **Flading**  
D) **Flaking.**
51. Which of the following is/are basic building materials?  
A) **Stone**  
B) **Fine Aggregate**  
C) **Brick**  
D) **All of the above**
52. The sandstone, argillaceous stone resist fire up to \_\_\_\_\_  
A) **600°C** B) **500°C** C) **650°C** D) **800°C.**
53. The main function of Alumina in brick earth is to \_\_\_\_\_  
A) **Impart plasticity**  
B) **Impart stability**  
C) **Impart durability**  
D) **Impart colour.**
54. The method of exposing clay to atmosphere for softening purpose is known as  
A) **Weathering,** B) **Blending,** C) **Tempering,** D) **Pugging.**
55. Select the appropriate operations involved in manufacturing of clay bricks from below \_\_\_\_\_  
A) **Preparation of clay, moulding, burning & drying**  
B) **Preparation of clay, moulding, drying & burning**  
C) **Preparation of clay, drying, moulding & burning**  
D) **Moulding, preparation of clay, drying & burning.**
56. The rectangular boxes which are open at top & bottom is known as \_\_\_\_\_  
A) **Frog,** B) **Strikes,** C) **Clay pots,** D) **Moulds.**
57. The process of grinding clay with water and making it plastic is known as \_\_\_\_\_  
A) **Seasoning,** B) **Moulding,** C) **Pugging,** D) **Kneading.**
58. Efflorescence of brick indicates \_\_\_\_\_  
A) **Deposition or presence of white soluble salts on bricks**  
B) **Deposition or presence of earthy patches on bricks**  
C) **Deposition or presence of brown patches on bricks**  
D) **Deposition or presence of green patches on bricks.**
59. A mark or an indentation or depression of depth about 10mm to 20mm made on the top face of a raw brick during moulding is known as \_\_\_\_\_  
A) **Strike,** B) **Frog,** C) **Kiln,** D) **Clamp.**
60. Select the appropriate preservative methods used for completed stone work from below \_\_\_\_\_  
A) **Linseed oil, Paraffin, Szerelmy's liquid.**  
B) **Mud plaster, Lime plaster, Surkhi mortar.**  
C) **Paint, Coal tar, Solution of barium hydroxide.**  
D) **Both A & C.**

61. In \_\_\_\_\_ type of construction, the stones of irregular sizes are used.
- A) Rubble Masonry.
  - B) Ashlar Masonry.
  - C) Brick Masonry.
  - D) Both A & B.
62. The horizontal distance between the vertical joints in successive courses is termed as \_\_\_\_\_
- A) Queen closer, B) King closer, C) Perpend, D) Lap.
63. In \_\_\_\_\_ type of construction, only 2 stones are used to make height of one course
- A) Coursed rubble masonry II sort.
  - B) Coursed rubble masonry III sort.
  - C) Coursed rubble masonry I sort.
  - D) All of the above.
64. \_\_\_\_\_ is made of stones with irregular shape of lumps or nodules of silica on stone surface.
- A) Flint rubble masonry.
  - B) Un-Coursed rubble masonry.
  - C) Polygonal rubble masonry.
  - D) None of the above.
65. The work built from carefully dressed stones with accurate bedding and jointing is termed as \_\_\_\_\_
- A) Ashlar Masonry.
  - B) Rubble Masonry.
  - C) Clay Block Masonry.
  - D) Both B & C.
66. A neat appearance of the grooved joints is obtained in \_\_\_\_\_
- A) Ashlar Chamfered Masonry.
  - B) Rubble Chamfered Masonry.
  - C) Ashlar Facing Masonry.
  - D) None of the above.
67. A vertical load bearing member, length of which exceeds four times the thickness is known as a \_\_\_\_\_
- A) Wall
  - B) Lintel
  - C) Footing
  - D) None of the above.
68. A wall which is designed to carry super-imposed loads, in addition to its own weight is called as \_\_\_\_\_
- A) Load bearing wall
  - B) Non-Load bearing wall
  - C) Cavity wall
  - D) All of the above.
69. A wall which is designed to carry only its own weight & is constructed to divide the space within the building into rooms or areas is called as \_\_\_\_\_
- A) Non-Load bearing wall
  - B) Load bearing wall
  - C) Cavity wall
  - D) All of the above.

70. A wall, which consists of two separate walls called leaves, with a gap between them is termed as \_\_\_\_\_
- A) Cavity wall
  - B) Load bearing wall
  - C) Non-Load bearing wall
  - D) Only B.
71. The bearing of the Lintel i.e., the distance up to which it is inserted in the supporting wall should be the minimum on the following considerations \_\_\_\_\_
- A)  $1/10^{\text{th}}$  or  $1/12^{\text{th}}$  of the span of lintel
  - B) 100-200mm
  - C) 150mm
  - D) All of the above.
72. \_\_\_\_\_ structurally weak, liable to decay and vulnerable to fire.
- A) Wooden or Timber lintels
  - B) Brick lintels
  - C) Stone lintels
  - D) Only B & C.
73. Stone lintels are used up to span of \_\_\_\_\_
- A) 2 meters
  - B) Any span
  - C) Both A & b
  - D) None of the above.
74. If loads are heavy and span is greater than 1m, then brick lintel is provided with reinforcement.
- A) True
  - B) False
  - C) Neither True nor False
  - D) None of the above.
75. When more than one steel joist is placed side by side, they are kept in position by
- A) Tube or pipe separators.
  - B) Concrete separators
  - C) Both A & B
  - D) Timber pieces
76. \_\_\_\_\_ are suitable for all the loads and for any span.
- A) RCC lintels
  - B) Stone lintels
  - C) Timber lintels
  - D) None of the above.
77. \_\_\_\_\_ is an extended position and thin slab above doors, windows and ventilators.
- A) Chejja
  - B) Balcony
  - C) Lintel
  - D) Arch.



78. \_\_\_\_\_ is an overhead roof or else a structure over which a fabric or metal covering is attached, able to provide shade or shelter from weather conditions.
- A) Canopy
  - B) Crown
  - C) Column
  - D) Beam.
79. The clear horizontal distance between the supports is known as \_\_\_\_\_
- A) Span
  - B) Rise
  - C) Key
  - D) Springing point.
80. The intermediate supports of an arch are called as \_\_\_\_\_ & the end supports of an arch are called as \_\_\_\_\_.
- A) Piers & Abutments respectively
  - B) Abutments & Piers respectively
  - C) Piers & Voussoirs respectively
  - D) Abutments & Voussoirs respectively.
81. The top most horizontal member of a shutter is called \_\_\_\_\_
- A) Top rail
  - B) Bottom rail
  - C) Intermediate rail
  - D) Panel.
82. The lower most horizontal member of the shutter is called \_\_\_\_\_
- A) Bottom rail
  - B) Top rail
  - C) Lock rail
  - D) Head.
83. The middle horizontal member of a door shutter is called \_\_\_\_\_
- A) Lock rail
  - B) Top rail
  - C) Bottom rail
  - D) Style.
84. The horizontal projections of the head and sill of a frame to facilitate the fixing of the frame on the wall opening is \_\_\_\_\_
- A) Horn
  - B) Holdfast
  - C) Rebate
  - D) Mullion.
85. The entire assembly of styles, panels and rails is known as the \_\_\_\_\_
- A) Shutter
  - B) Frame
  - C) Head
  - D) Mullion.
86. The vertical member of wood or metal, supporting the hand rail is termed as \_\_\_\_\_
- A) Baluster
  - B) Flight
  - C) Landing
  - D) Newel post.

87. The vertical member which is placed at the ends of flights to connect the ends of strings and handrails is known as \_\_\_\_\_  
A) Newel post  
B) Baluster  
C) Rise  
D) Head room.
88. The construction of a temporary structure to support temporarily an unsafe structure and provides lateral support to the walls is called as \_\_\_\_\_  
A) Shoring  
B) Shuttering  
C) Underpinning  
D) Formwork.
89. A temporary rigid structure having plate forms raised up as the building increases in height i.e., when the height above floor level exceeds about 1.50m is \_\_\_\_\_  
A) Scaffolding  
B) Shuttering  
C) Underpinning  
D) Shoring.
90. The vertical distance between two successive tread faces is called \_\_\_\_\_  
A) Rise  
B) Riser  
C) Tread  
D) String.
91. A fine paste of mortar made by mixing cement with sand or fat lime with sand or Surkhi in addition to sufficient quantity of water is called as \_\_\_\_\_  
A) Plaster  
B) Pointer  
C) Concrete  
D) None of the above.
92. A deposit of soluble salts on the surface of the plaster is \_\_\_\_\_  
A) Efflorescence  
B) Flading  
C) Grinning  
D) Peeling.
93. The scaling away of patches of plaster surface due to lack or loss of adhesion with the previous coat is termed as \_\_\_\_\_  
A) Flading  
B) Popping  
C) Grinning  
D) Blowing.
94. The removal of substantial areas of plaster work from the background is termed as \_\_\_\_\_  
A) Peeling  
B) Blistering  
C) Flading  
D) Popping.

95. In \_\_\_\_\_, the mortar is pressed tightly and the joints are filled up and made flush with the face of the wall.  
A) Flat or flush pointing  
B) Struck pointing  
C) Tuck pointing  
D) None of the above.
96. In \_\_\_\_\_ the face of the mortar joint is pressed inside by means of a suitable tool and is left vertical instead of being made inclined.  
A) Recessed pointing  
B) Weathered pointing  
C) V- pointing  
D) Flat pointing.
97. \_\_\_\_\_ is the presence of hygroscopic or gravitational moisture which gives rise to unhygienic conditions and it effects the life of structure adversely.  
A) Dampness  
B) Painting  
C) Pointing  
D) None of the above.
98. Select the appropriate method of damp proofing from below  
A) Guniting  
B) Action of rain & Condensation  
C) Both A & B  
D) None of the above.
99. The appearance on the surface of the plaster of conical hollows in the backing and/or finishing coats is \_\_\_\_\_  
A) Popping  
B) Blistering  
C) Flading  
D) Grinning
100. The upper horizontal portion of a step upon which the foot is placed while ascending or descending is called \_\_\_\_\_  
A) Tread  
B) Nosing  
C) Rise  
D) String