073206T4ARC

ARCHITECTURAL TECHNOLOGY LEVEL 6

CON/OS/ARC/CR/02/6/A

Produce Architectural Perspectives

July/August 2024

TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE:

1.   You have **THREE** hours to answer all the questions.

2.   Marks for each question are indicated in the brackets ().

3.   The paper consists of **TWO** sections: **A & B**.

4.   Do not write on the question paper.

5.   A separate answer booklet is provided.

This paper consists of SIX (6) printed pages.

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

SECTION A (40 MARKS)
Answer ALL the questions in this section.

1. CAD (Computer Aided Design) refers to the use of computer software to create, modify, analyze, or optimize designs for various fields such as engineering, architecture, manufacturing, and product development. State FOUR CAD softwares that are used in producing digital architectural perspective renders. (4 Marks)

2. Define the following terms: (6 Marks)
   a) Internal perspective.
   b) External perspective.
   c) Perspective details.

3. Internal perspectives, also known as interior perspectives or interior renderings, are visual representations of the inside of a building or structure. State FOUR details that are usually incorporated in internal perspectives and give ONE example of each.

   (4 Marks)

4. Aerial perspective is a vital technique in architecture and visual media that enhances the illusion of depth and distance by simulating the effects of the atmosphere on objects. Define the term 'aerial perspective' as used in architectural perspective drawing.

   (2 Marks)

5. Aerial Perspectives is one of the methods used by architects to present the design ideas. Outline FOUR ways of indicating depth in aerial perspectives. (4 Marks)

6. Architectural perspectives, also known as architectural renderings or architectural visualizations, are graphical representations of architectural designs that illustrate how a building or space will look when completed. Outline TWO types of perspectives based on vanishing points. (4 Marks)

7. Isometric projection and axonometric projection are both methods of visually representing three-dimensional objects in two dimensions, often used in technical drawings, architecture, and design. Distinguish between Isomeric projection and axonometric projection. (4 Marks)

8. Oblique projection is a type of graphical projection used in technical drawing and engineering to represent three-dimensional objects in two dimensions. Highlight TWO types of oblique projection. (2 Marks)

9. Pictorial views are powerful visualization tools that bridge the gap between conceptual designs and real-world objects. By providing a clear, three-dimensional representation, they play a crucial role in design, engineering, architecture, and various other fields,

enhancing both the creative process and communication. List FOUR steps of generating pictorial views from an orthographic drawing. (4 Marks)

10. Architectural perspectives are commonly used for presentations by architects. List FOUR materials or tools used in preparing freehand perspective drawing. (4 Marks)

11. Orthographic drawings, also known as orthographic projections, are a set of two-dimensional representations of a three-dimensional object, typically used in technical drawing, engineering, and architecture. Outline TWO types of orthographic views. (2 Marks)

SECTION B (60 MARKS)
Answer any THREE questions in this section.

12. A leading architectural firm has contracted you to develop a perspective drawing of a residential house as shown in Drawing A. Develop a one- point free hand interior perspective from point 01 of the house. (20 Marks)

Additional information:

Wall height- 2700 mm from floor

Floor height from ground- 300 mm

Window sill- 1000 mm from floor

Window sizes- all 1100 mm high except bathroom

Bathroom window height- 1700 mm from floor

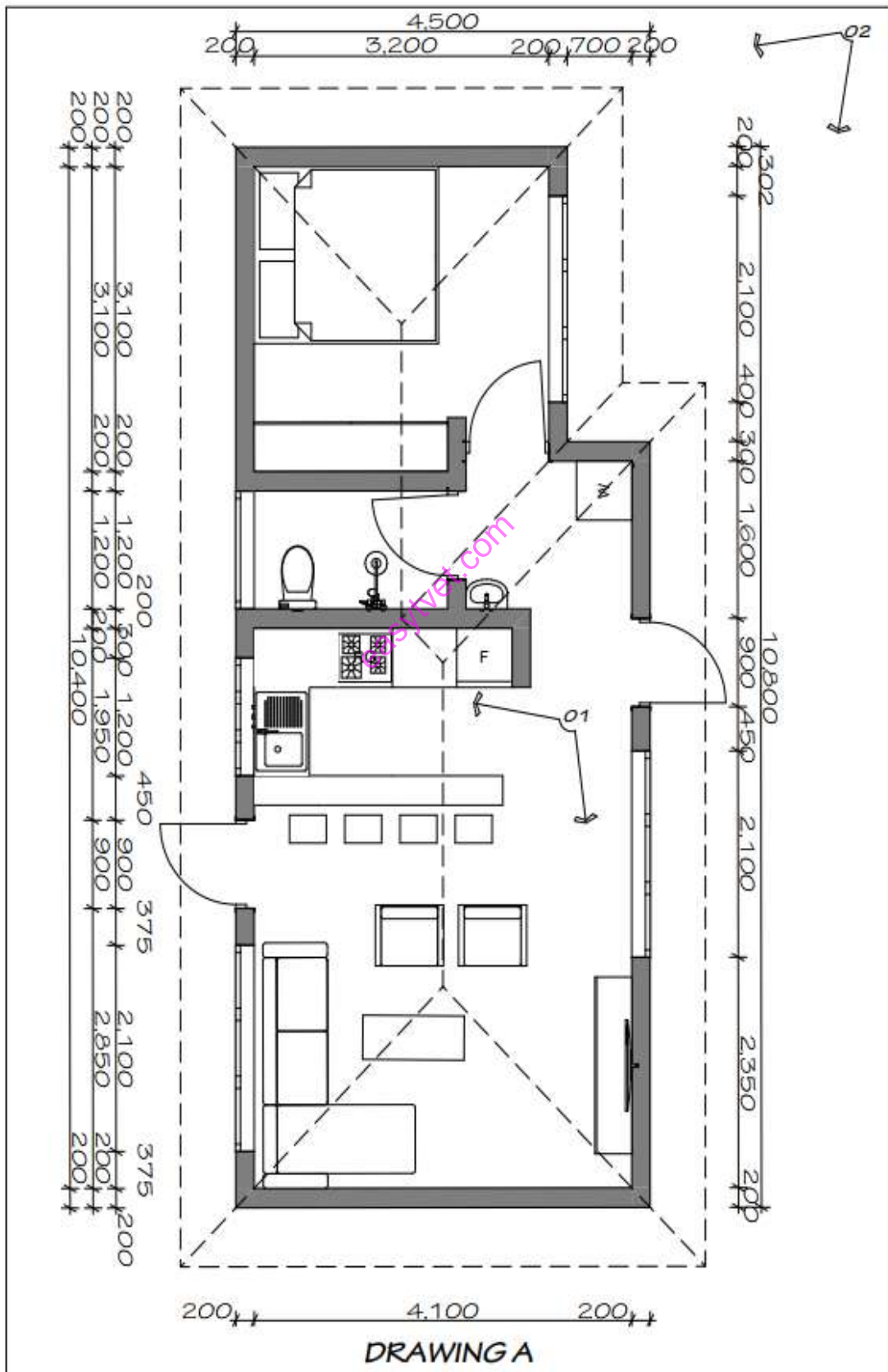Bathroom window size- 900 mm by 400 mm

Door height- 2100 mm from floor

Ring beam height-2100 mm from floor (bottom)
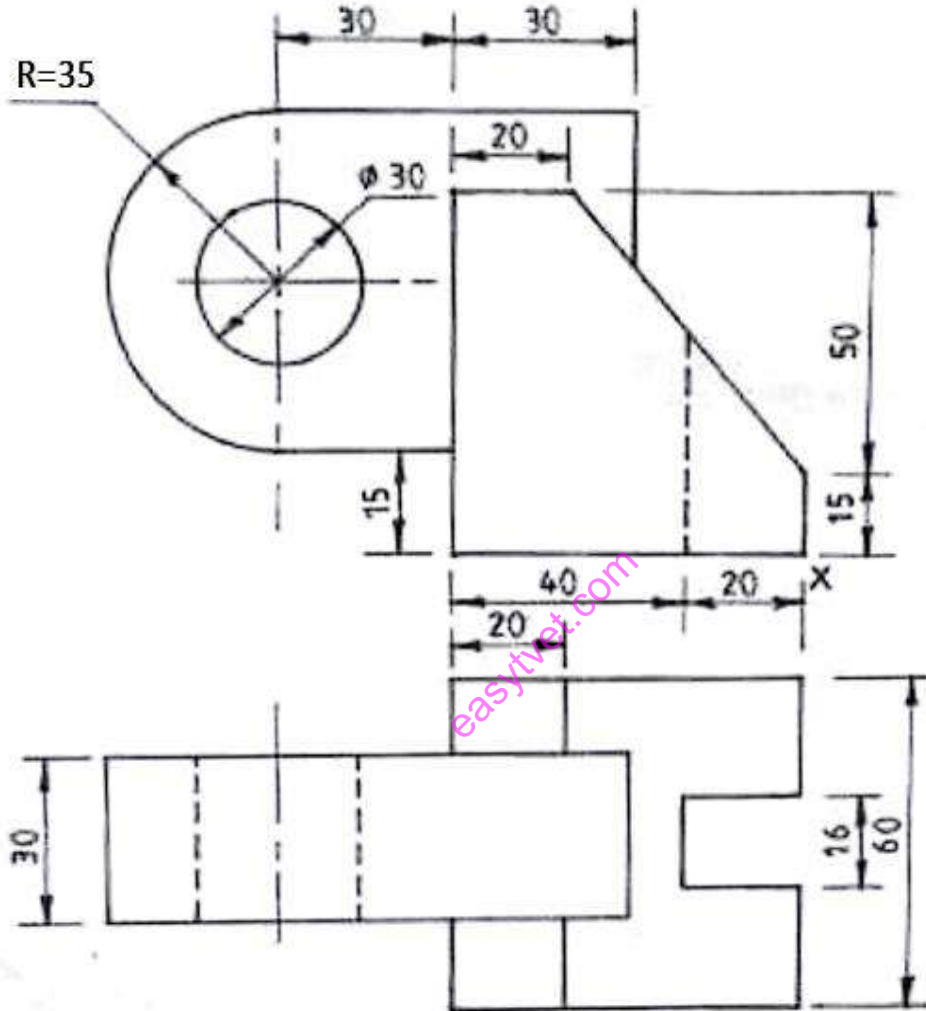
Roof pitch- 30 degrees

Roof overhang- 600 mm

Assume all other information.

DRAWING A

13. A freehand exterior perspective refers to a hand-drawn representation of the exterior of a building or structure. Using drawing A above, develop a two-point freehand exterior perspective from point 02. (20 Marks)

DRAWING B

14. Drawing B above shows an isometric view with dimensions of a shaped block. Draw the following views in 3rd angle and use scale 1:2.

    a. The front view (as shown by the arrow). (7 Marks)

    b. The top view. (7 Marks)

    c. The left view (6 Marks)

15. Computer-generated walkthroughs are virtual tours that allow users to navigate through a 3D environment as if they were physically present. These can be pre-rendered videos

or interactive experiences where users control their movement. They bridge the gap between conceptual ideas and tangible experiences

a) Explain FOUR advantages of using computer generated renders and walkthroughs in architecture. (8 Marks)

b) Outline SIX steps of creating a walkthrough video using CAD software given a three-dimensional architectural model. (12 Marks)

This is the last printed page.