

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN PUBLIC HEALTH**

PUHE 272: BUILDING CONSTRUCTION AND TECHNOLOGY I

STREAMS: BSC (PUBLIC HEALTH) Y2S1

TIME: 2 HOURS

DAY/DATE: TUESDAY 23/03/2021

8.30 A.M – 10.30 A.M

INSTRUCTIONS

Do not write anything on the question paper.

Mobile phones and any other reference materials are NOT allowed in the examination room.

The paper has three sections. Answer ALL questions in Sections I and II and ONE question in section III.

All your answers for Section I (MCQs) should be on one page.

Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

Write your answers legibly and use your time wisely

SECTION 1: MULTIPLE CHOICE QUESTIONS [20 MARKS]

1. Construction of cavity walls as external walls to protect the building from the outside heat or cold as the hollow space between two walls act as an _____

- a) Burning material
 - b) Insulating material
 - c) Destructive material
 - d) Building material
2. Which gas leads to suffocation and dizziness to the occupants when an increase in its quantity in the air.
- a) Carbon monoxide
 - b) Hydrogen
 - c) Nitrogen
 - d) Carbon dioxide
3. Which one of the given below is a chemical insecticide for termite proofing?
- a) Dieldrin
 - b) Sulphuric acid
 - c) Rodenticide
 - d) Pyrethrins
4. The term _____ is used to indicate the art of building the structures in stones.
- a) Masonry
 - b) Mortar
 - c) Brick
 - d) Bond
5. A column is _____ member.
- a) Vertical load-bearing
 - b) Vertical non-load bearing
 - c) An Isolated load-bearing
 - d) An Isolated non-load bearing
6. Load-bearing walls are defined as those walls which carry their own weight only whereas non-load bearing walls are defined as those walls which can carry superimposed loads in addition to their own weight.

- a) True
 - b) False
7. Which of the following types of walls is constructed to divide the space within the building?
- a) Partition wall
 - b) Cavity wall
 - c) Party wall
 - d) Curtain wall
8. The _____ is a bad conductor of heat and it is also non-combustible building material.
- a) Sandstone
 - b) Granite
 - c) Stone
 - d) Limestone
9. _____ is rarely used as a structural material at present construction works.
- a) Steel
 - b) Cast iron
 - c) Aluminium
 - d) Asbestos cement
10. _____ is a poor conductor of heat and the cracks are formed in this material when heated and then suddenly cooled.
- a) Glass
 - b) Steel
 - c) Brick
 - d) Aluminium
11. A wooden piece provided at the Ridge line of a sloping roof is known as the _____
- a) Truss
 - b) Verge
 - c) Ridge
 - d) Wall plate

12. The _____ is a mixture of cement, sand, pebbles or crushed rock and water, which, when placed in the skeleton of forms and are allowed to cure, becomes hard like a stone.
- a) Cement concrete
 - b) Cement slurry
 - c) Cement grouting
 - d) Cement mortar
13. The _____ is most liable to corrosion.
- a) Gold
 - b) Copper
 - c) Steel
 - d) Wood
14. There is initial _____ of cement concrete which is mainly due to loss of water through forms, absorption by surfaces of forms, etc.
- a) Swelling
 - b) Cracking
 - c) Dispersion
 - d) Shrinkage
15. Which of the following is not a function of a window?
- a) To admit light into the building
 - b) To admit air to the building
 - c) To admit water to the building
 - d) To provide thermal insulation
16. Which of the following factors does not determine the selection of the location of a window?
- a) Size of the room
 - b) Location of the room
 - c) Number of bricks used
 - d) Direction of wind

17. The substance which is used for removing the excess material by means of cutting is called

- a) Abrasive
- b) Adhesive
- c) Cohesive
- d) Asphalt

18. A _____ is a course of stone provided at the top of wall to dispose off rain water.

- a) Throating
- b) Sill
- c) Cornice
- d) Weathering

19. The external corners angles of your wall surface are called the _____

- a) Bond
- b) Reveals
- c) Jambs
- d) Quoins

20. Which of the following should be used for construction in brick-backed ashlar masonry?

- a) Cement mortar
- b) Lime mortar
- c) Mud mortar
- d) Cement concrete

SECTION II (30 Marks)

Answer all questions in this section

1. Explain the meaning of the following in terms in Building and construction

(6

Marks)

- i. Dead Loads
 - ii. Live loads
 - iii. Dynamic Loads
2. Describe **Four** factors that should be considered and investigated during site inspection before setting up a building (8 Marks)
3. Describe the two main types of Building foundation and explain when to use each type of foundation. (8 Marks)
4. a. Describe any two types of Non Load bearing walls. (2 marks)
b. When are Non Load bearing walls used in a building? (2 Marks)
5. Describe any **Two** characteristic of a good roof. (4Marks).

SECTION III (20 Marks)

Answer **One** question from this section

1. Discuss the advantages and disadvantages of using steel as construction material. (20 Marks).
 2. Despite the presence of 'Building Act', health problems arising from poor housing prevail. Discuss causes of this problem in the country and suggest strategies to overcome this problem. (20 Marks)
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