

THE UNIVERSITY OF ZAMBIA

in Association with

THE TECHNICAL AND VOCATIONAL TEACHERS' COLLEGE

COLLEGE DIPLOMA EXAMINATION DECEMBER 2012

COURSE: TECHNICAL TEACHER EDUCATION

SUBJECT: EDUCATIONAL TECHNOLOGY

DURATION: THREE (03) HOURS

MARKS: 100

INSTRUCTIONS TO CANDIDATES

1. Write your college number in the space provided on the top of your Answer Sheet.
Do the same with any additional paper(s) you may use as answer sheet.
2. This paper has two sections A and B
3. Section A has two parts 1 and 2
4. Answer all questions in section A
5. Answer Question 21 and three other questions of your choice in Section B.
6. Read the instructions given in each section.
7. Read each question carefully before responding to it.

Do not turn the paper until you are told to do so

SECTION A - PART 1

Read each statement carefully and respond by writing either **TRUE or FALSE** against the number of the question responded to, in your answer booklet. *(Each question carries 1 mark - Total = 10)*

1. An opaque projector uses opaque transparencies.
2. Chalkboards are available in various colours except white.
3. Educational aids are not invaluable at nursery school education.
4. In instructional games, competition and chance are generally factors in the interaction and usually, there is no winner.
5. Small scale models can be used to give a better impression of a factory or plant.
6. A reading list is an extensive list of books on a topic.
7. Most of our experiences are obtained through our eyes.
8. Teaching aids are aids to teaching rather than learning.
9. When presenting overhead transparency visual, the operator looks at the image on the screen rather than the projector stage.
10. Charts are best stored by subjects and not sizes

SECTION A - PART 2

For each of the following items 10- 20, select the correct answer by writing the corresponding letter in your answer booklet. *(Each question carries 1 mark. (Each question carries 1 mark - Total = 10)*

1. Mr. Nsofwa will be absent for two days because of a national conference on Educational Technology. He wants his students to work on a certain module. What is the fastest way of sending the module to his students while he is away?
 - a. E mail a module to his students
 - b. Share it to all her students in his live account
 - c. Send the module through instant messaging
 - d. Send an SMS

2. The visual aid that should be used to consolidate knowledge of a group of related facts is a
 - a. a visit to the place under discussion
 - b. detailed chart
 - c. mobile
 - d. diorama

3. What is the primary objective of projected aids?
 - a. to enable both the teacher and students see each other
 - b. enable a large group see the illustration
 - c. enable students pay more attention
 - d. to maintain silence

4. Which one of the following educational aids gives the learner understanding, feelings and visualization of the teacher's concept?
- a. A simulator
 - b. A very detailed chart on the concept
 - c. A demonstration lesson
 - d. A good video on the concept
5. Which one of the following reflects the importance of a model as an educational Aid?
- a. The practical experience it gives the learner through switching on and off.
 - b. It displays the skill of a teacher
 - c. The excitement of learners in seeing it
 - d. The practical experience it gives the learner through manipulation, dismantling and assembling
6. These are our firsthand and concrete experiences that make up the foundation of our learning.
- a. Demonstrations
 - b. Indirect experiences
 - c. Direct, purposeful Experiences
 - d. Exhibits
7. Which of the following describes a peer-reviewed journal?
- a. A journal that does not publish articles unless they have been evaluated and approved by one or more independent experts in the same field
 - b. A newspaper that includes critical comments of recent articles
 - c. A personal account of one's life that is shared with other people
 - d. A journal in electronic form
8. Which of the following adaptive technologies would benefit a student who is visually impaired but not blind?
- a. Hands-free keyboard control mechanism
 - b. Touch screen

- c. Software that magnifies everything by 2 to 16 times
 - d. Text-to-speech software
9. In motion picture projection, what principle can explain continuous action in the picture?
- a. Persistence of vision
 - b. Synchronization of pictures
 - c. Pure magic
 - d. Rapid movements of frames
10. The cut-outs, pictures and diagrams which are given a backing of flannel will stick to
- a. chalkboards
 - b. felt boards
 - c. bulletin boards
 - d. magnetic boards
11. Chitoshi is a 2nd year student of education at TVTC and she wants to do a research paper on the history of Education on the Ngoni people. He speaks, reads and writes English well. All of the library books on Ngonis are checked out, but she has internet access at home. As her teacher, what do you suggest?
- a. Books from the library anyway.
 - b. Postcards and magazines from the corner grocery store.
 - c. Internet websites such as Wikipedia, National Geographic, etc.
 - d. None of the above.
12. Mrs. Jere has a 5-year old grandson who needs English instruction. He speaks English at home, but needs help with basic English vocabulary. What do you suggest?
- a. Videotape on English grammar.
 - b. An animal picture dictionary.
 - c. Vocabulary flash cards.
 - d. Vocabulary lists.

SECTION B

INSTRUCTIONS

SECTION C

Question 25 is compulsory. Answer question 25 and any other two questions from this section. All questions carry 20 marks.

25. (a) Explain the use of the following Educational Aids in class or school:

- (i) Templates. (2 marks)
- (ii) Notice Board (2 marks)
- (ii) Stencils (2 marks)

(b) "No Impression without Expression". Explain what this statement remind the teacher of in the use of the chalkboard or white board. (4 marks)

(c) Identify four characteristics of a good chart. (4 marks)

(d) Raise six points in support of why pictorial materials are said to be the backbone of the teachers' visual- materials. (6 marks)

26. (a) Programmed learning can sometimes be taught in book form, card form or through any teaching machine. Explain what PROGRAMMED LEARNING is? (5 marks)

(b) Compare and contrast the difference in the effective educational communication between Still-Silent pictures and motion pictures accompanied with sound when they are used as teaching aids. (5 marks)

(c) Though the teaching machines are becoming more and more sophisticated in their ability to teach, they will never replace the teacher in the classroom. Cite seven observations of what the teacher is able to do that the machine shall never do. (10 marks)

27. Posters, Charts and pictures are some of the educational aids one would use for communication. Explain how you would use each one of them in your

subject specialty for communicating/teaching a learning concept.
(20 marks)

28. (a) Explain how long should a school or any learning institution continue to use a particular textbook?(6 marks)
- (b) Explain what should the school do with books in reasonable condition that have become out of date? (6marks)
- (c) What advantage has assignment cards over textbooks? Identify five of them only. (8 marks)

End of Examination

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COLLEGE DIPLOMA EXAMINATION

APRIL 2011

COURSE: TECHNICAL TEACHER EDUCATION

SUBJECT: EDUCATIONAL TECHNOLOGY

MARKING GUIDE

SECTION A - PART 1

- | | |
|------|-------|
| 1. F | 6. T |
| 2. T | 7. T |
| 3. F | 8. F |
| 4. T | 9. F |
| 5. F | 10. F |

SECTION A - PART 2

- | | |
|-------|-------|
| 11. C | 16. A |
| 12. D | 17. D |
| 13. A | 18. C |
| 14. B | 19. A |
| 15. B | 20. B |

SECTION B

21. (a) **Pedagogical purposes of a field Trip** *-(6 marks)*

- Provides a source of enrichment for factual information read in text books
- Makes work on printed page meaningful
- Improve attitudes, expand understanding and increase skills
- Provides firsthand experiences with objects, places, situations and human Relations that cannot be provided in the classroom
- Sharpens awareness of the learners' environment • Exposes learners to careers that they might want to pursue.

(b) Criteria for taking students on a field trip (2 marks for each point = 6 marks)

Any three of the following:

Will the trip:

- Be of genuine interest to learners
- Be suitable for their ages and grade levels
- Fit naturally into the sequence of the learners' work
- Produce learning that justifies the time and trouble required

(c) "B" in ABC test of a good chart (1 mark each = 3 marks)

- Bright
- Bold
- Brief

(d) Types of Student support Materials

Any two of the following: (1 mark each = 2 marks)

- Reference book
- Assignment Sheet
- Hand-out Laboratory
- Instructional Sheet
- Operation Instructional Sheet
- Reading list
- Periodicals
- Key Facts
- Text books

(e) Function of the Objective lens in a projector (2 marks)

Objective Lens - Inverts the image

(f) Types of Graphs – any two of the following (1 mark each = 2 marks)

- Line graph
- Pie graph
- Pictorial graph
- Bar graph

(g) **Why OHP is so called** - (2 marks)

- Because the O.H.P throws images over the head of Operator.

22. (a) **Pictorial aids as backbone of all visual aids**

Any three of the following: (1 mark each = 3 marks)

- Enormous variety available
- Every subject is covered
- No special machinery or equipment required for their display
- Can be adapted to any teaching situation in any accommodation
- Pictures are universal means of communication
- Pictorial representation will never be obsolete (go out of use)

(b) (i) **Description of Gantt Chart** - (3 marks)

- Horizontal bar chart that graphically displays time relationships between different tasks in a project.
- Widely used in scheduling tasks
- Applicable to small or large projects

(iii) **Purpose of lettering on charts**

Any two of the following: (1 mark each = 2 marks)

- Visual identification
- Labeling
- Emphasis
- Explanation
- Clarification

(iv) **Difference between Bold and simple chart and Detailed Chart**

Bold and simple chart should be: - (4 marks)

- Large enough to be seen by all
- Not necessarily self explanatory
- Functionally coloured
- Little more than a chalkboard drawing- in permanent form

Detailed chart should be:- - (4 marks)

- More explanatory
- Medium or small size
- Suitable for semi-permanent display
- Artistically produced

23. (a) **How real objects can be used in teaching** (1 mark each =6 marks)

Have real things for students to:

- Observe
- Handle
- Manipulate
- Display
- Discuss
- Assemble and/or Disassemble

(b) Reasons **why real things in their natural states are not available** when and where needed

Any two of the following: (1 mark each = 2 marks).

They might be:

- Too big
- Too complex
- Too heavy
- Too costly
- Too dangerous

(c) **Limitations of Computers** - (4 marks)

- Computers are programmed. As a result they cannot be used for anything which is not of the programs.
- Computers cannot reason on their own.

(d) Teacher's need to be familiar with a particular teaching aid -

Being familiar with a particular aid will help the teacher to:

- Plan questions to ask learners (2 marks)
- Plan appropriate follow-up activities - (2marks)
- Determine parts of audio visual experiences to be emphasized and elaborated (3 marks)

24. (a) Description of Closed Circuit Television (CCTV) (6 marks)

CCTV is:

- A system by which television pictures are passed from a video camera to a receiver or monitor by coaxial cable and not by broadcasting.

(b) Broad categories of computer application (1 mark each = 5 marks)

Any five of the following.

- As Object of Instruction
- Computer as a tool
- Computer Assisted Instruction
- Computer Managed Instruction
- Computer Scheduling,
- Inventory and Budgeting
- Computer Based Instructional Design
- Computer Generated Materials

c) Basic contents of an experiment sheet (4 marks)

- Problems that require a learner to make specific observations.
- Problems that require a learner to apply theory to practice or learn by discovery method.

(d) Use of a Reading List: - (2 marks)

- Useful material when Lecture, Discussion, or Tutorial method of teaching is used.

(e) Functions of colour in Visual displays - (2 marks)

Any two of the following:

- To emphasize
- To contrast
- To improve visibility
- To attract attention
- To create moods

(25) (a) Cause of Illusion of motion -

(2 marks)

- The illusion of motion is caused by an optical phenomenon known as "Persistence of vision"

(b) Characteristics of good chalkboard writing

, (1 mark each = 3 marks)

- Uniformity in style and size letters and figures
- Uniform spacing between words and lines
- Writing must be horizontal

(c) Characteristics a gapped hand-out

(2 marks each = 4 marks)

Any two of the following:

- Should be well organized and concise- (short and brief)
- Covers only a few ideas but does it thoroughly
- Gaps should be only for key points
- Should provide a good summary of the lesson

(d) **Two categories of handouts** (2 marks)

- Structured handouts and gapped handouts

(e) **Importance of glossary in a textbook** (2 marks)

- Because important terms used in the textbook are well explained in the glossary

(f) **Factors that influence selection of student support materials** (3 marks)

Any three of the following

- Content
- Organisation
- Language
- Political correctness

26. (a) **Principle of operation for most projectors** (3 marks)

- Light is transmitted through a transparent material and the image is projected onto the screen

(b) **Three basic disadvantages of the Internet in education.**

(3 marks each= 9 marks)

Technology Familiarity

- Learning online forces students to work with internet and computer technologies to complete their education.

Discipline

- Internet education requires a good amount of self-discipline. Nobody is breathing down your neck to get work in on-time. If you don't finish the work, you don't get a grade or pass the class. People who are good at managing their time and setting deadlines for themselves will flourish in online education. For those who

have a difficult time staying on task or completing assignments, internet education may be frustrating.

Socializing & Networking

- Working from a computer decreases the amount of social contact that a traditionally-attended class provides.
- Internet students run the risk of feeling lonely or isolated.
- Job networking is decreased as well. Students only interact over a computer so they miss out on connections that other teachers and other students might offer

(c) Use of Pictures in teaching - (1 mark each = 2 marks)

Any two of the following:

- Select only meaningful pictures
- Limit the quantity of pictures used
- Use verbal cues with pictures
- Stimulate creative expressions
- Use Contrast, Comparison, and Continuity
- Use pictures in suitably varied ways

(d) Characteristics of a good chart - (1 mark each = 4 marks)

Any four of the following:

- Must be big enough to be seen by the whole class
- Must have clarity
- Must be simple
- Must be attractive enough to capture and hold learners' attention
- Must tell the truth