NEWGATE COLLEGE

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FIRST MID TERM QUESTION 2026/2027 SESSION

CLASS: SS 3

SUBJECT:- MATHEMATICS

1. An aeroplane flies from a town P (Lat40°N, 38°E) to another town Q (Lat40°N, 22°W) It later flies to a third town T (28°N, 22°W) Calculate the:

(a) Distance between P and Q along their parallel of latitude.

(b) Distance between Q and T along the line of longitude.

(c) Average speed at which the aeroplane will fly from P to T via Q, if the journey takes 12hours, correct to three significant figures.

($\pi = 3.142$, radius of the earth to be 6400km)

2. If $\begin{matrix} x-3 & -4 & 3 \\ 5 & 2 & 2 \\ 2 & -4 & 6-x \end{matrix}$

Is equal to -24, find the value of x

3. find the Inverse of this matrix

$\begin{matrix} 3 & 7 & -5 \\ 2 & 6 & 8 \\ 5 & 7 & -3 \end{matrix}$

4.Three ships A, B and C are on a sea. The bearing of B from A is 040° and the bearing of A Form C is 300°. If /AB/ =5km and /AC/=8km

I) Illustrate the information in a diagram

II) Calculate, correct to three significant figure the:

a) Distance between B and C

b) Bearing of C from B

CITIZENSHIP AND HERITAGE STUDIES

Imagine you are the president of your school's Civic Club. Propose a project that would promote Nigerian culture and heritage. Stating:

- The name of the project.
- Three objectives.
- Four activities you would organize.
- Three expected benefits.

ACCOUNTING

1. Investigate how the introduction of digital payment systems, mobile banking and accounting software has changed record keeping in Nigeria
2. Can Accounting Save a Dying Business? Explain

COMMERCE

The main challenge of ECOWAS is that Nigeria is too big, and its National interest often override ECOWAS goals. Write a one paged essay discussing the above.

CHEMISTRY

1. Calculate volume of Chlorine at STP liberated by 0.2F of electricity. (2 marks)
2. The Solubility of KNO_3 is 60g/100g at 80°C and 20g/100g at 20°C. If 100g water is saturated at 80°C and cooled to 20°C, how much crystals will form?. (3 marks)
3. How many Faradays are needed to deposit 8.1g of Al? [Al=27 F=96500C] (2 marks)
4. What quantity of electricity that liberates 0.32g of Copper deposits 1.08g of metal X from X^+. Find atomic mass of X. [Cu=64 F=96500C] (3 marks)

GOVERNMENT

A judge is threatened by powerful politicians to deliver a judgment in their favour. Explain five reasons

judicial independence is necessary in a democratic society.

DIGITAL TECHNOLOGY

SECTION A: THEORY QUESTIONS …… Instruction: Answer all questions.

Question 1: Introduction to Robotics

a. Define robotics.

b. State one use of robots.

Question 2:

a. List three major parts of a robot.

b. State one function of a robot's sensor.

Question 3:

a. Mention two types of movement a robot can perform.

b. What is an actuator in robotics?

Question 4:

a. Define Artificial Intelligence.

b. Give one example of AI used in everyday life.

Question 5: State two differences between Artificial Intelligence and robotics.

Question 6: Mention two areas where Artificial Intelligence is used and give one example of its use in each area.

Question 7:

a. Mention two careers related to robotics and AI.

b. State one skill needed by a person who wants to work in robotics.

SECTION B: PRACTICAL QUESTIONS

Instruction: Answer all questions. You may use a computer where available. If you do not have access to a computer, answer using a drawing and written explanations.

Question 1: **Draw and label a simple robot. Your drawing must show:**

- Sensors.
- Controller.
- Motors or actuators. **(State one function of each labelled part)**

Question 2: Choose one AI application, such as a **voice assistant, chatbot, or facial-recognition system.**

a. Write the name of the AI application you selected.

b. Explain one task it can perform.

MARKETING

1. Discuss how a business can determine whether it's marketing campaign is successful

2. State five reasons why consumers abandon brands they have used for years.

ECONOMICS

QUANTITY IN (KG)	TC	TR	MC	MR
13	284	396	-	-
18	401	542	A	E
22	501	642	B	F
25	594	711	C	G
27	699	751	D	H

(a) Complete the table above for marginal and marginal Revenue in A-H

(b) What is the company profit maximising output level?

(c) Determine total profit at the profit maximizing output level.

BIOLOGY

1.Make a well labelled diagram of the longitudinal section 6 -8cm of a pineapple and transverse section 6-8cm (fully labelled)

2.State five differences between pineapple and orange

AGRICULTURAL SCIENCE

1. What do you understand by the term aquaculture?
2. Mention 5 materials used for aquaculture

ENGLISH

Instruction: Your answer should not be less than 450 words.

You witnessed a burglary that took place in a department store. Narrate the incident to the police.

LITERATURE

1. Discuss the theme of love in Anthony and Cleopatra
2. Write shorts note on the following:
   - Novella
   - Novel
   - Allegory
   - Romance
   - Bildungsroman
3. With two examples each, write on the following figures of speech:
   - Paradox
   - Metonymy
   - Personification
   - Synecdoche
   - Litotes
4. **Give an extensive summary account of the book: Path of Lucas.**