

THE POLYTECHNIC, IBADAN
DEPARTMENT OF LANGUAGES AND COMMUNICATION
FIRST SEMESTER EXAMINATION 2024/2025

COURSE TITLE : USE OF ENGLISH I

COURSE CODE : GNS 101

DURATION : 2 HOURS

INSTRUCTION : Answer ALL questions in section A, ONE in section B and ONE in section C.

1. _____ is a system of arbitrary vocal symbols used by members of a speech community to communicate and interact.
2. Every normal human is endowed with the innate ability to naturally speak or learn a minimum of one language. TRUE/FALSE
3. _____ and _____ are the receptive language skills.
4. The process of developing collected facts from a lecture into a more meaningful and detailed form for future use is _____.
5. Some uses of the dictionary are _____, _____, and _____.
6. _____ is the process of recognising and understanding the nature of the linguistic symbols that constitute a written language.
7. _____ is a library owned by an individual and is hardly made available to users outside the owner's family.
8. _____ is referred to as the blueprint for correctness and a system of rules governing the arrangement of words into sentences.
9. i. Mention the name of the protagonist in the studied text in class
ii. What is the geographical setting of the novel?
iii. What is the name of the author of the book?
iv. Which character best exemplifies the title of the novel?
v. What genre of literature is the text studied in class?
10. The genres of literature are _____, _____, and _____.
11. _____ is the sentence that contains the controlling idea of the whole, that is a summary of or an introduction to the paragraph depending on where it occurs.
12. Rewrite the paragraph below with the correct punctuation.

jane was excited for her birthday party she invited all her friends but forgot to tell them the time when they arrived early she wasnt ready yet can you believe it she hadnt even decorated the room luckily her best friend sarah helped her put up balloons set the table and bring out the cake everyone had a great time and jane learned an important lesson always send clear invitations

13. Identify the parts of speech of the underlined words in the following sentences:
 - I. She quickly finished her homework before dinner.
 - II. The dog barked loudly at the stranger.
 - III. He bought a beautiful dress for his sister.
 - IV. We ran to catch the bus before it left.
 - V. The teacher gave us a very difficult assignment.
14. _____, _____ and _____ are qualities of a good paragraph.
15. Read the following sentences carefully and explain the meanings of the underlined idioms.
 - I. She spilt the beans about the surprise party before we could stop her.

- II. I thought the exam would be difficult, but it was a piece of cake!
- III. I was feeling under the weather, so I decided to stay home and rest.
- IV. After the incident, James knew he had to face the music when his boss called him into the office.
- V. I wanted to buy the new phone, but it cost an arm and a leg!

16. The _____ nature of language described it as being subject to continuous change through all ages
17. _____ is the figure of speech that entails speaking of harsh and unpleasant things in a pleasant way.

SECTION B: Answer ONE question from this section

- 1a. Define Language
- b. Explain four characteristics of human language

Or

- 2a. What is a Paragraph?
- b. List and explain four qualities of a good paragraph

SECTION C: Answer ONE question from this section

1. With reference to the literature text studied in class, write short notes on any four of the following:

- i. Plot ii. Protagonist iii. Theme iv. Setting v. Character vi. Point of View

OR

2. Discuss how the thematic preoccupations explored in the selected literary texts mirror the realities of contemporary society.

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THE POLYTECHNIC IBADAN

MATHEMATICS AND STATISTICS DEPARTMENT

FIRST SEMESTER EXAMINATIONS 2024/2025 SESSION

COURSE CODE: MTH 111

COURSE TITLE: ALGEBRA AND ELEMENTARY TRIGONOMETRY

CLASS: NDI CIVIL, COMPUTER, ELECTRICAL, MECHANICAL, MECHATRONICS AND METALLURGICAL ENGINEERING

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

TIME: 2HRS

- 1a. Solve the following equation (i) $2^{2x+1} - 9 \cdot 2^x + 4 = 0$ (ii) $2^x = 0.8$
- b. (i) Given that $\log_7 2 = 0.356$ and $\log_7 3 = 0.566$, find the value of \log_7^{18}
- bii. Evaluate $9^{1/2} \times \left(\frac{27}{125}\right)^{-2/3} \div \left(\frac{16}{49}\right)^{-3/2}$
- c. Find the square roots of $7 - 4\sqrt{3}$
- 2 a. If α and β are the roots of the equation $2x^2 + x - 12 = 0$. find the value of
 (i) $\alpha - \beta$ (ii) $\alpha^2 - \beta^2$ (iii) $\alpha^2\beta + \beta^2\alpha$
- b. $\log_3 9 + \log_3 81 + \log_3 0.75 - \log_3 7$.
- c. Find the total number of possible permutations, of the letters of the word ENGINEERING
- 3a. The third term of an AP is 1 and the fifth term is 34. Find the:
 (i) first term
 (ii) common difference
 (iii) the sum of the first 10th term
- b. Find the coefficient of $x^{18}y^2$ in the expansion of $(x + y)^{20}$.
- 4a. Resolve $\frac{2}{(x-1)(x^2+x-4)}$ into partial fraction
- b. Find the possible values of the constant, m for which $x^2 - 4x + 1 = m(x - 4)$ has equal roots.
- 5a. Use completing the square method to solve the equation $3x^2 - 5x - 2 = 0$.
- b. Describe the nature of the roots of the following functions.
 i. $3x^2 + 6x + 20 = 0$ ii. $x^2 + 4x + 4 = 0$ iii. $4x^2 + 4x + 1 = 0$.
- c. Solve the equation $\sqrt{x+8} + \sqrt{x+1} = 7$
- 6a. If $\sin \alpha = \frac{4}{5}$ and $\cos \beta = \frac{12}{13}$ where $(0 \leq \alpha \leq 90^\circ \text{ and } 270^\circ \leq \beta \leq 360^\circ)$
 Evaluate (i) $\sin(\alpha + \beta)$ (ii) $\operatorname{cosec} \beta + \sec \alpha$ (iii) $\tan \alpha - \tan \beta$
- 6b (i) Without using tables, find the value of $\tan 210^\circ$.
 (ii) Find the value of x if $5\cos x + 2\sin^2 x = 2$

$$2^x = \frac{4}{5}$$

$$2^x = \frac{4}{5}$$

$$9^{1/2} \times \left[\frac{27}{125}\right]^{-2/3} \div \left(\frac{16}{49}\right)^{-3/2}$$



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THE POLYTECHNIC, IBADAN

DEPARTMENT OF COMPUTER ENGINEERING TECHNOLOGY

FIRST SEMESTER 2024/2025 EXAMINATION

COURSE TITLE: ELECTRICAL WORKSHOP PRACTICE

COURSE CODE: EEC 112

CLASS: ND 1

INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS TIME ALLOWED: 2 HOURS

QUESTION ONE

- (a) With the aids of a diagram, Distinguish between ducting and trucking. (4 marks)
- (b) (i) What is CPR ? (2 marks)
(ii) Highlight the steps for mouth to mouth resuscitation. (7 marks)
- (c) State the usefulness of earthing to human and electrical equipment. (2 marks)

QUESTION TWO

- (a) (i) Name and Draw Five (5) Electrical Symbols. (5 marks)
(ii) Highlight Five (5) Electrical Workshop rules. (5 marks)
- (b) With the aids of a diagram, describe the operation of HRC fuse. (5 marks)

QUESTION THREE

- (a) (i) What is ELCB? (2 marks)
(ii) Write three (3) advantages of RCD. (3 marks)
- (b) Explain the functions of the following electrical tools; (4 marks)
(i) Multimeter (ii) Tester (iii) Torpedo level (iv) Fish tape.
- (c) Explain briefly the insulating material listed below. (6 marks)
(i) Fiberglass (ii) Mineral wool (iii) Cellulose.

QUESTION FOUR

- (a) Highlight four (4) advantages of fuse. (4 marks)
- (b) Explain three (3) essential properties of a good insulator. (3 marks)
- (c) Describe three (3) types of polarity testing. (5 marks)
- (d) With the aids of a circuit diagram, describe the operation of RCD. (3 marks)

QUESTION FIVE

- (a) (i) Describe four (4) ways in management of burns. (2 marks)
(ii) Explain five (5) causes of electrical hazard and their preventive methods (7 1/2 marks)
- (b) (i) Distinguish between burns and scalds. (2 1/2 marks)
(ii) What are the degrees of burns? (3 marks)

QUESTION SIX

- (a) (i) Distinguish between the two (2) types of Conduit Wiring. (4 marks)
(ii) State five (5) merits of Conduit Wiring System. (5 marks)
(iii) Highlight three (3) disadvantages of Conduit Wiring System. (3 marks)
- (b) State the areas of application of the following electrical cables.
(i) Coaxial cable (ii) Flexible cable (iii) Multicore cable. (3 marks)

Examiner: *OLULEYE.O AKANJI*



THE POLYTECHNIC, IBADAN
MECHANICAL ENGINEERING DEPARTMENT
FIRST SEMESTER EXAMINATION 2024/2025 ACADEMIC SESSION

Course Title: Basic Workshop Practice
Course Code: MEC 113
Course Unit: 2.0 (Elective)
Class: ND I Computer Engineering
Programme: Full Time
Time Allowed: 2hrs

Instructions: Answer all questions in section A and any 2 questions in section B, Neat work is important to avoid oversight.

SECTION A

- 1a. State and explain six (6) behavior at work that promotes efficiency and reduces accidents. (3 Marks)
- b. Draw a labeled diagram of a micrometer screw guage. (1 Marks)
- c. Sketch a micrometer screw guage showing 10.67 mm reading. (1 Marks)
- d. State the uses of the following vernier caliper parts: (1 Marks)
- i. Outer caliper jaws (1 Marks)
 - ii. Inner caliper jaws (1 Marks)
 - iii. Depth probe (1 Marks)
 - iv. Main scale (1 Marks)
- 2a. How are standards of measurement classified? (2 Marks)
- b. "In mechanics of machine workshop "The Polytechnic Ibadan as your case study, it is very important to always dress properly in the workshop to avoid accident, elucidate and expanciate each clearly the dressing code in accordance with the standard required? (1 Marks)
- c. The vernier caliper is a less precision measuring instrument than a micrometer screw gauge Justify this statement? (2 Marks)
- d. It is expedient to note that vernier calipers are delicate instruments utmost care should be taken while handling them, elucidate? (1 Marks)
- e. A hole of 30mm diameter is drilled through a plate (40mm, wide 60mm long and 50mm thick). The material of drill bit is high speed steel (H.S.S) with surface speed of 35M/min and at 160r.p.m. The feed rate is 0.05mm/rev. calculate (i) The estimated time

of drilling the hole assuming an approach of 6mm and over travel of 2mm (ii) The RPM setting for the drill bit? (4 Marks)

SECTION B

- 3a. 10 copper rods, selected at random, were found to have the following lengths in meters : 5.30, 5.73, 6.77, 5.26, 4.33, 5.45, 6.09, 5.64, 5.81, 5.75. Determine any reading that can be rejected by applying Chauvenet's criterion. The ratio of maximum deviation to standard deviation should not exceed 1.96? (4 Marks)
- b. State the 'principle' on which micrometers are designed (1 Marks)
- c. Define drilling machine operation with diagrammatic illustration. (2 Marks)
- d. Workshop practice is an important aspect of engineering, discuss in details. (1½ Marks)
- e. Define the term cutting speed. (1½ Marks)
- 4a. Define the term TAP AND DIES? (5 Marks)
- b. Gas welding is also known as oxyacetylene elucidate not more than five lines (2 Marks)
- c. Mention types of flames used in oxyacetylene welding? (3 Marks)
- 5a. Define the term marking out in respect to metal joining operations? (4 Marks)
- b. Mention the PROS AND CONS of marking out on a work piece? (6 Marks)
- 6a. Mention Four types of joint in sheet metal and Explain briefly and draw the operation. (4 Marks)
- b. What precautions should be observed while using the micrometer? (2 Marks)
- c. (i) Define the terms soldering and brazing. (2 Marks)
- (ii) Mention two types of soldering. (2 Marks)

EXAMINER: ALAJEDE A.M@ 2025.

Best of luck !!!