IJC/0460
I. J. Ahm
ame: M
PTEMBE
036028
Friday

Date

2022

201

NATIONAL TEACHING COUNCIL

GHANA TEACHER LICENSURE EXAMINATION (GTLE)

NTC

REG. Number	GTLE/NJC/0460/22	Date: 16-12-2022
Centre Name	WA	
Signature		Duration: 1hr 30min

PAPER III

NUMERACY

INSTRUCTION

This paper consists of two parts, **A** and **B**. **Part A** consists of **30** multiple-choice questions with four options lettered **A** to **D**. Read and evaluate all four answer choices before circling the correct or best answer. **Part B** consists of **THREE** questions to be answered on the paper.

	Score
PART A: Multiple-Choice questions	
PART B: Essay 1.	
2.	
3.	
Total Score	

PART A
(30 marks)

Answer all the questions

This part consists of 30 multiple-choice questions with four options lettered A-D. Read and evaluate all four answer choices before circling the correct or best answer.

1. When twice a certain number is subtracted from four, the result is the same as twice the number. What is the number?
   - A. 1
   - B. 2
   - C. 3
   - D. 4

2. What is the value of the underlined digit in the amount, GH¢5$\underline{5}$5.55?
   - A. GH¢0.05
   - B. GH¢0.50
   - C. GH¢5.00
   - D. GH¢50.00

3. The following scores were obtained by ten learners in a class test: **8, 5, 6, 4, 6, 7, 9, 8, 8** and **5**. What is the range of the scores?
   - A. 4
   - B. 5
   - C. 6
   - D. 8

4. If An object weighs 40.24kg, what is the mass of this load in grams?
   - A. 402.0g
   - B. 402.4g
   - C. 4024g
   - D. 40240g

5. A pool with a rectangular base 10 metres by 3 metres is 2 metres deep. What is the volume of water in the pool when it is half full?
   - A. 30 m³
   - B. 40 m³
   - C. 60 m³
   - D. 80 m³

6. A Red Cross Society in Redeemer JHS has 80 members. Given that 30 of the members are males, express the number of females as a ratio of the number of males.
   - A. 3:5
   - B. 3:8
   - C. 5:3
   - D. 8:3

7. Out of 60 learners in a class, 36 are boys. If a prefect is to be selected at random from the class, what is the probability that a girl is selected?

    A. $\frac{1}{36}$

    B. $\frac{2}{3}$

    C. $\frac{2}{5}$

    D. $\frac{3}{5}$

8. How many hours will it take a motorist to cover 160 kilometres travelling at an average speed of 80 km every hour?

    A. 2 hours
    B. 4 hours
    C. 6 hours
    D. 8 hours

9. A numeracy examination paper starts at 9:45 a.m. If the duration of the paper is 2 hours 30 minutes, at what time is the examination expected to end?

    A. 12.10 p.m.
    B. 12.15 p.m.
    C. 12.30 p.m.
    D. 12.45 p.m.

10. When 3 is added to 5 times a certain number and the sum is multiplied by 4, the result is 72. What is the number?

    A. 3
    B. 4
    C. 5
    D. 6

11. Given the data: **3, 4, 4, 4, 5**, which of the following statements is **true**?

    A. mean = mode = median
    B. mean > mode > median
    C. mode > mean > median
    D. mode > median > mean

12. Three towns, Oseikrom, Mensakrom and Mosikrom perform their funeral rites at every 7 days, 14 days, and 28 days intervals respectively. If they all held their funeral rites on 12th March 2022, on which of the following dates did all the three towns hold their funeral rites on the same day?

    A. 2nd April 2022
    B. 9th April 2022
    C. 16th April 2022
    D. 23rd April 2022

13. Kofi spent $\frac{1}{3}$ of his pocket money on books which costed GH¢30.00. How much was his pocket money?
   A. GH¢90.00
   B. GH¢60.00
   C. GH¢120.00
   D. GH¢100.00

14. Sumaila is twice as old as his daughter Asana. In the next five years the sum of their ages would be 85 years. How old is Asana?
   A. 25 years
   B. 30 years
   C. 35 years
   D. 55 years

15. A contingent of 75 athletes has 15 more boys than girls. If a leader is to be selected from the contingent, what is the probability that a girl is selected?
   A. $\frac{1}{5}$

   B. $\frac{2}{5}$

   C. $\frac{3}{5}$

   D. $\frac{4}{5}$

16. A square-shaped garden of side 15 metres has a gate 1.5 metres wide. If a metre of wire mesh costs GH¢10.00, how much money would be needed to buy wire to fence round the plot?
   A. GH¢580.00
   B. GH¢585.00
   C. GH¢600.00
   D. GH¢615.00

17. A farmer wants to decongest his three cattle ranches such that each ranch has 320 cattle. If the first ranch has 486 cattle, the second ranch has 361 cattle, how many cattle are in the third ranch?
   A. 113
   B. 115
   C. 124
   D. 133

18. A cargo truck can convey a load of 10,000 kg. If it is conveying some bags of cement each weighing 50 kg, which of the following expressions can be used to determine the number of cement bags it can convey at a time?
   A. 10,000 – 50
   B. 10,000 + 50
   C. 10,000 × 50 .
   D. 10,000 ÷ 50

19. During a choral festival attended by 12 choral groups, each group's performance was 10 minutes followed by a 5-minute break. If the programme started at 6:25 p.m., what time will the last group's performance end?
    A. 09:20 p.m.
    B. 10:20 p.m.
    C. 11:40 p.m.
    D. 12:40 a.m.

20. There were 100 packs of yoghurt to be shared equally among 16 families. If each family received 6 whole packs of yoghurt, what percentage of the whole packs were not shared?
    A. 4%
    B. 16%
    C. 25%
    D. 96%

21. Ten 10 pieces of cloth are to be shared among the children in an orphanage. If each child received a half piece of the cloth, how many children received a share of the cloth?
    A. 5
    B. 10
    C. 12
    D. 20

The table below gives the number of JHS learners who voted for Linda and Mercy during the election of the girls' prefect of a school. Use the information to answer questions **22** to **24**.

CANDIDATE	JHS 1	JHS 2	JHS 3
Linda	23	20	37
Mercy	15	35	50

22. How many more votes did the winner get than the loser?
    A. 9
    B. 32
    C. 20
    D. 17

23. Out of those who voted in JHS 2, what fraction voted for Linda?
    A. $\frac{7}{36}$
    B. $\frac{1}{9}$
    C. $\frac{4}{11}$
    D. $\frac{7}{11}$

24. Which one of the following graphs is the **most appropriate** for representing the given data?
    A. Bar graph
    B. Histogram
    C. Line graph
    D. Stem and leaf plot

25. A statue is 120 metres high. A new statue built has a height which is 25% shorter than that of the old statue. What is the height of the new one?
    A. 95 m
    B. 90 m
    C. 75 m
    D. 100 m

26. A fishmonger bought a basket of fish at GH¢900.00. How much should he sell this basket of fish to get a profit of 30%?
    A. GH¢530.00
    B. GH¢270.00
    C. GH¢1,300.00
    D. GH¢1,170.00

27. A roadside measuring 4.55 km of weeds is to be cleared by some workers. If each worker is to weed 650 m, how many workers would be employed to do the job?
    A. 4
    B. 5
    C. 6
    D. 7

28. A teacher calculated the mean score of 25 learners in her class as 4. She then added five marks to the scores of each learner. What will be the new mean?
    A. 4
    B. 5
    C. 9
    D. 20

The marks scored by a group of pupils in a class test were 6, 7, 6, 9, 7, 8, 6.
Use this information to answer the questions **29** and **30**.

29. What is the median mark?
    A. 6
    B. 7
    C. 8
    D. 9

30. What is the mean mark?
    A. 6
    B. 7
    C. 8
    D. 9

PART B
(30 marks)
(Note: Show all working clearly)

This part of the paper has THREE questions. Answer all the questions in the spaces provided under each question.

1. **(a)** At a power station, lights at three corners flash at intervals 6 minutes, 5 minutes, and 10 minutes respectively. If all the three lights flash at a quarter to 11.00 a.m.,
    - **i.** at what time will all three lights flash together again?
    - **ii.** how many times will the lights flash together in an hour? **(6 marks)**
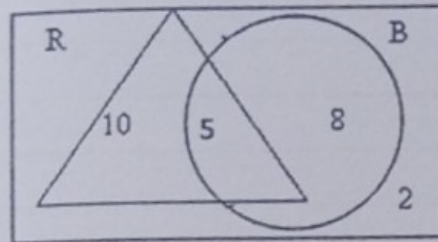
(b) Mr. Mensah's rectangular garden measures 25 metres by 20 metres. In the garden is a fishpond which covers an area of 39 m². How much of the garden space is available to Mr. Mensah to cultivate crops? **(6 marks)**

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

2. (a) A learner solved a fraction task as follows: $\frac{1}{2} + \frac{1}{3} = \frac{3}{2} + \frac{2}{3} = \frac{5}{5}$.

    i.   Describe what makes the learner's answer wrong.

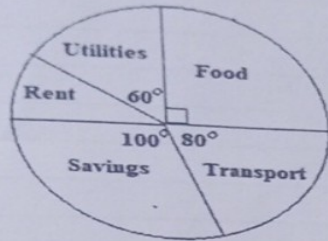   ii.   Explain how you would solve the task correctly?   **(6 marks)**

(b) The diagram below represents information about learners' food preferences (R = Rice; B = Banku). Use the information to answer questions (b)i and (b)ii.

    i.   How many of the learners prefer both Rice and Banku?

    ii.   How many do **not** prefer Rice?   **(4 marks)**

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

3. **(a)** The Pie Chart shown represents monthly expenditure of a teacher whose monthly salary is GH¢1,200.00

Not drawn to scale

i. What fraction of the teacher's income is spent on rent? (4 marks)
ii. How much is spent on both rent and utilities? (2 marks)

(b) A number pattern is given by:

-31   -33   -35   -37   -39   X   Y   Z

i. Find the sum of the numbers represented by X and Y. (2 marks)
ii. What is the value of (Z-Y)? (2 marks)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

REG. Number	GTLE/NJC/0460/22
Centre Name	WA
Signature	*(signature)*

Date: 16-12-2022

Duration: 1hr 30min

PAPER III

NUMERACY

INSTRUCTION

This paper consists of two parts, **A** and **B**. **Part A** consists of **30** multiple-choice questions with four options lettered **A** to **D**. Read and evaluate all four answer choices before circling the correct or best answer. **Part B** consists of **THREE** questions to be answered on the paper.

	Score
PART A: Multiple-Choice questions	
PART B: Essay 1.	
2.	
3.	
Total Score	

PART A
(30 marks)

Answer all the questions

This part consists of 30 multiple-choice questions with four options lettered A-D.
Read and evaluate all four answer choices before circling the correct or best
answer.

1. When twice a certain number is subtracted from four, the result is the same
   as twice the number. What is the number?
   A. 1
   B. 2
   C. 3
   D. 4

2. What is the value of the underlined digit in the amount, GH¢5**5**5.55?
   A. GH¢0.05
   B. GH¢0.50
   C. GH¢5.00
   D. GH¢50.00

3. The following scores were obtained by ten learners in a class test: **8, 5, 6, 4,
   6, 7, 9, 8, 8** and **5**. What is the range of the scores?
   A. 4
   B. 5
   C. 6
   D. 8

4. If An object weighs 40.24kg, what is the mass of this load in grams?
   A. 402.0g
   B. 402.4g
   C. 4024g
   D. 40240g

5. A pool with a rectangular base 10 metres by 3 metres is 2 metres deep.
   What is the volume of water in the pool when it is half full?
   A. 30 m³
   B. 40 m³
   C. 60 m³
   D. 80 m³

6. A Red Cross Society in Redeemer JHS has 80 members. Given that 30 of the
   members are males, express the number of females as a ratio of the
   number of males.
   A. 3:5
   B. 3:8
   C. 5:3
   D. 8:3

7. Out of 60 learners in a class, 36 are boys. If a prefect is to be selected at random from the class, what is the probability that a girl is selected?

    A. $\frac{1}{36}$

    B. $\frac{2}{3}$

    C. $\frac{2}{5}$

    D. $\frac{3}{5}$

8. How many hours will it take a motorist to cover 160 kilometres travelling at an average speed of 80 km every hour?

    A. 2 hours
    B. 4 hours
    C. 6 hours
    D. 8 hours

9. A numeracy examination paper starts at 9:45 a.m. If the duration of the paper is 2 hours 30 minutes, at what time is the examination expected to end?

    A. 12.10 p.m.
    B. 12.15 p.m.
    C. 12.30 p.m.
    D. 12.45 p.m.

10. When 3 is added to 5 times a certain number and the sum is multiplied by 4, the result is 72. What is the number?

    A. 3
    B. 4
    C. 5
    D. 6

11. Given the data: **3, 4, 4, 4, 5,** which of the following statements is **true**?

    A. mean = mode = median
    B. mean > mode > median
    C. mode > mean > median
    D. mode > median > mean

12. Three towns, Oseikrom, Mensakrom and Mosikrom perform their funeral rites at every 7 days, 14 days, and 28 days intervals respectively. If they all held their funeral rites on 12th March 2022, on which of the following dates did all the three towns hold their funeral rites on the same day?

    A. 2nd April 2022
    B. 9th April 2022
    C. 16th April 2022
    D. 23rd April 2022

13. Kofi spent $\frac{1}{3}$ of his pocket money on books which costed GH¢30.00. How much was his pocket money?

   A. GH¢90.00
   B. GH¢60.00
   C. GH¢120.00
   D. GH¢100.00

14. Sumaila is twice as old as his daughter Asana. In the next five years the sum of their ages would be 85 years. How old is Asana?

   A. 25 years
   B. 30 years
   C. 35 years
   D. 55 years

15. A contingent of 75 athletes has 15 more boys than girls. If a leader is to be selected from the contingent, what is the probability that a girl is selected?

   A. $\frac{1}{5}$

   B. $\frac{2}{5}$

   C. $\frac{3}{5}$

   D. $\frac{4}{5}$

16. A square-shaped garden of side 15 metres has a gate 1.5 metres wide. If a metre of wire mesh costs GH¢10.00, how much money would be needed to buy wire to fence round the plot?

   A. GH¢580.00
   B. GH¢585.00
   C. GH¢600.00
   D. GH¢615.00

17. A farmer wants to decongest his three cattle ranches such that each ranch has 320 cattle. If the first ranch has 486 cattle, the second ranch has 361 cattle, how many cattle are in the third ranch?

   A. 113
   B. 115
   C. 124
   D. 133

18. A cargo truck can convey a load of 10,000 kg. If it is conveying some bags of cement each weighing 50 kg, which of the following expressions can be used to determine the number of cement bags it can convey at a time?

   A. 10,000 − 50
   B. 10,000 + 50
   C. 10,000 × 50 .
   D. 10,000 ÷ 50

19. During a choral festival attended by 12 choral groups, each group's performance was 10 minutes followed by a 5-minute break. If the programme started at 6:25 p.m., what time will the last group's performance end?
    A. 09:20 p.m.
    B. 10:20 p.m.
    C. 11:40 p.m.
    D. 12:40 a.m.

20. There were 100 packs of yoghurt to be shared equally among 16 families. If each family received 6 whole packs of yoghurt, what percentage of the whole packs were not shared?
    A. 4%
    B. 16%
    C. 25%
    D. 96%

21. Ten 10 pieces of cloth are to be shared among the children in an orphanage. If each child received a half piece of the cloth, how many children received a share of the cloth?
    A. 5
    B. 10
    C. 12
    D. 20

The table below gives the number of JHS learners who voted for Linda and Mercy during the election of the girls' prefect of a school. Use the information to answer questions **22** to **24**.

CANDIDATE	JHS 1	JHS 2	JHS 3
Linda	23	20	37
Mercy	15	35	50

22. How many more votes did the winner get than the loser?
    A. 9
    B. 32
    C. 20
    D. 17

23. Out of those who voted in JHS 2, what fraction voted for Linda?
    A. $\frac{7}{36}$
    B. $\frac{1}{9}$
    C. $\frac{4}{11}$
    D. $\frac{7}{11}$

24. Which one of the following graphs is the **most appropriate** for representing the given data?
    A. Bar graph
    B. Histogram
    C. Line graph
    D. Stem and leaf plot

25. A statue is 120 metres high. A new statue built has a height which is 25% shorter than that of the old statue. What is the height of the new one?
    A. 95 m
    B. 90 m
    C. 75 m
    D. 100 m

26. A fishmonger bought a basket of fish at GH¢900.00. How much should he sell this basket of fish to get a profit of 30%?
    A. GH¢530.00
    B. GH¢270.00
    C. GH¢1,300.00
    D. GH¢1,170.00

27. A roadside measuring 4.55 km of weeds is to be cleared by some workers. If each worker is to weed 650 m, how many workers would be employed to do the job?
    A. 4
    B. 5
    C. 6
    D. 7

28. A teacher calculated the mean score of 25 learners in her class as 4. She then added five marks to the scores of each learner. What will be the new mean?
    A. 4
    B. 5
    C. 9
    D. 20

The marks scored by a group of pupils in a class test were 6, 7, 6, 9, 7, 8, 6. Use this information to answer the questions **29** and **30**.

29. What is the median mark?
    A. 6
    B. 7
    C. 8
    D. 9

30. What is the mean mark?
    A. 6
    B. 7
    C. 8
    D. 9

PART B
(30 marks)
(Note: Show all working clearly)

This part of the paper has THREE questions. Answer all the questions in the spaces provided under each question.
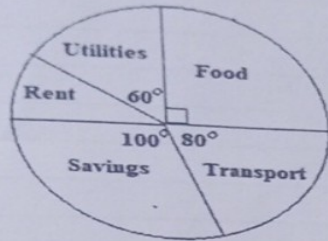
1. **(a)** At a power station, lights at three corners flash at intervals 6 minutes, 5 minutes, and 10 minutes respectively. If all the three lights flash at a quarter to 11.00 a.m.,
   - **i.** at what time will all three lights flash together again?
   - **ii.** how many times will the lights flash together in an hour?   **(6 marks)**

   (b) Mr. Mensah's rectangular garden measures 25 metres by 20 metres. In the garden is a fishpond which covers an area of 39 m². How much of the garden space is available to Mr. Mensah to cultivate crops?   **(6 marks)**

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

2. (a) A learner solved a fraction task as follows: $\frac{1}{2} + \frac{1}{3} = \frac{3}{2} + \frac{2}{3} = \frac{5}{5}$

    i.   Describe what makes the learner's answer wrong.

    ii.   Explain how you would solve the task correctly?   **(6 marks)**

(b) The diagram below represents information about learners' food preferences (R = Rice; B = Banku). Use the information to answer questions (b)i and (b)ii.

    i.   How many of the learners prefer both Rice and Banku?

    ii.   How many do **not** prefer Rice?   **(4 marks)**

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

3. **(a)** The Pie Chart shown represents monthly expenditure of a teacher whose monthly salary is GH¢1,200.00

Not drawn to scale

i. What fraction of the teacher's income is spent on rent? (4 marks)
ii. How much is spent on both rent and utilities? (2 marks)

(b) A number pattern is given by:

−31   −33   −35   −37   −39   X   Y   Z

i. Find the sum of the numbers represented by X and Y. (2 marks)
ii. What is the value of (Z-Y)? (2 marks)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____