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BUGESERA DISTRICT

**TSS 2nd TERM DISTRICT COMPREHENSIVE ASSESSMENT
SCHOOL YEAR: 2024-2025**

...../100 MARKS

MARKING GUIDES

SECTOR: CONSTRUCTION AND BUILDING SERVICES

TRADE: BUILDING CONSTRUCTION

RQF LEVEL: 3

**MODULE CODE AND TITLE: BDCTD301:REALIZE CONSTRUCTION TECHNICAL
DRAWING**

DURATION:

DATE: / / 2025

INSTRUCTIONS TO CANDIDATE:

- ✓ **This exam has three sections.**
- ✓ **Maximum marks...../100 Marks**
- ✓ **Attempt all Questions in A**

- ✓ **Choose only THREE questions in section B.**
- ✓ **Choose only one question in section C.**

1. Define the following terms used in building construction.

- a) drawing/ 2mrks**
- b) drawing board /2marks**
- c) scale /2marks**

a) is the art of representation of an object by the use of systematic lines

b) Drawing board: the drawing board serves as the workstation in drawing and is made with a smooth level top surface into which drawing paper is fixed using clamps, (board pins), or using drawing tape.

c) The proportion by which we either reduce or increase the actual size of the object on a drawing

reference :learning outcome :1 identify materials , instruments and equipments

2. What is the primary purpose of construction drawings? (2marks)

- a) to showcase the building's aesthetic
- b) to serve as a communication tool between the project team
- c) to display the landscaping details
- d) to market the building to potential buyers

ANSWER; b

reference :learning outcome :1 identify materials , instruments and equipments

3. Which drawing instrument is used to measure and draw angles

accurately? (2marks)

- a) compass
- b) protractor
- c) T-square
- d) Set square

Answer :b

4. In technical drawing, there are three (3) different sizes of lines, what are those sizes of lines? (3marks)

Answer:

- ✓ Thin lines
- ✓ Medium lines
- ✓ Thick lines

Learning outcome3: interpret lines and symbols

Description of drawing lines

5. Describe any five (5) geometric angles used in construction drawing (5marks)

Answer:

- ✓ Acute angle is less than 90°
- ✓ Right angle is 90° exactly
- ✓ Obtuse angle is greater than 90° but less than 180°
- ✓ Straight angle is 180° exactly
- ✓ Reflex angle is greater than 180°
- ✓ Full rotation angle is 360° exactly

Learning outcome5:perform angles of projection

6.Complete the table below with the standard dimensions of drawing board.

(4marks)

Designation	Length x Width in (mm)
D0	X.....
D1	X.....
D2	X.....
D3	 X.....

Answer:

Table 1.1. Standard dimension of Engineer's Drawing Board

Designation	Length x Width (mm)	Recommended for use with sheet sizes
D0	1500 x 1000	A0
D1	1000 x 700	A1
D2	700 x 500	A2
D3	500 x 500	A3

D0 and D1 for drawing offices, for students use – D2

Learning outcome2: use of drawing materials ,instrument and equipment

7. What are three (3) main classes of drawing pencils according to their degree of hardness? (3mrks)

Answer

- Hard
- Soft grade
- Medium

Learning outcome2: use of drawing materials ,instrument and equipment

8.In construction drawing, what is the purpose of projecting an angle in the drawing? (2marks)

- a) To create a realistic view of the object
- b) To determine the scale of the drawing
- c) To represent the object in a particular direction or orientation
- d) To measure the dimensions accurately

answer:c

Learning outcome5:perform angles of projection

9. What is the primary purpose of lettering in construction drawings? (2marks)

- a) To create artistic designs
- b) To provide clear and readable information
- c) To improve the aesthetics of the drawing
- d) To emphasize key structural elements

answer:b

10. Which of the following is a major advantage of using orthographic projection in engineering drawings? (2marks)

- a) It provides a realistic 3D view of the object
- b) It maintains true proportions and measurements of the object
- c) It is simpler to interpret than perspective projection
- d) It distorts the object for better visual clarity

answer:b

Learning outcome5:perform angles of projection

11. Which of the following is a recommended height for lettering in construction drawings? (3marks)

- a) 1-2 mm
- b) 3-5 mm
- c) 6-8 mm
- d) 12-15 mm

answer:b

learning outcome4:apply drawing scale, dimension and lettering

12. Give the drawing instrument used to perform the following tasks: (8marks)

- a) To draw lines at 30° , 60° and 45° to the vertical and horizontal.
- b) To mark or measure angles between 0° and 360°
- c) To fix the drawing sheet on the drawing board
- d) To draw circles and arcs of circles

Answer:

13. In third-angle projection, where is the top view positioned relative to the front view? (3marks)

answer: Directly above the front view

Learning outcome5:perform angles of projection

Types of projection

14. State two methods of dimensioning (4marks)

Answer: 1)Aligned method

2) Unidirectional method

Learning outcome5:perform angles of projection

Types of projection

15 What is the most commonly used lettering style in construction drawings for clarity and legibility? (2marks)

- a) Italic
- b) Roman
- c) Gothic
- d) Cursive

answer:b

16.Which of the following best describes the primary difference between first-angle and third-angle projections?(2marks)

- a) The position of the object relative to the plane of projection
- b) The use of parallel lines in projection
- c) The method of creating depth in the image
- d) The angle of projection used in the image

answer:a

Learning outcome5:perform angles of projection

17.What does the "H" in pencil grades (e.g., 2H, 4H) stand for in the context of

engineering drawing pencils?(2marks)

- a) Hardness
- b) High-quality
- c) Heavy lines
- d) High-grade

answer:a

Learning outcome2: use of drawing materials ,instrument and equipment

SECTIONB

18.a) List any five (5) principles of dimensioning.

ANSWER:

- (i) All dimensional information necessary to describe a component clearly and completely shall be written directly on a drawing.
- (ii) Each feature shall be dimensioned once only on a drawing, i.e., dimension marked in one view need not be repeated in another view.
- (iii) Dimension should be placed on the view where the shape is best seen.
- (iv) As far as possible, dimensions should be expressed in one unit only preferably in millimeters, without showing the unit symbol (mm).
- (v) As far as possible dimensions should be placed outside the view
- (vi) Dimensions should be taken from visible outlines rather than from hidden lines.

(vii) No gap should be left between the feature and the start of the Extension line.

learning outcome4:apply drawing scale, dimension and lettering

method of dimensioning

b) Differentiate the full size scale from the reducing scale.

Answer: Full size scale: the scale in which the actual measurements of the object are drawn to the same sizes on the drawing.

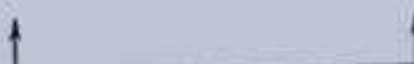
Reducing scale: the scale in which the actual measurements of the object are reduced to the same sizes of proportion on the drawing.

19. Observe the table below and fill the gaps by the weight of lines and the symbols of lines to each type of lines.

TYPES OF LINES	WEIGHT OF LINES	SYMBOLS OF LINES
1.Objectline		
2.Hidden line		
3.Center line		
4.Phantom line		

5.Extension& Dimension line	.....	.....
6.Leader line	.....	.....
7.Section line	.....	.....
8.Cutting plane line	.....	.....
9.Short break	.....	.....
Long break	.....	.....

Answer:

		SYMBOLS OF LINES	
Types of Lines	Weight		
Object	Thick		
Hidden	Medium		
Center	Thin		
Phantom	Thin		
Extension & Dimension	Thin		
Leader	Thin		
Section	Thin		
Cutting plane	Thick		
Short break	Thick		
Long break	Thin		

Learning outcome3 interpret lines and symbols

Identification sizes of lines

20) Fill the following table of the successive sizes of Drawing Sheet.

Designation	Dimension, mm Trimmed size	
	x	y
A0		1189
A1		
A2		
A3		
A4	210	

Answer:

Designation	Dimension, mm
A0	841 x 1189
A1	594 x 841
A2	420 x 594
A3	297 x 420
A4	210 x 297

Learning outcome2: use of drawing materials ,instrument and equipment

Function of drawing instrument, materials and equipment

21. Based on the observer's position relative to the object, projection can be

categorized into two (2) broad types. Give and explain those types.

Answer: a) perspective projection ; is a projection where the observer's viewpoint is not directly

aligned with the object

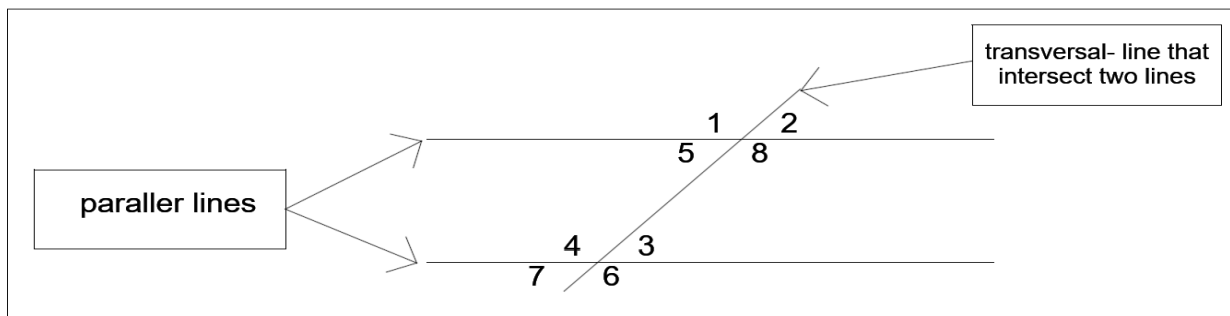
b) parallel projection ; is a projection where the lines of sight from the object to the projection are parallel to

each other ,the observer is considered to be infinitely far away.

Learning outcome5:perform angles of projection

Angle of projection

22.from the figure below, give relationship of the following angles:



- a. angles 3,4,5 and 8
- b. angles 1,2,6 and 7
- c. angles 3 and 5
- d. angles 4 and 8
- e. angles 2 and 7

Answer:

- a. Angles 3,4,5 and 8 are interior angles
- b. Angles 1,2,6 and 7 are exterior angles
- c. Angles 3 and 5 are alternate interior angles
- d. Angles 4 and 8 are alternate interior angles
- e. Angles 2 and 7 are alternate exterior angles

- **Leaning outcome5:perform angles of projection**
Types of angles

SECTION C: CHOOSE ONLY ONE QUESTION (15marks)

23.a) Give and clearly differentiate two classification of drawing?

Answer: A. 1) Artistic drawing
2) Engineering drawing

Artistic drawing

***Artistic drawing** is the art of representation of an object such as painting, cinema slide, advertisement boards, etc. by the artist by his imagination or keeping the object before him is known as artistic drawing.

*** Engineering drawing**

The art of representation of engineering objects such as buildings, roads, machines, bridges, structures etc on paper.

B) the slope length of line AB is 60m and the angle of slope is 40 degrees.

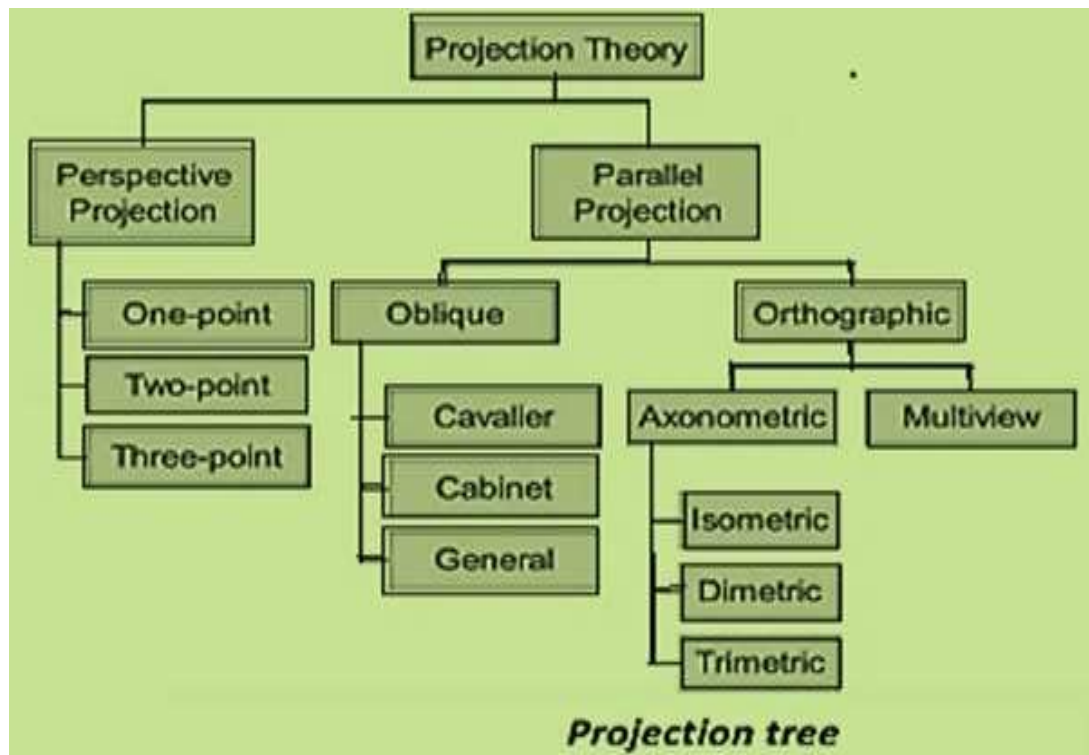
Calculate the horizontal Length AC of the line.

ANSWER:

24. Draw a chart which shows properly the types of projection in details on a

projection tree.

ANSWER:



Leaning outcome5:perform angles of projection

Application of projection