

**073204T4BLD**

**BUILDING ARTISAN(MASONRY) LEVEL 4**

**CON/OS/BUT/CC/01/4/A**

**APPLY BUILDING MATERIAL SCIENCE**

**March. /April. 2023**



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**WRITTEN ASSESSMENT**

**Time: 2 Hours.**

**INSTRUCTIONS TO CANDIDATE**

*This paper has two sections A, and B. Attempt questions in each section as per instructions given in the section.*

*You are provided with a separate answer booklet.*

*Marks for each question are indicated in the brackets.*

*Do not write on the question paper*

**This paper consists of FOUR (4) printed pages**

**Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.**

**SECTION A: MULTIPLE CHOISE QUESTIONS (10MARKS)**

*Attempt all questions in this section.*

1. The outermost part of a timber log is called... [1 Mark]
  - A. Pith
  - B. Cambium
  - C. Sapwood
  - D. Bark
  
2. Which one of the following is not a way of storing cement? [1 Marks]
  - A. It should be stored in a building or under a shed.
  - B. It should be kept free from dampness and moisture.
  - C. The cement should be stored in wet place
  - D. When cement is to be stored over long periods of time, it should be enclosed in water proof membranes such as polythene bags
  
3. Which one of the following is not a component of concrete? [1 Mark]
  - A. Sand
  - B. Cement
  - C. Ballast
  - D. Clay
  
4. Which one of the following is not component of paints? [1 Mark]
  - A. Vehicle
  - B. Drier
  - C. Pigment
  - D. Tar
  
5. Which of the following is not the methods used for preventing rusting? [1 Mark]
  - A. Greasing
  - B. Oiling
  - C. Painting
  - D. Washing

6. There are **THREE** main a type of rocks which one is not? [1 Mark]
- A. Sedimentary Rocks
  - B. Aqueous Rocks
  - C. Igneous Rocks
  - D. Metamorphic Rocks
7. Which one of the following is a characteristic of mastic asphalt? [1 Mark]
- A. It is sound proof
  - B. It is water proof
  - C. It is heat proof
  - D. It is bullet proof
8. Choose the correct chemical property of building material [1 Mark]
- A. corrosion resistance
  - B. Hardness
  - C. Thermal conductivity
  - D. Toughness
9. Which among the following materials is the strongest in tension [1 Mark]
- A. Timber
  - B. Steel
  - C. Mass Concrete
  - D. Plastic
10. Which of the following is true about timber? [1 Mark]
- A. It should be dried before use to avoid warping
  - B. It is very resistant to attack from pests
  - C. It only gains defects after felling the tree
  - D. It is not hygroscopic

**SECTION B: SHORT ANSWER QUESTIONS (40 MARKS)**

*Attempt All questions in this section*

11. State **FOUR** physical properties in construction materials. [4 Marks]
12. List any **THREE** clay products. [3 Marks]
13. Outline any **THREE** properties of a good burnt brick. [3 Marks]
14. Define the term cement additives. [2 Marks]
15. Differentiate between setting and hardening time of cement. [4 Marks]
16. Highlight **TWO** methods which are used to manufacture cement. [2 Marks]
17. Outline steps one should follow when preparing good mortar. [5 Marks]
18. Explain why brick moulds are usually a bit larger than the exact size of bricks. [2 Marks]
19. Using a well label sketch, name at least **FOUR** parts of a cross section of a tree trunk and structure. [7 Marks]
20. State any **THREE** uses of timber as a construction material. [3 Marks]
21. State **TWO** functions of water in concrete. [2 Marks]
22. Name any **THREE** defects that may occur in timber. [3 Marks]

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