

# **GRADE 10 ENDTERM 3 EXAMS**

## **ALL SUBJECTS**

### **(ARTS & SPORTS PATHWAY SET)**

*Elevate revision with our premium Grade 10 End-Term 3 Exam Pack! This meticulously organized, all-inclusive toolkit covers every subject with detailed, high-standard papers mirroring current assessments. Boost confidence and guarantee academic mastery with the ultimate, ready-to-deploy exam resource.*

#### **ALL SUBJECTS TESTED.**

*Core Mathematics, Essential Mathematics, English, Kiswahili, Sports and Recreation, Music and Dance, Theatre and Film, Fine Arts, ICT, CSL and Physical Education.*

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#### **SMART-GRADE SERIES**

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*For Marking Schemes*

*Mr Isaboke 0746-222-000 / 0753-222-000*

# **MWALIMU CONSULTANCY**

# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS & SPORTS PATHWAY)**

## **SPORTS AND RECREATION**

TIME: 2 HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

### **INSTRUCTIONS TO CANDIDATES**

- 1. Write your name and assessment details in the spaces provided.*
- 2. Answer ALL questions.*
- 3. Read each question carefully before answering.*
- 4. Show all working where calculations are required.*
- 5. Label and interpret figures clearly where required.*
- 6. Use appropriate units in calculations.*
- 7. Write your answers in the spaces provided where applicable.*
- 8. Use clear and legible handwriting.*
- 9. Candidates should check that all pages and questions are present.*
- 10. Answer in English.*

### **EXAMINER'S USE ONLY**

| Section / Questions | Maximum Score | Candidate's Score | Remarks |
|---------------------|---------------|-------------------|---------|
| Q1–Q6               | 31            |                   |         |
| Q7–Q12              | 33            |                   |         |
| Q13–Q15             | 16            |                   |         |
| <b>TOTAL</b>        | <b>80</b>     |                   |         |

## **SECTION A — HEALTH AND FITNESS**

**1. Sports and Society.** (a) State two benefits of sports to an individual. (b) Give two ways in which a school can use sports to strengthen its relationship with the community. **(4 marks)**

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**2. Body Composition.** A learner has a mass of 72 kg and a height of 1.8 m. **(5 marks)**

(a) Calculate the learner's Body Mass Index (BMI). **(2 marks)**

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(b) State two factors that can determine body composition. **(2 marks)**

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(c) State one reason why BMI should be interpreted together with other information when assessing fitness. **(1 marks)**

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**3. Posture for Efficient Performance.** Study Figure 1. **(6 marks)**

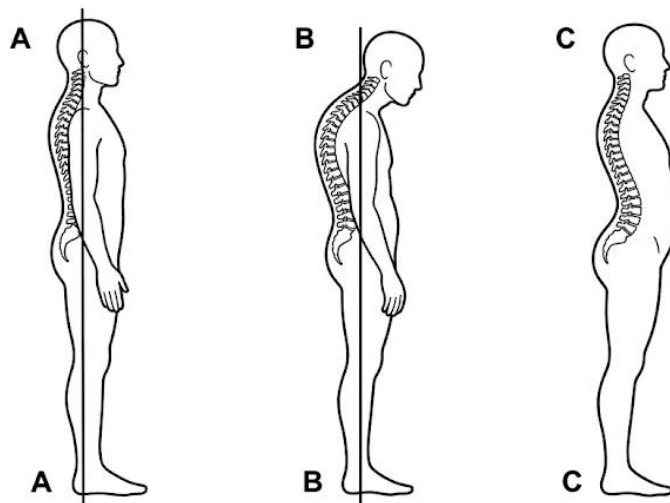


Figure 1

**(a) Which** sketch represents the most correctly aligned posture? **(1 marks)**

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**(b) Identify** one visible postural problem in each of the other two sketches. **(2 marks)**

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**(c) State** three reasons why correct posture is important when performing sports movements. **(3 marks)**

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**4. Aerobics.** Study Figure 2. **(5 marks)**

**FIGURE 2: AEROBIC SESSION SEQUENCE**

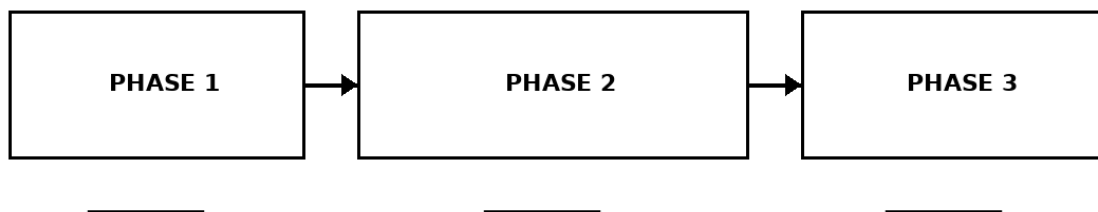


Figure 2

**(a) Name** the three phases of the aerobics session. **(3 marks)**

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**(b) State one** purpose of the first phase. **(1 marks)**

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**(c) State one** purpose of the final phase. **(1 marks)**

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**5. Recreation and Wellness.** (a) State the six dimensions of wellness referred to in the curriculum.  
(b) State one safety measure to observe when participating in a recreational activity on or near a road. **(5 marks)**

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**6. Injuries in Sports.** (a) Distinguish between an acute injury and a chronic injury. (b) Give one example of each. (c) State two strategies for preventing sports injuries. **(5 marks)**

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**SECTION B — COACHING**

**7. Introduction to Coaching.** (a) Explain the concept of coaching in sports. (b) State three elements that should be included when developing a training programme for a selected game or track event. **(5 marks)**

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**8. Facilities and Equipment** in Sports and Recreation. A school is preparing for football, basketball and a middle-distance running event. (a) State one important facility/equipment requirement for each activity. (b) Give two criteria that should be considered when evaluating the suitability of sports facilities and equipment. **(5 marks)**

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**9. Improvisation** of Equipment and Modification of Facilities. Study Figure 3. **(5 marks)**

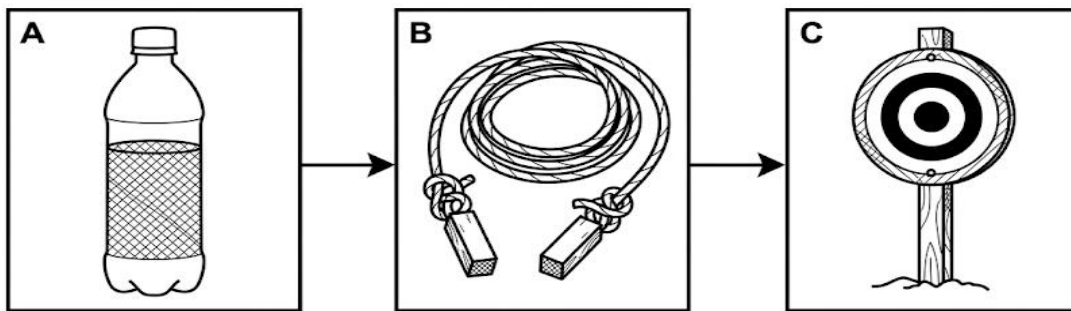


Figure 3

**(a) Identify** one possible reusable/recycled material represented in any one of the improvised items. **(1 marks)**

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**(b) State** two criteria that should be considered before using improvised sports equipment. **(2 marks)**

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**(c) Explain** one benefit of improvising or modifying sports equipment/facilities for a school or community. **(2 marks)**

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**10. Tactical Skills** in Athletics. Study Figure 4, which shows a middle-distance race situation. (8 marks)

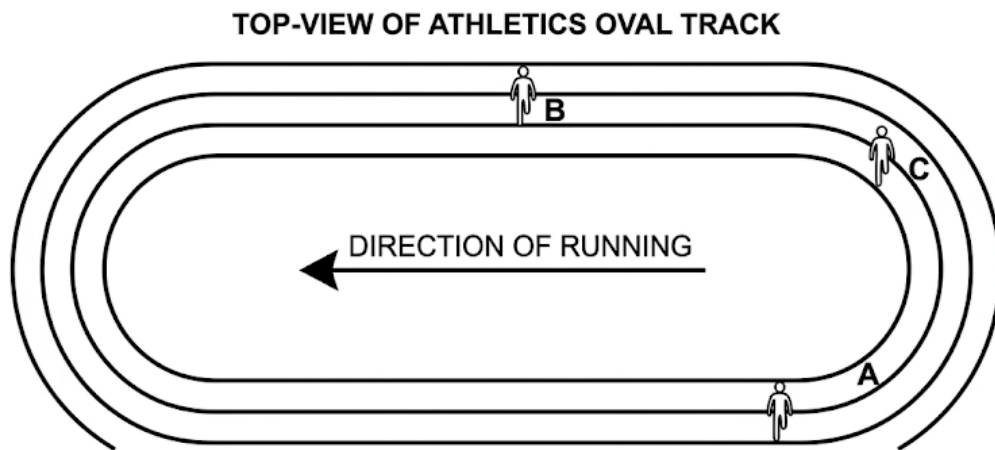


Figure 4

**(a) State** two tactical considerations a runner should make before attempting to overtake another runner. **(2 marks)**

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**(b) Using the** situation in Figure 4, explain one possible tactical decision that runner C could make. **(2 marks)**

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**(c) State two** safety precautions that should be observed during middle-distance training or competition. **(2 marks)**

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**(d) Give two** ways in which effective tactics can improve performance in a track event. **(2 marks)**

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**11. Formations in Games I.** (a) Explain what a formation is in a team game. (b) State two benefits of using an appropriate formation. (c) Name two team games in which formations are used.

**(5 marks)**

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**12. Talent Detection and Identification.** Design a five-item checklist that a school sports teacher could use when identifying talent in a learner. Your checklist should cover different relevant attributes such as physical, psychological, behavioural, skills, fitness or technical attributes.

**(5 marks)**

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### **SECTION C — OFFICIATING AND INTEGRATED APPLICATION**

**13. Principles of Officiating.** Study Figure 5.

**(6 marks)**

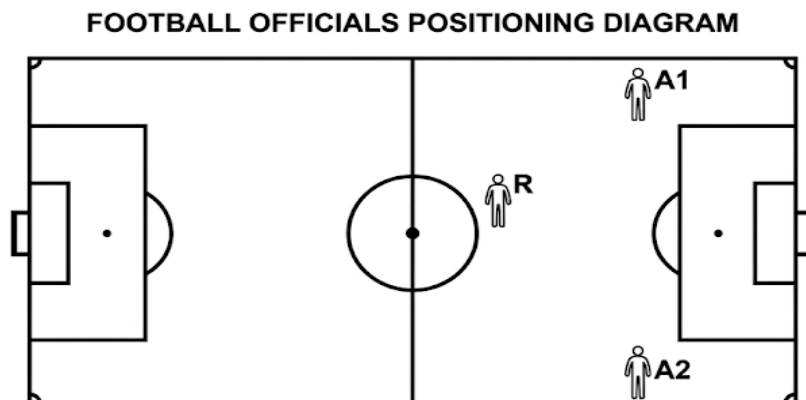


Figure 5

**(a) Identify** the official represented by R and state one reason for the official's position. **(2 marks)**

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**(b) State** three principles of effective officiating.

**(3 marks)**

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**(c) State one** way in which integrity can be demonstrated by an official.

**(1 marks)**

**14. Team and Meet/Game Officials. Study Figure 6. (6 marks)**

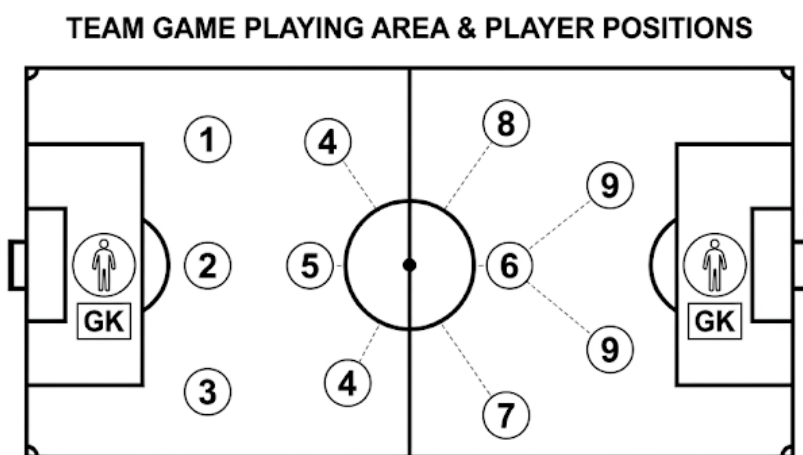


Figure 6

**(a) State two** responsibilities of a team captain during a school sports event.

**(2 marks)**

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**(b) State two** responsibilities of a game or meet official.

**(2 marks)**

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**(c) State two** qualities that should be demonstrated by technical officials.

**(2 marks)**

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**15. Integrated Sports Programme Scenario.** A school wants to organise a community sports and recreation programme that promotes health and wellness, uses available resources responsibly, develops sporting talent and ensures fair play. State five actions the school should take to make the programme effective. **(5 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS & SPORTS PATHWAY)**

## **FINE ARTS**

TIME: 2 HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

### **INSTRUCTIONS TO CANDIDATES**

- a) Answer ALL questions.*
- b) Read each question carefully and observe the mark allocation.*
- c) Use the spaces provided for written responses and the designated spaces for sketches/designs.*
- d) Where a practical/design response is required, show clear stages, appropriate technique and neat presentation.*
- e) Label diagrams and sketches clearly where required.*
- f) Use appropriate art vocabulary and support explanations with relevant examples.*
- g) All questions are based on the Grade 10 Fine Arts Curriculum Design. The assessment is cumulative across all strands and sub-strands.*
- h) Observe safety when describing or planning processes involving tools, heat, dyes, carving or other art materials.*

### **EXAMINER'S USE ONLY**

| Section                       | Question Numbers | Maximum Score | Candidate Score |
|-------------------------------|------------------|---------------|-----------------|
| A — Picture Making Techniques | 1–6              | 30            |                 |
| B — Multimedia Arts           | 7–11             | 25            |                 |
| C — Indigenous Crafts         | 12–17            | 30            |                 |
| D — Art Appreciation          | 18–20            | 15            |                 |

## **SECTION A — PICTURE MAKING TECHNIQUES (30 MARKS)**

1. State five elements or principles of two-dimensional art and briefly explain the role of any three in picture making. **(5 marks)**

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2. Explain one-point perspective and two-point perspective. State one practical situation in which each may be used. **(5 marks)**

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3. In the space below, draw a simple still-life composition containing at least three objects. Use one-point perspective and show three stages of drawing: light construction/sketching, shading, and adding details/refining. **(8 marks)**

### **STILL-LIFE DRAWING SPACE**

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4. Explain the difference between a flat wash and a graded wash. State one suitable application for each. **(4 marks)**

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5. Describe four characteristics of an effective collage composition, referring to shape, colour, overlapping and/or superimposition. **(4 marks)**

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6. A health-awareness message is to be communicated through a painting or collage. Describe how you would use colour contrast/harmony, balance, rhythm and movement to make the composition effective. **(4 marks)**

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## **SECTION B — MULTIMEDIA ARTS (25 MARKS)**

7. State four components of graphic design and explain how any two contribute to an effective poster. **(5 marks)**

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8. Design a simple two-colour educational or social-awareness poster layout for a school campaign. Your sketch must show a clear title/lettering area, image/illustration area, balanced layout and colour indication. **(7 marks)**

### **POSTER DESIGN SPACE**

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9. Explain four characteristics of effective typography, including any relevant consideration of font/letterform, spacing, size or legibility. **(4 marks)**

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**10.** Differentiate between tie-and-dye and batik. Give two distinguishing features of each technique. **(5 marks)**

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**11.** State two safety precautions that should be observed when working with dyes, hot water, wax or related fabric-decoration materials. **(4 marks)**

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**SECTION C — INDIGENOUS CRAFTS (30 MARKS)**

**12.** For pottery and clay work, state three properties of clay that are important in making pottery and explain the importance of any two. **(5 marks)**

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**13.** Outline the main stages involved in preparing clay for pottery, from sourcing the clay to storage of prepared clay. **(5 marks)**

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**14.** Describe the pellet technique of pottery and state one advantage of using it to construct a vessel. **(4 marks)**

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**15.** In the space below, sketch a simple relief sculpture inspired by an environmental-conservation theme. Label three design or construction features that make it a relief sculpture. **(6 marks)**

**RELIEF SCULPTURE SKETCH SPACE**

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**16.** Explain the difference between loose and tight macramé webs. Name two knots that may be used in macramé. **(4 marks)**

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**17.** Explain two ways recycled or locally available materials can be used in jewellery/ornamentation while maintaining safety, function and aesthetic appeal. **(6 marks)**

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**SECTION D — ART APPRECIATION (15 MARKS)**

**18.** Explain why quality and safety of materials, originality and proper marketing are important when producing and selling artwork. **(5 marks)**

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**19.** State three legal or ethical issues that an artist should consider when creating or marketing artwork online. **(5 marks)**

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**20.** Describe two ways digital technology can support an artist in research, documentation, presentation or online marketing of artwork. **(5 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS & SPORTS PATHWAY)**

## **THEATRE AND FILM**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

### **INSTRUCTIONS TO CANDIDATES**

1. Answer ALL questions.
2. Read each question carefully before answering.
3. Where a figure is provided, study it carefully and use it in your response.
4. Give clear, relevant and well-organised responses.
5. Where a practical, design or performance response is requested, present your work systematically.
6. Use the spaces provided and write legibly.
7. Answer in English.

### **EXAMINER'S USE ONLY**

| Questions    | Maximum Score | Candidate Score | Remarks |
|--------------|---------------|-----------------|---------|
| Q1–Q5        | 27            |                 |         |
| Q6–Q10       | 26            |                 |         |
| Q11–Q15      | 27            |                 |         |
| <b>TOTAL</b> | 80            |                 |         |

## **SECTION A — CREATING**

**1. Traditional Kenyan Theatre.** Study Figure 1 and answer the questions.

### **TRADITIONAL KENYAN THEATRE ARRANGEMENTS**

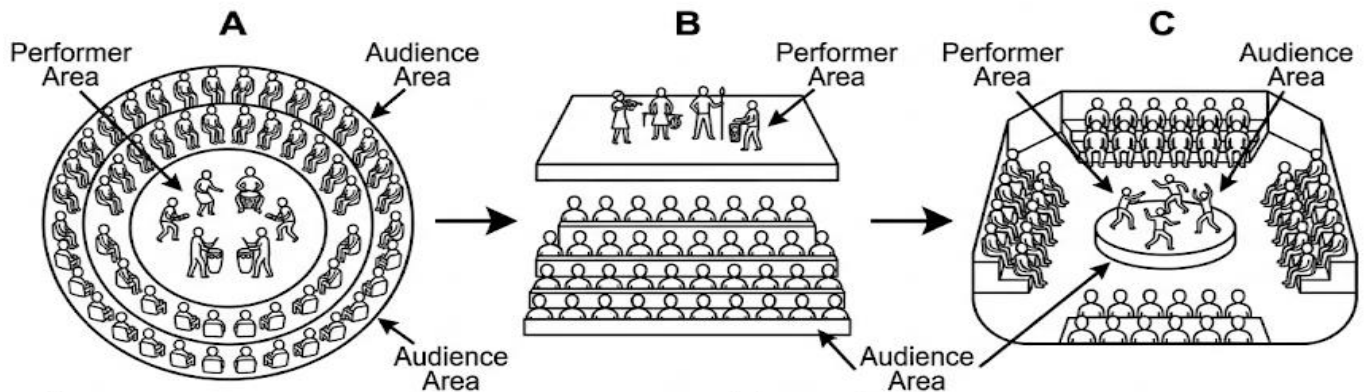


Figure 1

**(a) State two functions of traditional Kenyan theatre.**

**(2 marks)**

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**(b) State three characteristics of traditional Kenyan theatre forms, considering aspects such as storytelling, music, dance, rituals, costume, communal settings, audience participation or moral function.**

**(3 marks)**

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**2. Play Writing.** A community wants a short play addressing road safety. Using the play structure in Figure 2, answer the questions.

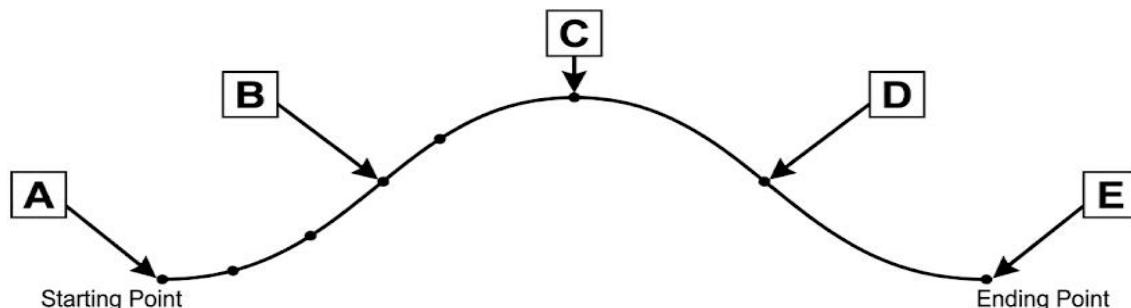


Figure 2

**(a) Name** the five major stages represented by the play structure, beginning with A. **(5 marks)**

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**(b) Write** a suitable theme for the road-safety play and give one Pertinent and Contemporary Issue that the play could address. **(2 marks)**

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**3. Poetry Writing** — Spoken Word. Write a short spoken-word poem of approximately 12–16 lines on one social issue affecting young people. Your poem should demonstrate poetic elements and an appropriate spoken-word voice. **(6 marks)**

[illegible]

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## **SECTION B — PRODUCTION**

**4. Acting.** (a) State the three actor's tools identified in the curriculum. (b) Explain how any two of the tools can be used to improve a character's performance. (c) State one purpose of de-roling after a performance. **(6 marks)**

**5. Theatre Directing. Study Figure 3. (6 marks)**

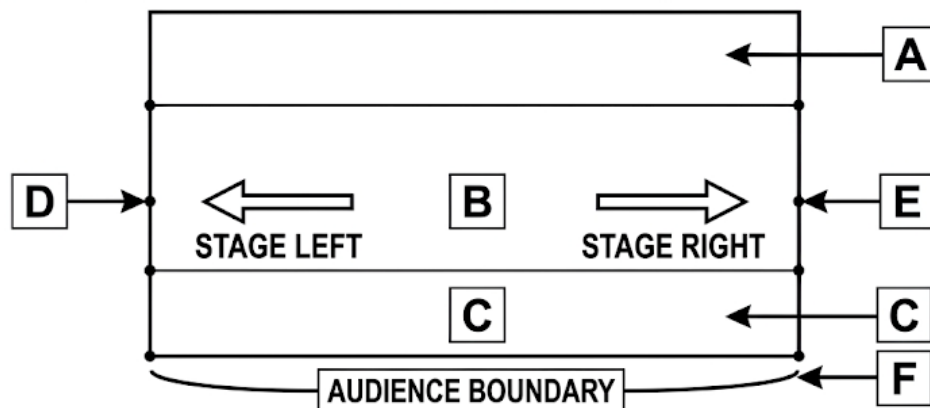


Figure 3

**(a) Identify any three stage areas shown in the figure.**

**(3 marks)**

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**(b) State three responsibilities of a theatre director.**

**(3 marks)**

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**6. Theatre Design. Study Figure 4.**

**(6 marks)**

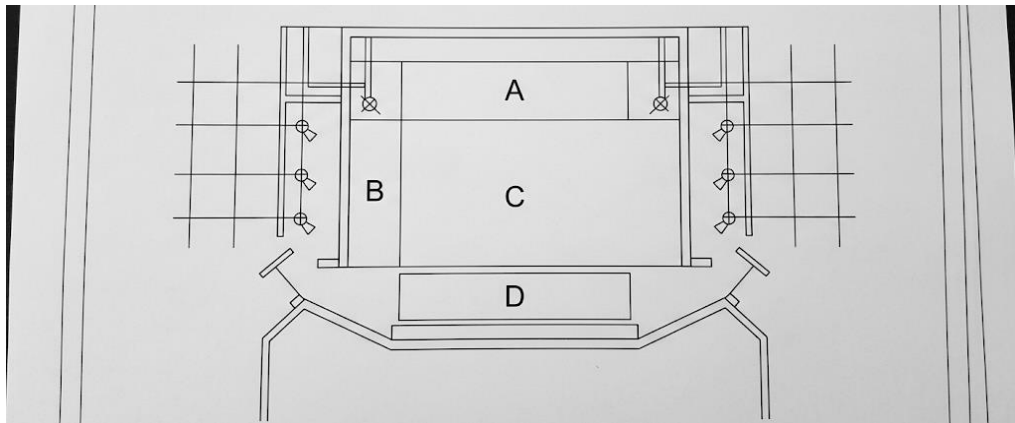


Figure 4

**(a) State four components of theatre design that should be considered when preparing a performance.**

**(4 marks)**

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**(b) State two reasons for using available or improvised resources in theatre design. (2 marks)**

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## **SECTION C — THEATRE, FILM AND SOCIETY**

7. **Theatre** Adjudication. Study Figure 5, which represents an adjudication record.

### **ADJUDICATION SHEET**

|                    | <b>CRITERION</b> | <b>OBSERVATIONS</b> | <b>SCORE</b>     |
|--------------------|------------------|---------------------|------------------|
| <b>A</b>           |                  |                     |                  |
| <b>B</b>           |                  |                     |                  |
| <b>C</b>           |                  |                     |                  |
| <b>D</b>           |                  |                     |                  |
| OVERALL IMPRESSION |                  |                     | OVERALL<br>SCORE |

Figure 5

(a) **State three** criteria that may be used when adjudicating a stage or poetry performance.

**(3 marks)**

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(b) **Explain two** qualities of effective feedback after adjudication.

**(2 marks)**

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(c) **State two** reasons why an adjudication report should be clear and well organised. **(2 marks)**

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**8. Theatre and Community.** Study Figure 6.

**(5 marks)**

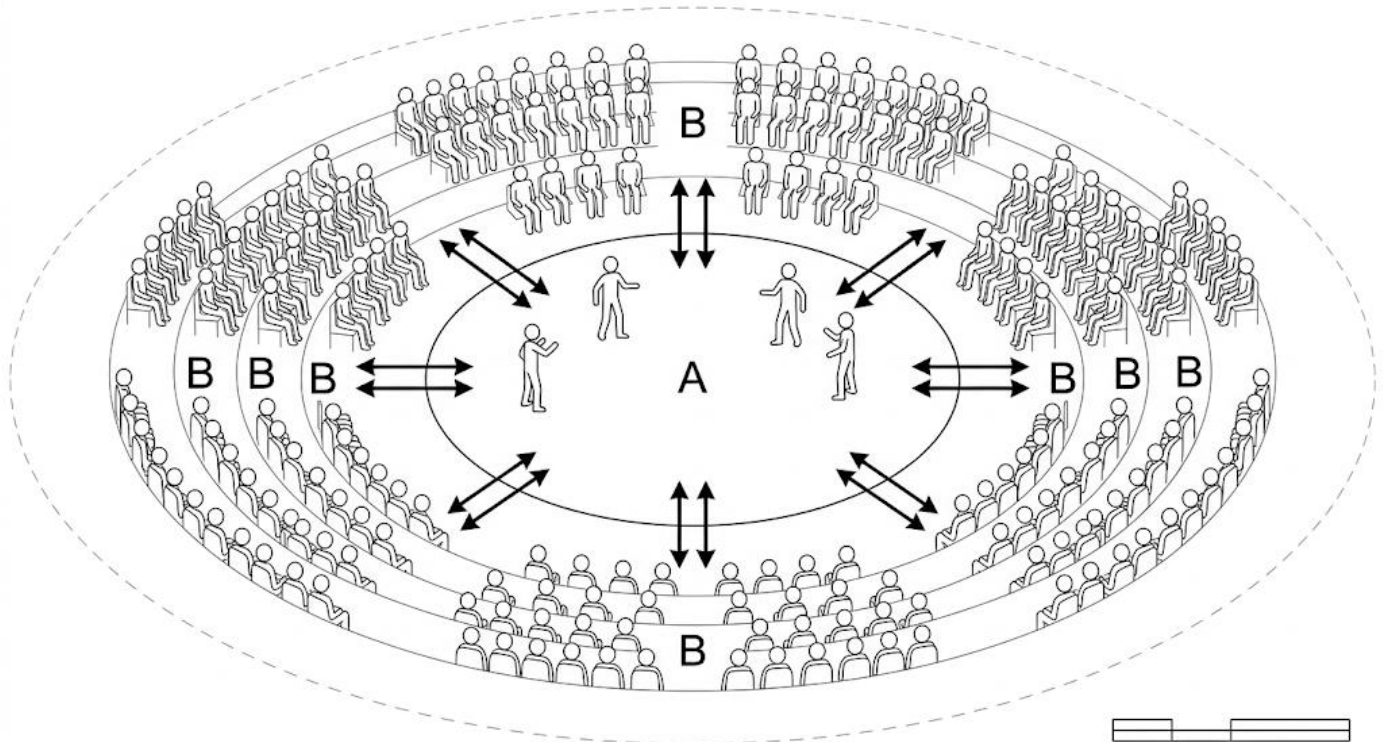


Figure 6

**(a) State two** roles theatre can play in society.

**(2 marks)**

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**(b) State three** ways a school theatre or film club can contribute to community engagement.

**(3 marks)**

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**9. Integrated Production Scenario.** A school is preparing a short community performance. State five steps the learners should take from planning through rehearsal and presentation. **(5 marks)**

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**10. Film** and Digital Literacy Application. State five ways technology can support theatre and film activities, including areas such as recording, editing, sound, lighting or digital presentation.

**(5 marks)**

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**SECTION D — APPLICATION AND CREATIVE RESPONSE**

**11. Play** Development. Develop a concise three-act outline for a play addressing a Pertinent and Contemporary Issue affecting the community. Include a suitable title and show the main event in each act.

**(6 marks)**

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**12. Character** Development. Create a character bible for one character in your proposed play. Include: name, role, physical characteristics, emotional characteristics, relationships with other characters and character background.

**(6 marks)**

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**13. Directing** and Performance. Explain how a director can use blocking, actor's tools, rehearsal and feedback to improve a performance. **(5 marks)**

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**14. Theatre** Design and Production. A school has limited resources. Describe five practical decisions that can help the production team create an effective stage using available resources while observing responsibility for theatre equipment and the environment. **(5 marks)**

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**15. Community** Advocacy Performance. Design a brief concept for a community theatre piece addressing a contemporary issue. State the issue, target audience, purpose, performance approach and one way the audience/community will participate or respond. **(6 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS & SPORTS PATHWAY)**

## **MUSIC AND DANCE**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

### **INSTRUCTIONS TO CANDIDATES**

1. Answer ALL questions.
2. Where a musical example is required, use the notation conventions studied in Grade 10.
3. For practical/performance items, follow the teacher/examiner's instructions and perform the specified task.
4. Observe correct pitch, rhythm, tempo, dynamics, expression, posture and performance etiquette where applicable.
5. Use clear and accurate notation for written music questions.
6. Show all working and construction steps where a melody, rhythm, scale or harmonic passage is required.

### **EXAMINER'S USE ONLY**

| Section | Questions | Marks | Score |
|---------|-----------|-------|-------|
| A       | 1–10      | 30    |       |
| B       | 11–16     | 30    |       |
| C       | 17–20     | 20    |       |
| D       | 21–23     | 20    |       |
| TOTAL   |           | 100   |       |

## **SECTION A — FOUNDATIONS OF MUSIC AND DANCE (30 MARKS)**

**Answer all questions.**

- 1. Write** a four-bar rhythm incorporating semiquavers. Use an appropriate time signature and observe correct rhythmic notation. **(4 marks)**

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- 2. (a) State two** features of melody. **(2 marks)**

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- (b) State two** factors that help create unity in a melody. **(2 marks)**

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- 3. Write the** D major scale in ascending and descending order on a staff and include the correct key signature. **(4 marks)**

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- 4. (a) Explain** the meaning of transposition in music. **(2 marks)**

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(b) State two reasons why a melody may be transposed.

(2 marks)

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5. **State four** conventions that should be observed when setting text to a melody. (4 marks)

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6. **Give four** guidelines for writing a two-part harmony.

(4 marks)

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7. **State four** functions of music notation software.

(4 marks)

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8. **State two** ways in which digital devices can support music composition, playback or recording.

(2 marks)

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## **SECTION B — PERFORMING (30 MARKS)**

Answer all questions. Questions 9–12 include performance/aural demonstration where indicated.

**9. (a) Name** four characteristics of Kenyan folk songs. **(4 marks)**

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(b) State two performance aspects that should be considered when presenting a Kenyan folk song. **(2 marks)**

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**10. (a) State three** performance techniques used in Western solo songs. **(3 marks)**

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(b) Explain the importance of any three of the techniques named in (a). **(3 marks)**

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**11. Choose ONE** Kenyan indigenous musical instrument from fiddle, lyre, harp, flute, flute/recorder, drum or horn.

(a) Name the instrument selected. **(1 mark)**

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(b) Describe how it is played and state two techniques used in its performance. **(3 marks)**

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(c) State two ways of caring for the instrument. (2 marks)

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**12. Practical** performance: Perform one of the following before the examiner: a Kenyan folk song, a Western solo song, a selected Kenyan indigenous musical instrument performance, or a 3–5 minute contemporary dance routine based on Kenyan popular music. The examiner will assess accuracy, technique, expression, performance directions and etiquette as applicable. **(10 marks)**

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

**SECTION C — PERFORMING AND CONTEMPORARY DANCE (20 MARKS)**

**Answer all questions.**

**13. (a) State four** features of contemporary dance. **(4 marks)**

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**(b) State four** performance skills used in contemporary dance. **(4 marks)**

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**14. Explain** how any four of the following can communicate a story or message in contemporary dance: time, space, action, energy, costume/props, music, make-up or movement patterns.

**(4 marks)**

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**15. State four** safety or social considerations when creating a contemporary dance based on a road-safety theme. **(4 marks)**

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**16. State four** characteristics of a Western musical instrument selected for solo performance.

**(4 marks)**

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**SECTION D — CRITICAL APPRECIATION (20 MARKS)**

**Answer all questions.**

**17. Explain four** elements of music that may be analysed when listening critically to a Kenyan folk song.

**(4 marks)**

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**18. (a) Name the two** prescribed historical periods covered under Classical Music in the curriculum.

**(2 marks)**

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**(c) Name two** genres associated with Medieval music and two associated with Renaissance music.

**(4 marks)**

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**19. Explain four** functions of Music and Dance in society.

**(4 marks)**

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**20. Describe four** ways in which music and dance performance practices have changed in contemporary society.

**(4 marks)**

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**END OF QUESTION PAPER**

# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS &SPORTS)**

### **COMMUNITY SERVICE LEARNING**

TIME: 2 HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

1. **Write** your name and assessment details in the spaces provided.
2. **Read** all questions carefully before answering.
3. **Answer** all questions.
4. **Give** clear, relevant and well-organized responses based on Community Service Learning concepts.
5. **Where** a scenario is provided, apply the principles of the curriculum to the situation described.
6. **Use** examples from community contexts where required.
7. **Write** clearly and legibly.
8. **Check** the question paper to ensure that all questions are present.

#### **EXAMINER'S USE ONLY**

| Section | Question Numbers | Maximum Score | Candidate's Score |
|---------|------------------|---------------|-------------------|
| A       | 1–4              | 20            |                   |
| B       | 5–7              | 20            |                   |
| C       | 8–10             | 20            |                   |

**TOTAL: 60 MARKS**

## **SECTION A — ACTION RESEARCH**

**1.** Define action research and state two characteristics that distinguish it from ordinary research.  
**(4 marks)**

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**2.** A Grade 10 class notices that littering around the school gate is increasing. State four reasons why clearly identifying the problem is important before beginning an action research project.  
**(4 marks)**

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**3.** State the four main stages in the action research cycle given in the curriculum and briefly explain what happens at each stage. **(8 marks)**

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**4.** Differentiate between primary and secondary data, then give one suitable example of each that learners could use when investigating a community problem. **(4 marks)**

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## **SECTION B — PROBLEM IDENTIFICATION AND INTERVENTION**

5. A school community identifies frequent water wastage as a problem.

(a) State three appropriate data-collection tools that could be used to investigate the problem.

**(3 marks)**

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(b) For each tool, state one type of information it could provide.

**(3 marks)**

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(c) Explain one way of analysing the collected data before deciding on an intervention. **(2 marks)**

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6. A learner team has identified poor waste segregation as a community problem. Propose a suitable intervention and prepare an implementation outline showing: the objective, two activities, people responsible, resources required, a time frame, and one indicator that could be used to monitor progress.

**(6 marks)**

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7. Explain three ways reflective meetings can help a team improve an action research intervention while it is being implemented. **(6 marks)**

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### **SECTION C — SOCIAL ENTREPRENEURSHIP**

8. Distinguish between social entrepreneurship and an ordinary business enterprise. Give two features of a social enterprise. **(6 marks)**

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9. A community has many unemployed young people but also produces a large amount of agricultural waste.

(a) Identify one viable social enterprise opportunity arising from this situation. **(2 marks)**

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(b) Give three reasons for selecting the opportunity. **(3 marks)**

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(c) State one possible social or environmental benefit.

**(1 mark)**

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**10.** A learner group plans to establish a low-cost social enterprise.

(a) State four major components that should appear in their social enterprise plan. **(4 marks)**

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(b) Explain two ways of mobilising resources for the enterprise.

**(2 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM** **SMART-GRADE SERIES - (ARTS &SPORTS)**

### **ENGLISH**

TIME: 2 HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

- a) Write your name and assessment details in the spaces provided.*
- b) Answer ALL questions.*
- c) Read all questions and stimuli carefully.*
- d) Where a listening text is provided, follow the teacher's reading instructions.*
- e) Write your answers clearly and use standard English throughout.*
- f) Observe the required format in functional and creative writing tasks.*
- g) Use the spaces provided; continue neatly where necessary.*
- h) Check that all pages and questions are present.*

#### **EXAMINER'S USE ONLY**

| Section                  | Question Numbers | Maximum Score | Candidate's Score |
|--------------------------|------------------|---------------|-------------------|
| A — Listening & Speaking | 1–5              | 15            |                   |
| B — Reading              | 6–10             | 25            |                   |
| C — Grammar in Use       | 11–20            | 25            |                   |
| D — Writing              | 21–24            | 35            |                   |
| TOTAL                    |                  | 100           |                   |

## **SECTION A — LISTENING AND SPEAKING (15 MARKS)**

The teacher will read the following passage twice. Candidates should listen carefully and answer the questions that follow.

### **TEACHER'S LISTENING TEXT**

At a youth forum on community health and careers, a speaker explained that young people often receive information from many sources at once. Some information is useful, while some may be incomplete or misleading. She advised learners to listen actively, identify the main message, and ask for clarification when a speaker's meaning is unclear. She also reminded them to respect people whose experiences differ from their own. During the discussion, one learner said that artificial intelligence could help hospitals identify illnesses more quickly. Another learner agreed but added that technology should support, rather than replace, responsible human decision-making. The facilitator then asked the group to distinguish facts from opinions. She stated that a hospital may use digital records to store patient information, but the claim that every computer system is always accurate is an opinion that requires evidence. Later, a transport officer announced that a public career exhibition would begin at nine o'clock on Saturday. He asked visitors to filter out unrelated conversations and listen for the names of speakers, venues and times. The forum ended with a reminder that good communication requires turn-taking, polite disagreement, empathy and attention to both spoken words and non-verbal signals.

1. State two techniques the speaker recommended for effective listening. **(2 marks)**

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2. Give one fact and one opinion contained in the passage. **(2 marks)**

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3. Why should a learner ask for clarification during a conversation? **(2 marks)**

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4. State two pieces of specific information a listener should identify from the career exhibition announcement. **(2 marks)**

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5. Using the ideas in the passage, explain three ways a learner can demonstrate respectful communication. **(7 marks)**

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## **SECTION B — READING (25 MARKS)**

**6. Read the following passage and answer the questions that follow. (10 marks)**

Every Saturday, Amina visited the community library before joining her friends at the sports ground. One morning she found a notice about a public-sector career forum. The notice explained that the forum would include health workers, engineers, teachers and environmental officers. Amina was interested in several careers, but she knew that choosing a career should involve more than following a friend's preference. She therefore made notes about the qualifications, duties and working environments of different professions. At the forum, one officer explained that successful workers continue learning throughout their careers. Another speaker described a difficult experience in which a team had to solve a problem after an important machine failed. Instead of blaming one another, the team members listened to each other, identified the cause and developed a solution. Amina realised that communication, critical thinking and responsibility could be useful in almost every career. Before leaving, she wrote in her journal that a good career decision should be based on accurate information, personal interests, abilities and realistic opportunities.

**(a) Why did Amina make notes about different professions? (2 marks)**

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**(b) State two qualities that the team displayed when solving the machine problem. (2 marks)**

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(c) What lesson did Amina draw from the career forum?

(2 marks)

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(d) Give the meaning of: (i) qualifications; (ii) realistic.

(2 marks)

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(e) In one sentence, summarise the main idea of the passage.

(2 marks)

7. Read the following factual text.

(5 marks)

Public health messages are most effective when they are accurate, clear and directed at a specific audience. A message about road safety, for example, may focus on pedestrians, cyclists, passengers or drivers. A reader should consider the source of a message, identify its purpose and separate evidence from unsupported claims. Reference materials such as dictionaries, manuals, atlases, newspapers and encyclopaedias can help a learner verify unfamiliar information.

(a) State two qualities of an effective public health message.

(2 marks)

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(b) Name two reference materials mentioned in the passage.

(2 marks)

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(c) Why should a reader consider the source of information?

(1 marks)



**8. Study the following notice and answer the questions.**

**(5 marks)**

**COMMUNITY CAREER AND HEALTH DAY**

Saturday 10 October | 9:00 a.m.–3:00 p.m. | Community Hall

Talks by a nurse, teacher, engineer and environmental officer.

FREE ENTRY. Bring a notebook. Contact: School Office.

**(a)** State two details that a student would need before attending the event.

**(2 marks)**

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**(b)** What is the purpose of the notice?

**(1 marks)**

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**(c)** Suggest two pieces of information that a participant could record during the event for later study.

**(2 marks)**

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**9.** Explain how a learner can use SQ4R, note-making, paraphrasing and summarising to study a difficult text.

**(3 marks)**

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**10.** State two strategies that can help a learner understand a text more deeply.

**(2 marks)**

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## SECTION C — GRAMMAR IN USE (25 MARKS)

11. Replace the nouns with suitable pronouns: (i) Amina thanked the teacher.

(ii) The players congratulated the players. (2 marks)

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12. Use the correct form: (i) The students \_\_\_\_\_ (write) their reports every Friday. (ii) By

tomorrow, the committee \_\_\_\_\_ (complete) the questionnaire. (2 marks)

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13. Rewrite correctly using suitable tense/aspect: (i) She is working yesterday. (ii) They have completed the task before the bell rang. (2 marks)

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14. Rewrite using an appropriate adjective or prepositional phrase: (i) The speaker gave a message.

(ii) The meeting will be held the hall. (2 marks)

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15. Join each pair using the word in brackets: (i) The candidate was prepared. The candidate remained calm. (and) (ii) The report was short. It contained all the important facts. (but)

(2 marks)

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16. Rewrite using appropriate relative or adverbial clauses: (i) The nurse helped the patient. The patient had fainted. (ii) We stayed indoors. It was raining. (2 marks)

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17. Complete using suitable noun clauses beginning with that or what: (i) \_\_\_\_\_ the team won the match surprised everyone. (ii) I know \_\_\_\_\_ you need. **(2 marks)**

18. Identify the clause pattern: (i) The students listened. (ii) The teacher gave the class a task. (iii) The coach gave the players advice. **(3 marks)**

19. Rewrite in the passive voice: (i) The committee prepared the report. (ii) The nurse checked the patient. **(2 marks)**

20. Correct the errors: (i) The group of learners are ready. (ii) She gave me many useful informations. (iii) He spoke very careful. **(3 marks)**

## **SECTION D — WRITING (35 MARKS)**

21. Rewrite the paragraph using correct capitalisation and punctuation. Use appropriate commas, quotation marks, a hyphen or dash, and other punctuation where necessary. **(5 marks)**

on saturday the chairperson said our career forum will begin at nine oclock however some students arrived late they explained that the bus was delayed

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22. Write an appropriate email to your class teacher apologising for missing a school activity.  
Demonstrate suitable format, polite language and netiquette. **(4 marks)**

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23. Complete BOTH tasks: (a) Write a brief memo or reminder to Grade 10 learners about a school health and safety activity. (3 marks) (b) Write the opening details of a short incident report about a minor accident at school, including where and when it happened and the key facts. (3 marks)  
**(6 marks)**

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**24. Complete BOTH parts:** (a) Write a well-organised narrative or descriptive paragraph about an important event in a learner's life. Use vivid sensory details and appropriate paragraph structure. (7 marks) (b) Write a persuasive/expository paragraph arguing why young people should use reliable information when making important decisions about health, careers or income. Support your view with relevant reasons. (10 marks) **(17 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM** **SMART-GRADE SERIES - (ARTS & SPORTS)**

### **KISWAHILI - LUGHA**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

**MTIHANI JUMUISHI WA MWISHO WA MUHULA WA 3**

**GREDI YA 10**

**KISWAHILI — LUGHA**

**TATHMINI YA JUMLA**

**MUDA: SAA 2 DAKIKA 30    JUMLA: ALAMA 80**

#### **MAAGIZO**

- a) Jibu maswali yote.*
- b) Andika kwa lugha fasaha na kwa mwandiko unaosomeka.*
- c) Zingatia maagizo ya kila swali.*
- d) Toa majibu kamili pale ambapo swali linahitaji maelezo.*
- e) Tathmini hii inahusu kwa jumla mada na mada ndogo zote za Muundo wa Mtaala wa Kiswahili Gredi ya 10.*

## **SEHEMU A: KUSIKILIZA NA KUZUNGUMZA — ALAMA 20**

**1. Eleza** vipengele vinne vya fani vinavyoweza kuzingatiwa unapochambua matini simulizi.

**(4 alama)**

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**2. Taja** na ueleze kwa ufupi mambo manne yanayozingatiwa katika matamshi bora ili ujumbe wa msemaji ueleweke. **(4 alama)**

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**3. Eleza** kanuni nne za uzungumzaji wa papo kwa papo katika mawasiliano ya kila siku. **(4 alama)**

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**4. Eleza** vipengele vinne vya usikilizaji husishi vinavyomwezesha msikilizaji kuelewa na kuitikia ujumbe ipasavyo. **(4 alama)**

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**5. Eleza** mambo manne ya kuzingatia katika kusikiliza kwa kuhakiki matini ili kutofautisha hoja halisi na taarifa zisizo sahihi. **(4 alama)**

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**SEHEMU B: KUSOMA — ALAMA 20**

**6. Soma** kifungu hiki kisha ujibu: “Mazingira safi huanza na maamuzi madogo ya kila siku. Mwanafunzi anayepanga taka, kutumia tena vitu vinavyofaa na kuhimiza wenzake kutunza mazingira huchangia afya ya jamii.” Eleza ujumbe mkuu na hoja tatu zinazounga mkono ujumbe huo. **(4 alama)**

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**7. Eleza** hatua nne za kufuata unapofupisha kifungu cha kupasha habari bila kupoteza ujumbe muhimu. **(4 alama)**

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**8. Eleza** mambo manne ya kuzingatia unapochagua na kusoma matini ya kujichagulia kwa mapana. **(4 alama)**

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**9. Eleza** mbinu nne zinazoweza kutumiwa katika usomaji wa kuduhushi ili kupata taarifa mahususi kwa haraka. **(4 alama)**

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**10. Eleza** vipengele vinne vya kusoma kwa ufasaha vinavyopaswa kuzingatiwa wakati wa kusoma kifungu cha maelezo kwa sauti. **(4 alama)**

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**SEHEMU C: KUANDIKA — ALAMA 20**

**11. Andika** barua ya kirafiki fupi ya kumshauri rafiki yako anayekabiliwa na shinikizo kutoka kwa marafiki kuhusu matumizi mabaya ya muda. Zingatia vipengele vinne muhimu vya barua ya kirafiki. **(4 alama)**

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**12. Eleza** vipengele vinne muhimu vya insha ya wasifu na kisha taja aina ya taarifa zinazofaa kujumuishwa katika wasifu wa mtu. **(4 alama)**

**13. Andika** notisi fupi ya shule inayowajulisha wanafunzi kuhusu zoezi la usafi wa mazingira litakalofanyika siku ya Ijumaa. Hakikisha notisi yako ina taarifa nne muhimu. **(4 alama)**

**Published by Mwalimu Consultancy. Contact 0746-222-000 | 0753-222-000 for Marking Schemes.**

**14. Eleza** hatua nne za kuhariri matini yako kabla ya kuwasilisha kazi ya mwisho. **(4 alama)**

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**15. Eleza** vipengele vinne muhimu vya kuzingatia unapoandika tafsiri kutoka lugha moja hadi nyingine ili ujumbe wa matini chanzi uhifadhiwe. **(4 alama)**

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**SEHEMU D: MATUMIZI YA LUGHA — ALAMA 20**

**16. Tambua** aina za maneno katika sentensi hii: “Mwanafunzi mchapakazi alisoma kitabu kizuri kwa makini darasani.” Chagua maneno manne na ueleze aina yake. **(4 alama)**

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**17. Tunga** sentensi moja kwa kila wakati ufuatao: wakati uliopo, wakati uliopita, wakati ujao na wakati uliopo unaoendelea. Tumia vitenzi vinavyofaa. **(4 alama)**

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**18. Tumia** maneno yafuatayo katika sentensi zinazoonyesha kauli husika za vitenzi: kutenda, kutendea, kutendwa na kutendewa. **(4 alama)**

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**19. Tunga** sentensi nne sahihi ukitumia: (a) kinyume cha nomino, (b) kinyume cha kitenzi, (c) kinyume cha kivumishi, na (d) kinyume cha kihusishi. **(4 alama)**

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**20. (a)** Tofautisha sentensi sahili, ambatano na changamano. **(b)** Eleza kwa ufupi maana ya isimujamii na sajili katika matumizi ya lugha. **(4 alama)**

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**MWISHO WA KARATASI YA MASWALI**

# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS &SPORTS)**

### **INFORMATION COMMUNICATION TECHNOLOGY**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

- a) Write your name and assessment details in the spaces provided.
- b) Read all questions carefully before answering.
- c) Answer ALL questions.
- d) Show all working where calculations or step-by-step procedures are required.
- e) Label diagrams, interface components and other visual responses clearly where required.
- f) Use clear and legible handwriting and appropriate ICT terminology.
- g) All answers must be written in the spaces provided where applicable.
- h) Check that all questions and pages are present before handing in the paper.

#### **EXAMINER'S USE ONLY**

| Section / Question | Question Numbers | Maximum Score | Candidate's Score |
|--------------------|------------------|---------------|-------------------|
| Section A          | 1–8              | 20            |                   |
| Section B          | 9–12             | 24            |                   |
| Section C          | 13–16            | 20            |                   |
| Section D          | 17–18            | 16            |                   |
| TOTAL              |                  | 80            |                   |

## **SECTION A — FOUNDATIONAL STRUCTURED QUESTIONS (20 MARKS)**

**1. State** four components of ICT infrastructure in an organisation. **(4 marks)**

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**2. Give two** application areas of ICT in society and state one benefit of ICT in each area. **(4 marks)**

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**3. (a) State two** functions of an operating system. (b) Give two examples of operating systems used on digital devices. **(4 marks)**

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**4. Distinguish** between a file and a folder in a computing device. **(2 marks)**

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**5. State two** measures that can be used to protect personal information when using online platforms. **(2 marks)**

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**6. Give two** reasons why digital citizenship is important in society.

**(2 marks)**

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**7. State two** productivity tools that can be used to produce or present information. **(2 marks)**

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**SECTION B — PRODUCTIVITY TOOLS, DATA AND VISUAL REPRESENTATION (24 MARKS)**

**8. A school** is preparing a three-page information leaflet for parents. State four word-processing features that can be used to make the document professional and explain the purpose of each feature. **(8 marks)**

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**9. A learner** has prepared a presentation on road safety for a community audience. (a) State two features that can make the presentation interactive and engaging. (b) Explain one way of using hyperlinks or navigation features to improve the presentation. **(5 marks)**

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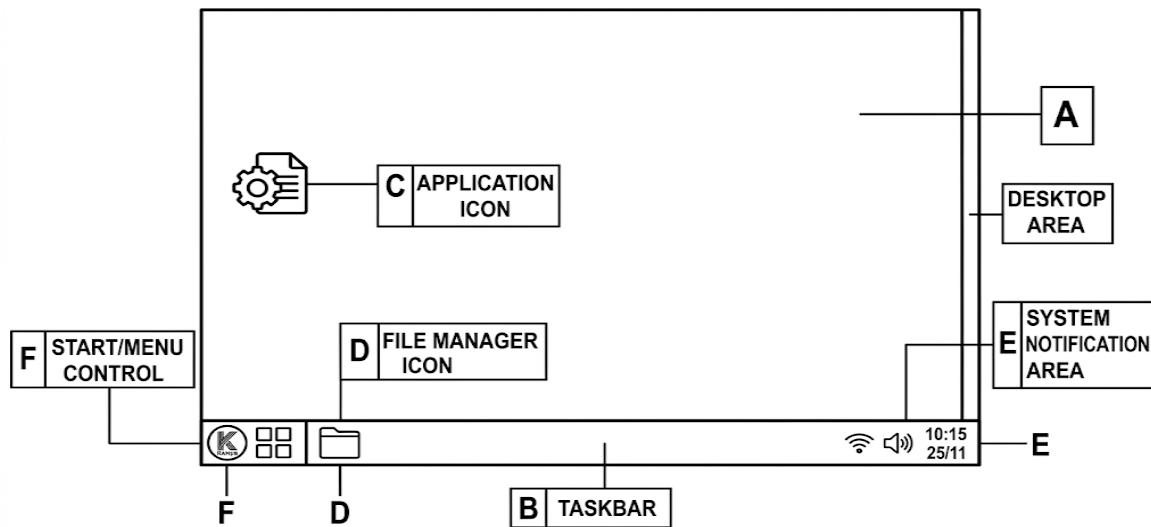
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**10. Study** the simplified desktop interface below and answer the questions that follow. **(5 marks)**



**(a) Identify** the component that is primarily used to launch applications and access system options. **(1 marks)**

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**(b) State** two functions of a file manager. **(2 marks)**

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**(c)** State two reasons why a graphical user interface can make interaction with an operating system easier. **(2 marks)**

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**11. Explain** three document-production activities that can be improved through collaboration features in a word processor. **(6 marks)**

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**SECTION C — INTERNET, DIGITAL CITIZENSHIP AND DIGITAL COMMUNICATION  
(20 MARKS)**

**12. A learner** needs to obtain reliable information from the Internet for a school project. (a) State three services offered through the Internet. (b) Explain three practices that can help the learner obtain reliable information using search engines. **(7 marks)**

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**13. A school** is connecting a computer to the Internet for the first time. State three components or requirements needed to establish an Internet connection and explain the purpose of each.

**(6 marks)**

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**14. Read the** situation below. A learner receives a message asking for a password and personal details through an unfamiliar online platform. The learner is also considering sharing the message with friends. (a) Identify two online safety risks in the situation. (b) Explain four responsible digital-citizenship actions the learner should take. **(7 marks)**

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## SECTION D — INTEGRATED APPLICATION AND PROBLEM SOLVING (16 MARKS)

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**15. A youth** group wants to advertise a community health activity using a desktop-publishing tool.

Describe four steps the group should follow to create a professional publication and identify one publication type suitable for the activity. **(6 marks)**

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**16. A** community organisation uses e-mail, instant messaging and video conferencing to coordinate activities. Explain four ways digital communication can improve collaboration and identify two precautions that should be observed when sharing files or information online. **(6 marks)**

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# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS &SPORTS)**

### **PHYSICAL EDUCATION**

TIME: 2 HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

1. Write your name and assessment details in the spaces provided.
2. Read all questions carefully before answering.
3. Answer ALL questions.
4. Use clear and legible handwriting.
5. Where a diagram is provided, study it carefully and respond to the instructions given.
6. Where drawing or labelling is required, make your work clear and accurate.
7. Give practical examples where required.
8. All answers should be written in the spaces provided where applicable.
9. Check that all pages and questions are present before beginning.

#### **EXAMINER'S USE ONLY**

| Section | Question Numbers | Maximum Score | Candidate's Score |
|---------|------------------|---------------|-------------------|
| A       | 1–3              | 30            |                   |
| B       | 4–6              | 30            |                   |
| C       | 7–8              | 20            |                   |
| TOTAL   |                  | 80            |                   |

## **SECTION A — GAMES (30 MARKS)**

1. Football requires coordinated technical skills, teamwork and safe participation.

**(a)** State two correct procedures for restarting play in football. **(2 marks)**

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**(b)** Explain three important coaching points when performing a lofted pass. **(3 marks)**

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**(c)** Describe two ways a defender can use body positioning when marking an opponent. **(2 marks)**

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**(d)** Explain three ways participation in football can contribute to individual wellbeing. **(3 marks)**

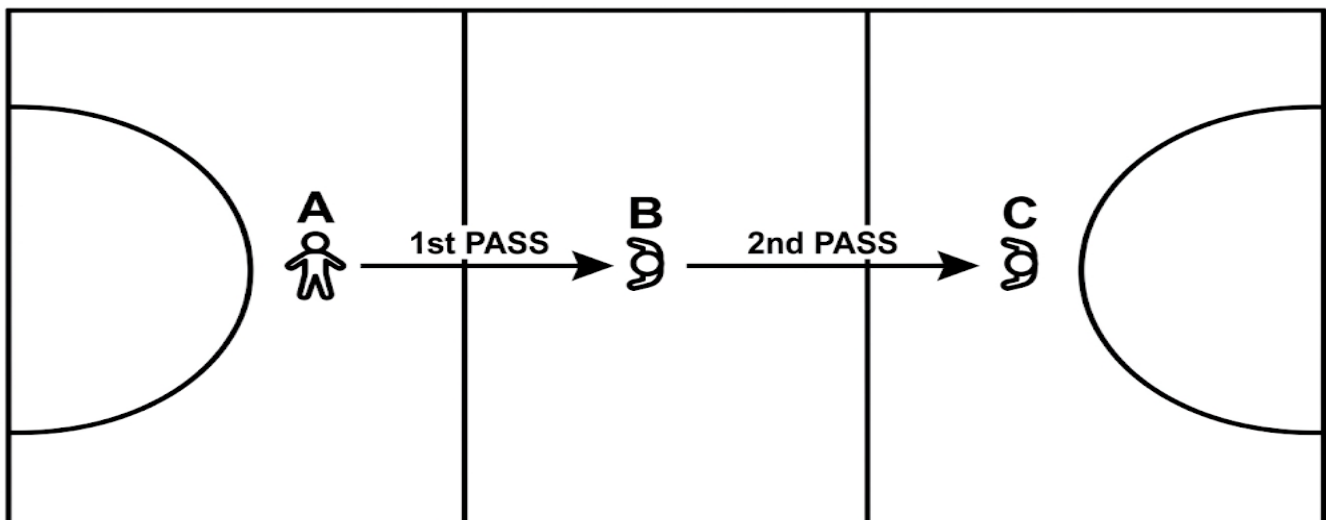
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2. Study the simplified Netball movement figure below.



**(a)** Identify the skill sequence represented by the arrows and explain how the movement supports effective passing. **(4 marks)**

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**(b)** State three coaching points for performing a running shot or pass accurately in Netball. **(3 marks)**

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**(c)** Give three benefits of teamwork during a mini Netball game. **(3 marks)**

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**3.** Basketball involves controlled movement, deception and accurate shooting.

**(a)** Describe four coaching points for effective crossover dribbling. **(4 marks)**

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**(b)** Explain how faking and feinting can help a player create space for a shot. **(2 marks)**

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(c) State two key points for a correct lay-up and two key points for a jump shot. **(4 marks)**

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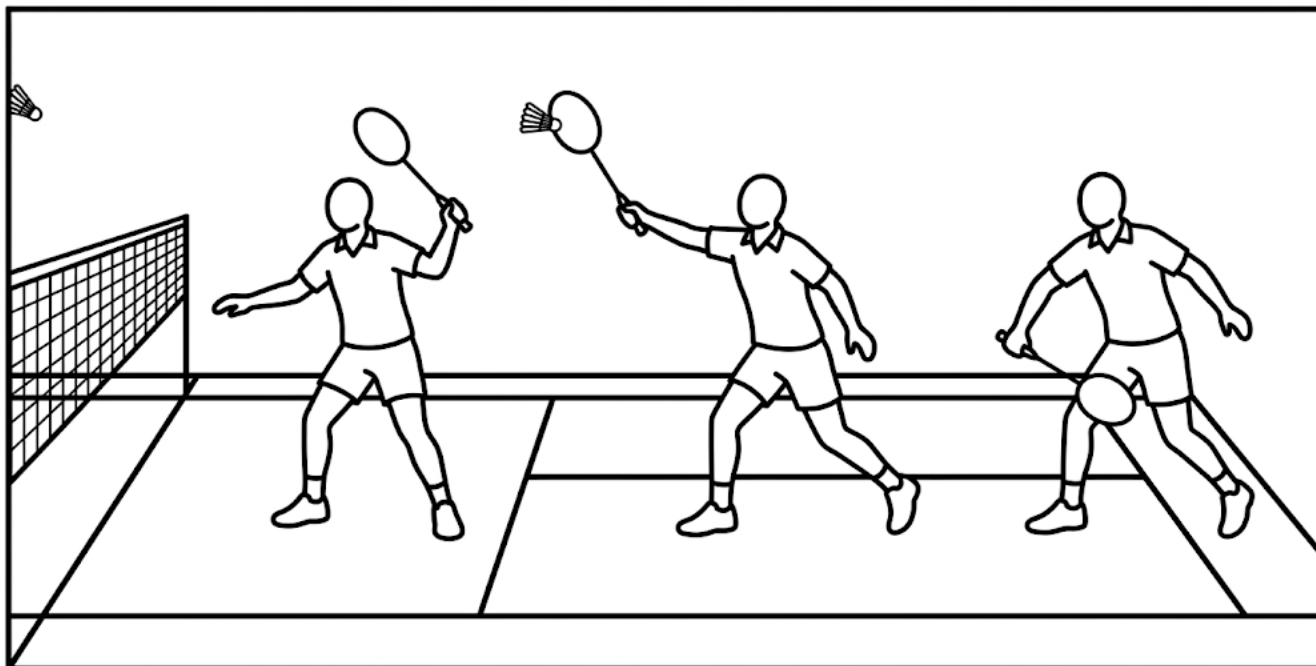
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**SECTION B — GAMES AND ATHLETICS (30 MARKS)**

4. Study the badminton stroke figure below.



(a) Name the three stages represented in the figure. **(3 marks)**

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(b) For any two stages, describe two important technical aspects of grip, stance, swing, contact or follow-through. **(4 marks)**

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(c) State three safety or fair-play practices that should be observed during a badminton game.

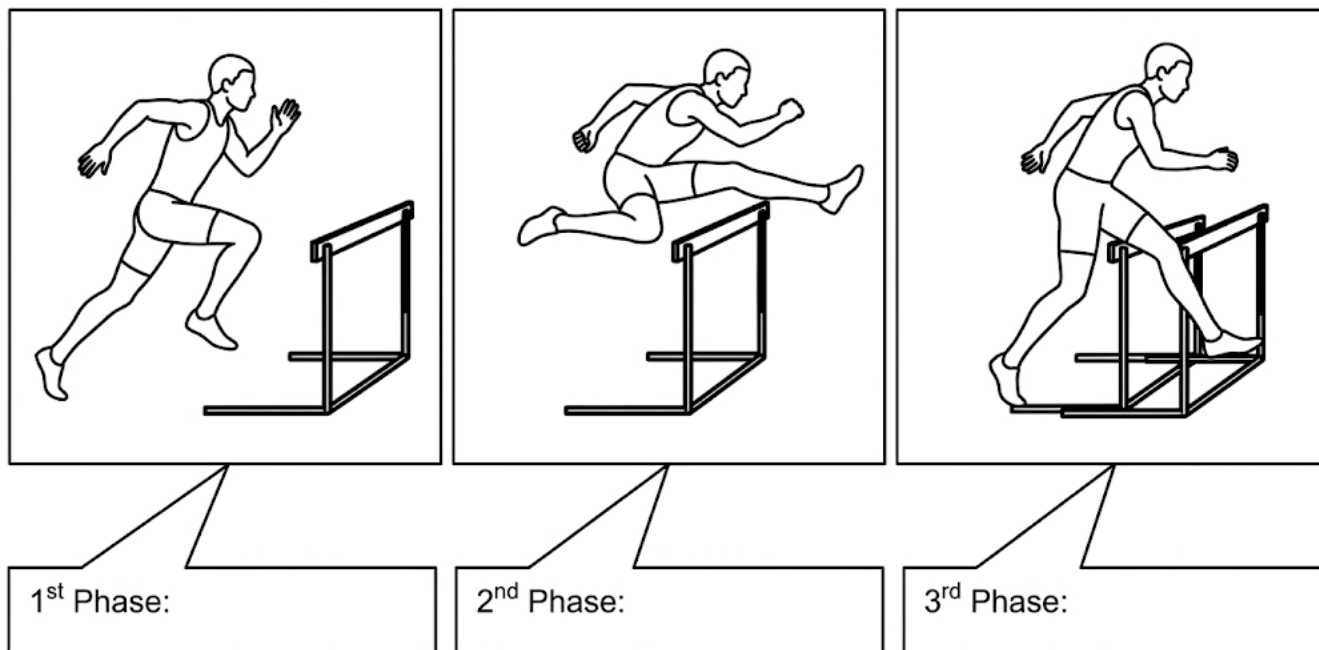
(3 marks)

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5. Hurdling requires coordinated technique from the start to recovery.



(a) Identify the three phases shown.

(3 marks)

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(b) Explain four safety precautions that should be observed when practising hurdling. (4 marks)

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(c) State three ways hurdling can contribute to individual wellness.

**(3 marks)**

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6. Middle-distance running depends on efficient pacing and recovery.

(a) State the three key techniques emphasised in the curriculum for middle-distance races.

**(3 marks)**

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(b) Explain how pacing and breathing contribute to performance in a middle-distance race.

**(4 marks)**

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(c) Give three appropriate recovery practices after a middle-distance race.

**(3 marks)**

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## **SECTION C — ATHLETICS AND OUTDOOR EDUCATION (20 MARKS)**

7. Cross-country running is performed over varied terrain and requires effective management of effort and recovery.

(a) Describe five techniques used in cross-country running, including starting, pacing, terrain management, breathing, finishing or recovery.

**(5 marks)**

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**(b)** Explain three ways a learner can maintain safety when running over different terrains.

**(3 marks)**

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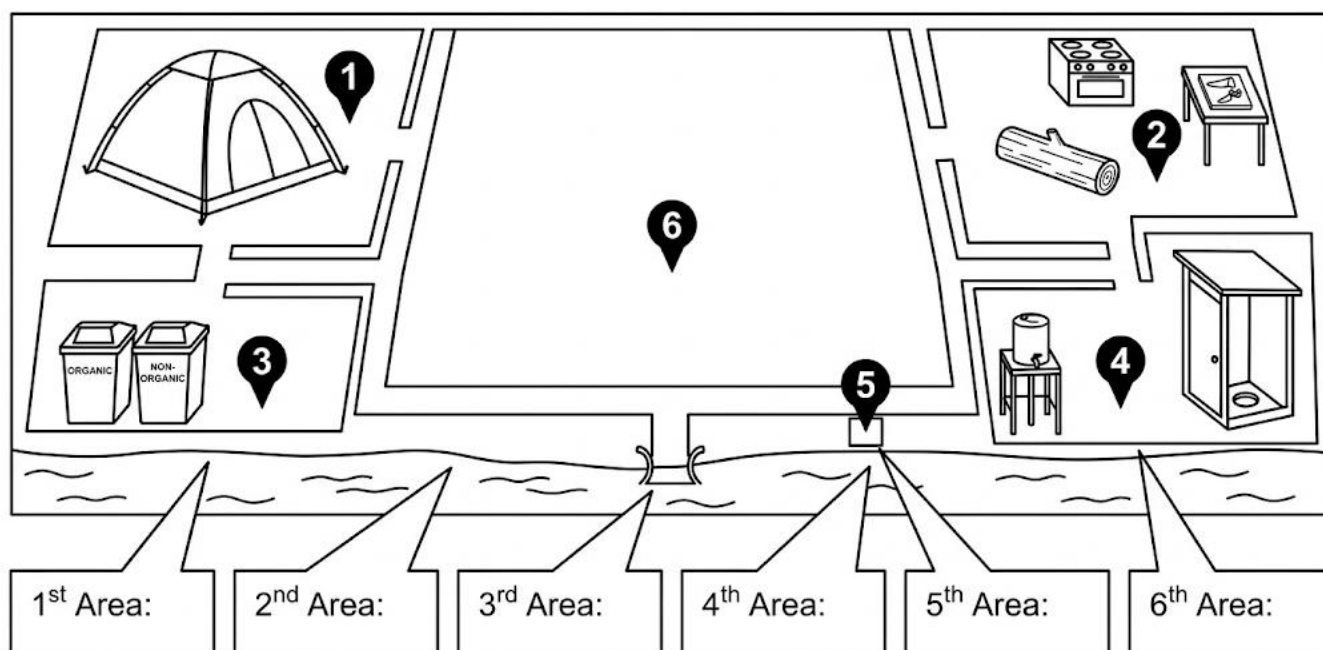
**(c)** State two ways cross-country activities can promote environmental awareness. **(2 marks)**

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**8.** A school is planning a camping adventure. Study the campsite layout below and answer the questions.

## CAMPSITE LAYOUT EXERCISE



- (a)** Identify the six numbered areas in the campsite layout and state one safety consideration for any two of them. **(6 marks)**

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- (b)** State two important considerations when selecting a campsite. **(2 marks)**

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- (c)** Give two examples of responsible activities that may be undertaken during a camping adventure while conserving the environment. **(2 marks)**

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**END OF QUESTION PAPER- MWALIMU CONSULTANCY LIMITED.**

# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS & SPORTS)**

### **ESSENTIAL MATHEMATICS**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

*Answer ALL questions.*

*Show all working clearly. Unsupported answers may not earn full marks.*

*Use a calculator where appropriate.*

*Give answers to a suitable degree of accuracy where necessary.*

*Use  $\pi = 22/7$  unless otherwise stated.*

*Draw and label diagrams accurately where required.*

*All answers must be written in the spaces provided or in the space immediately following each question.*

#### **EXAMINER'S USE ONLY**

| Section | Questions | Maximum Score | Candidate's Score |
|---------|-----------|---------------|-------------------|
| A       | 1–5       | 30            |                   |
| B       | 6–10      | 35            |                   |
| C       | 11–15     | 35            |                   |
| TOTAL   |           | 100           |                   |

***This is a cumulative assessment of the complete Grade 10 Essential Mathematics Curriculum Design.***

**SECTION A: NUMBERS AND ALGEBRA**

**1. (a)** Classify each number as rational or irrational:  $\sqrt{49}$ ,  $\sqrt{7}$ ,  $0.125$ ,  $\pi$ . **(4 marks)**

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**(b)** Evaluate:  $\frac{3}{4} - \frac{2}{3} \times \frac{9}{8}$ . **(3 marks)**

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**(c)** A patient's temperature changes from  $38.6^{\circ}\text{C}$  to  $37.2^{\circ}\text{C}$ . Determine the change in temperature. **(2 marks)**

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**2. (a) Simplify:**  $2^3 \times 2^5 \div 2^4$ . **(2 marks)**

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**(b)** Express  $0.00072$  in index form and state the value of its reciprocal. **(3 marks)**

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(c) Simplify:  $(3^2 \times 3^{-1})^2$ .

**(3 marks)**

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3. (a) Factorise completely:  $x^2 - 7x + 12$ .

**(3 marks)**

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(b) Solve by factorisation:  $x^2 - 5x - 14 = 0$ .

**(4 marks)**

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(c) The length of a rectangle is 3 m more than its width. Its area is  $40 \text{ m}^2$ . Form a quadratic equation and determine its dimensions. **(4 marks)**

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4. (a) Two similar containers have corresponding lengths in the ratio 2:5. Determine the ratio of their areas. (2 marks)

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- (b) A model is enlarged using a linear scale factor of 3. State the corresponding area scale factor and volume scale factor. (3 marks)

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5. A learner's weekly transport expenditure is shown below. (6 marks)

| Day          | Mon | Tue | Wed | Thu | Fri |
|--------------|-----|-----|-----|-----|-----|
| Amount (KSh) | 20  | 50  | 100 | 80  | 200 |

- (a) Calculate the mean daily expenditure. (2 marks)

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- (b) If the learner has KSh 1,000 for transport, determine the balance after the five days. (2 marks)

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(c) Give one reason why organising and interpreting such data can support decision-making.

**(2 marks)**

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## **SECTION B: MEASUREMENTS AND GEOMETRY**

**6. The coordinates of A(2, 3) and B(8, 3) are given. A reflection is made in the y-axis. (6 marks)**

(a) State the coordinates of A' and B'. **(2 marks)**

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(b) Describe the transformation used.

**(2 marks)**

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(c) State the perpendicular distance of A from the mirror line before reflection.

**(2 marks)**

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**7. A right-angled triangular field has perpendicular sides 9 m and 12 m.**

**(7 marks)**

(a) Determine the length of the hypotenuse.

**(2 marks)**

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(b) Determine  $\sin \theta$ ,  $\cos \theta$  and  $\tan \theta$  for the angle opposite the 9 m side.

**(3 marks)**

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(c) A tree is observed from a point on level ground at an angle of elevation of  $30^\circ$ . If the point is 12 m from the foot of the tree, determine the height of the tree.

**(2 marks)**

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**8. (a)** A triangle has sides 13 cm and 14 cm enclosing an angle of  $30^\circ$ . Determine its area.

**(3 marks)**

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(b) Determine the area of a rhombus whose diagonals are 10 cm and 16 cm.

**(2 marks)**

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(c) A regular hexagon has side length 8 cm. Explain one method that could be used to determine its area.

**(2 marks)**

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**9. A circular** garden has radius 14 m. (7 marks)

(a) Determine its area. (3 marks)

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(b) A sector subtends  $90^\circ$  at the centre. Determine the area of the sector. (2 marks)

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(c) Determine the area of the corresponding segment if the triangle formed by the two radii and chord has area  $98 \text{ m}^2$ . (2 marks)

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**10. (a)** A cuboid measures 8 cm by 5 cm by 3 cm. Determine its total surface area. (3 marks)

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(b) A cone has radius 7 cm and height 24 cm. Determine its volume. (3 marks)

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(c) A container is in the shape of a frustum. State the information required to calculate its volume. **(1 marks)**

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**SECTION C: VOLUME, COMMERCIAL ARITHMETIC, STATISTICS AND PROBABILITY**

11. A cylindrical water tank has radius 1.4 m and height 2.5 m. **(6 marks)**

(a) Calculate its capacity in cubic metres. **(3 marks)**

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(b) Convert the capacity to litres. **(1 marks)**

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(c) If the tank is 80% full, determine the volume of water in it. **(2 marks)**

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12. A trader buys goods for KSh 24,000. The goods are sold at a profit of 15%. **(7 marks)**

(a) Determine the profit. **(2 marks)**

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(b) Determine the selling price. **(2 marks)**

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(c) A customer is given a 10% discount on the selling price. Determine the amount paid by the customer. **(3 marks)**

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**13. The** numbers of books read by 12 learners in a month are: 2, 4, 3, 5, 2, 6, 4, 3, 2, 5, 4, 8.  
**(8 marks)**

(a) Prepare a frequency distribution table. **(3 marks)**

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(b) Determine the mode and median. **(3 marks)**

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(c) State one conclusion that can be made from the data. **(2 marks)**

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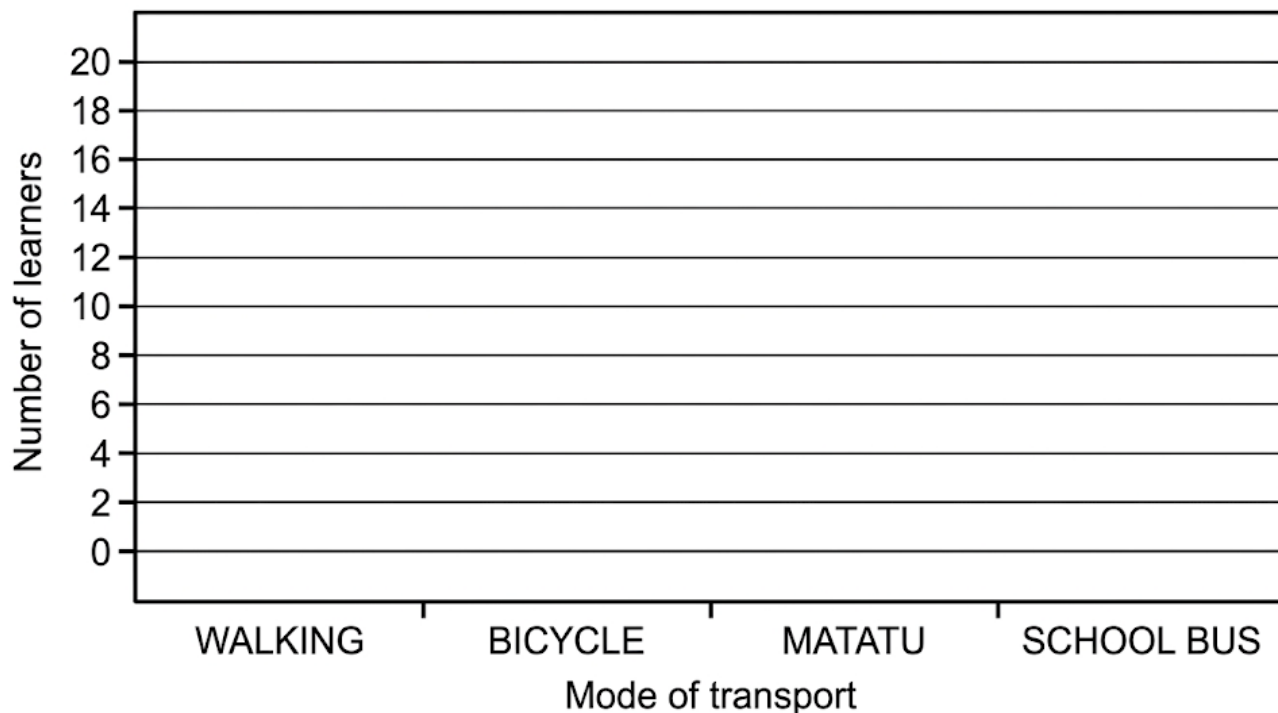
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- 14. The** following data show the number of learners using different modes of transport to school.  
(6 marks)

| Mode               | Walking | Bicycle | Matatu | School bus |
|--------------------|---------|---------|--------|------------|
| Number of learners | 2       | 3       | 20     | 10         |

- (a) Draw a suitable bar graph to represent the data. (3 marks)



- (b) State which mode is most common and give the number of learners using it. (2 marks)

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- (c) Give one reason why a graph can be useful when interpreting data. (1 marks)

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- 15. (a) A** fair die is rolled once. Determine the probability of obtaining an even number. (2 marks)

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(b) A bag contains 4 red balls and 6 blue balls. One ball is selected at random. Determine the probability of selecting a red ball. **(2 marks)**

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(c) A coin is tossed and a die is rolled. Determine the probability of obtaining a head and a six. **(3 marks)**

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(d) Explain why understanding probability can help a person make responsible decisions in real-life situations. **(3 marks)**

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**END OF QUESTION PAPER -0746222000**

# **KENYA SENIOR SCHOOL EDUCATION**

## **GRADE 10 END-TERM 3 EXAM**

### **SMART-GRADE SERIES - (ARTS &SPORTS)**

### **CORE MATHEMATICS**

TIME: 2½ HOURS

NAME.....

ASSESSMENT NO; ..... SCHOOL; .....

CLASS..... SIGN.....

#### **INSTRUCTIONS TO CANDIDATES**

*Answer ALL questions.*

*This is a cumulative assessment of the Grade 10 Core Mathematics Curriculum Design.*

*Show all working clearly. Full working is required for questions involving calculations.*

*Use a calculator where appropriate.*

*Give answers to a suitable degree of accuracy where necessary.*

*Use  $\pi = 22/7$  unless otherwise stated.*

#### **EXAMINER'S USE ONLY**

| Section | Questions | Maximum Score | Score |
|---------|-----------|---------------|-------|
| A       | 1–2       | 20            |       |
| B       | 3–8       | 60            |       |
| C       | 9–12      | 20            |       |
| TOTAL   |           | 100           |       |

## **SECTION A: NUMBERS AND ALGEBRA**

**1. (a)** Classify  $\sqrt{49}$ ,  $\sqrt{7}$ ,  $0.125$  and  $\pi$  as rational or irrational.

**(4 marks)**

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**(b)** Find the reciprocal of  $5/8$ .

**(2 marks)**

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**(c)** Evaluate  $2^3 \times 2^{-1} \div 2^2$ .

**(2 marks)**

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**(d)** Find  $\log_{10} 1000$ .

**(2 marks)**

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**2. (a)** Factorise  $x^2 - 9x + 20$ . **(3 marks)**

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(b) Solve  $x^2 - 7x + 12 = 0$  by factorisation.

**(4 marks)**

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(c) A rectangle has area  $48 \text{ m}^2$  and length 2 m more than its width. Form a quadratic equation and determine its dimensions.

**(3 marks)**

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### **SECTION B: MEASUREMENTS AND GEOMETRY**

3. (a) Similar figures have corresponding lengths in the ratio 2:5. Find the ratio of their areas and volumes.

**(4 marks)**

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(b) Reflect  $A(3,2)$  in the y-axis and state  $A'$ .

**(2 marks)**

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(c) State the coordinate rule for a  $90^\circ$  anticlockwise rotation about the origin. **(2 marks)**

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**4. A vector** is  $(6,8)$ . (a) Find its magnitude. (b) If  $u=(2,-1)$  and  $v=(4,3)$ , find  $u+v$ . (c) State the translation represented by  $(-3,5)$ . **(6 marks)**

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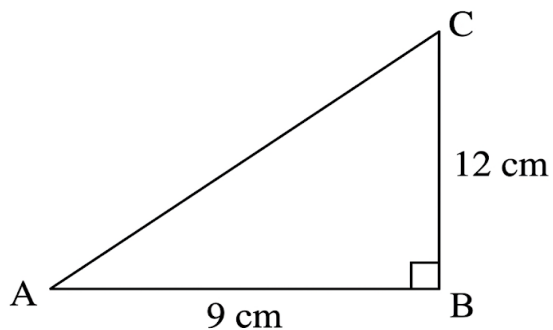
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**5. Study** the figure below and answer questions that follow.



(a) Find the hypotenuse. **(2 marks)**

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**(2 marks)**

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**(3 marks)**

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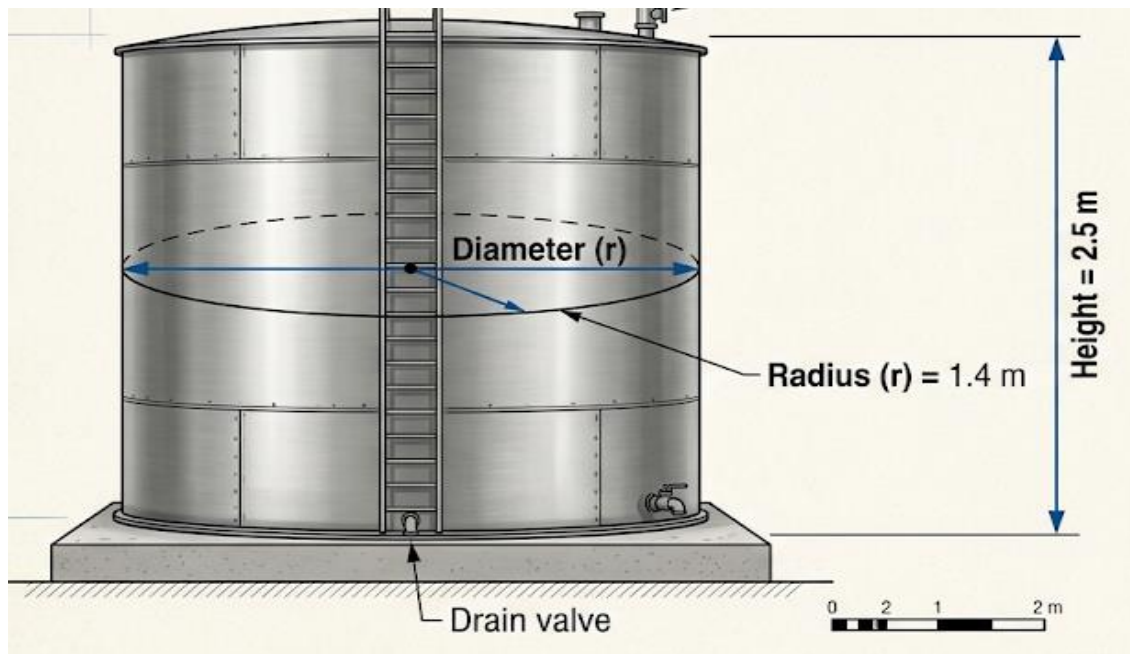
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**(8 marks)**

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

7. (a) Study the figure below. Find its volume.

(2 marks)



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(b) A cuboid is  $8\text{ cm} \times 5\text{ cm} \times 3\text{ cm}$ . Find its total surface area.

(2 marks)

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(c) State the information needed to calculate the volume of a frustum.

(3 marks)

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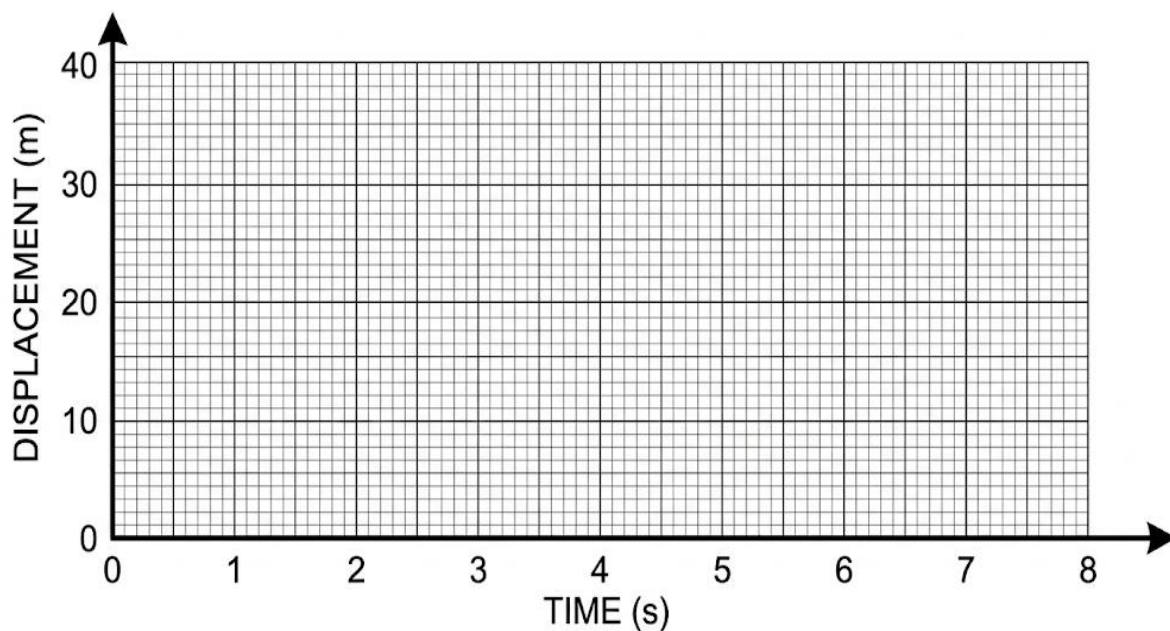
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**8. A car has the following displacement-time data. (8 marks)**

| Time (s)         | 0 | 2  | 4  | 6  | 8  |
|------------------|---|----|----|----|----|
| Displacement (m) | 0 | 10 | 20 | 30 | 40 |

(a) Plot a displacement-time graph.



(b) Determine the speed represented by the graph. **(2 marks)**

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(c) A second car travels at 8 m/s in the same direction. Find the relative speed. **(3 marks)**

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## **SECTION C: STATISTICS AND PROBABILITY**

9. The numbers of books read by 12 learners are 2, 4, 3, 5, 2, 6, 4, 3, 2, 5, 4, 8. (a) Prepare a frequency table. (b) Find the mean, mode and median. **(8 marks)**

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10. Test scores are grouped as follows. **(8 marks)**

| Score     | 0–9 | 10–19 | 20–29 | 30–39 | 40–49 |
|-----------|-----|-------|-------|-------|-------|
| Frequency | 3   | 7     | 12    | 6     | 2     |

- (a) State the modal class. **(2 marks)**

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- (b) Find the total frequency. **(2 marks)**

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(c) Explain two differences between a histogram and a frequency polygon.

**(4 marks)**

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**11.** A bag contains 4 red, 3 blue and 3 green balls. (a) Find  $P(\text{red})$ . (b) Find  $P(\text{blue or green})$ . (c) A fair die and fair coin are used. Find  $P(\text{six and head})$ . (d) State the range of probability. **(8 marks)**

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# THE END

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