



PAST PAPERS

Faculty	Department / Section/Division
Not Applicable	Learning Resource Centre

Past Papers

Education & training course: Diploma in  
teaching mathematics & science

2022

Document Control & Approving Authority	Senior Director – Quality Management & Administration
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## FINAL EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: DIPLOMA IN TEACHING MATHEMATICS & SCIENCE

COURSE CODE: LC-0844

SUBJECT: SECONDARY MATHEMATICS

Faculty	Department / Section/Division
Humanities and Education	Education

<i>INSTRUCTIONS TO CANDIDATES</i>	Date: 2022.08.12
Total Marks = 100	Duration of the examination = 02 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

- ❖ Part I consists of 10 M.C.Q questions.
- ❖ Part II consists of 05 structured questions.
- ❖ Answer all the questions in part I and choose four (04) questions from part II.

### Part I

Answer ALL Questions

Choose the correct answer and circle the number.

- 1)  $\sqrt{\frac{16}{4}}$  is;
  - i) A surd
  - ii) An irrational number
  - iii) A whole number
  - iv) A complex number
  
- 2) Given that  $A \times 10^{-3} = 4.5 \div 0.02 \times 3$ ; the scientific notation of the number displayed by A is;
  - i)  $6.75 \times 10^5$
  - ii)  $6.75 \times 10^{-5}$
  - iii)  $7.5 \times 10^4$
  - iv)  $7.5 \times 10^{-4}$

- 3) The decimal expansion of an irrational number is
- Repeating
  - Terminating
  - Non-terminating
  - Repeating or terminating
- 4) The incorrect statement about a parallelogram is,
- A pair of opposite sides are parallel and equal.
  - Consecutive angles are supplementary.
  - The diagonals bisect each other.
  - Opposite angles are equal.
- 5) Choose the correct circle theorem.
- The angle at the circumference is twice the angle at the centre.
  - A diameter that bisects a chord is not perpendicular to it.
  - A diameter that is perpendicular to a chord bisects it.
  - The angle between the tangent and the side of the triangle is equal to the adjacent interior angle.
- 6) Choose the correct statement about the straight line which has a zero gradient.
- The straight line is parallel to the y-axis.
  - The straight line is parallel to the x-axis.
  - As, y values increase the x values remain same.
  - The angle form by the straight line with the positive axis is  $90^\circ$ .
- 7) The statistical diagram which represents the relationship between two variables is,
- Box plot
  - Stem and Leaf diagram
  - Frequency polygon
  - Scatter plot
- 8) The number of subsets of the set  $A = \{\text{square numbers from 1 to 10}\}$  is,
- 2
  - 3
  - 4
  - 9
- 9) The probability of an impossible event is,
- 1
  - 0
  - 0.5
  - 1
- 10) Given that A and B are  $2 \times 2$  matrices; choose the correct statement.
- $AB=BA$
  - $A+B=B+A$
  - $A-B=B-A$
  - None of the above

(2x10=20 marks)

## Part II

Answer Four (04) Questions Only.

## Question 01

a)

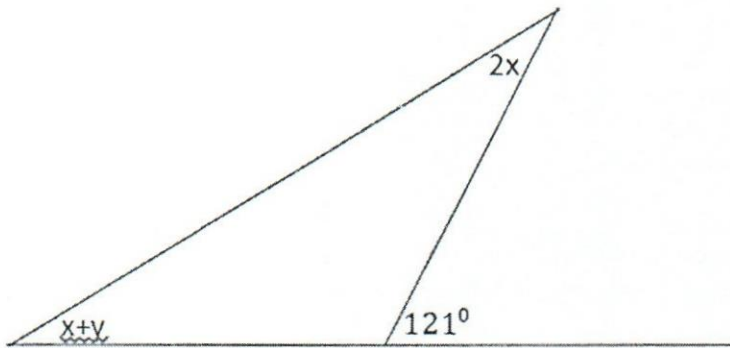


Figure 1

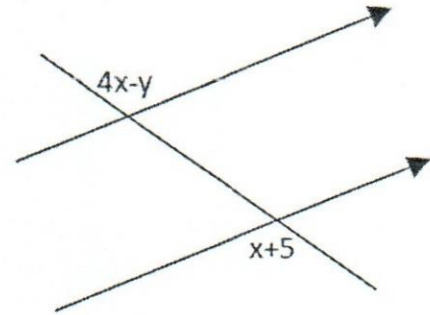


Figure 2

- i) Construct two equations in terms of  $x$  and  $y$  using the above figures. (4)
- ii) Solve the two equations you wrote in part (i) simultaneously. (5)

b) The lengths of the pair of parallel sides and the height of a trapezium is  $(x+5)$ cm,  $(x+7)$ cm, and  $(x+2)$ cm respectively. The area of this trapezium is  $32\text{cm}^2$ .

- i) Draw a suitable diagram represent above information. (2)
- ii) Construct a quadratic equation to find the value of  $x$ . (4)
- iii) Solve the equation you wrote in part (ii) and find the lengths of the pair of parallel sides and the height of the trapezium. (5)

(20 marks)

## Question 02

After several months of growth, Kate measures the height in centimeters of each of her plants. Their heights are given below:

38, 14, 22, 36, 35, 29, 19, 24, 32, 35, 41, 47

- i) Draw a stem and leaf diagram to represent above data. (3)
- ii) Find the median length of the plants. (3)
- iii) Calculate the average length of a plant. (4)

- a) The table shows information about the length of fish caught by some fisherman at a local lake:

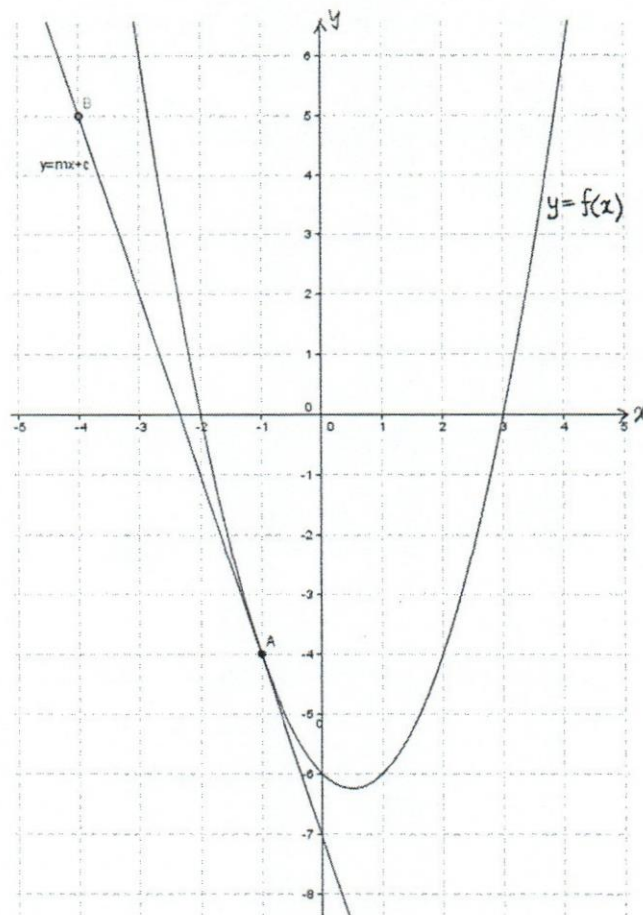
Length, $l(\text{cm})$	Frequency
0-4	32
4-10	24
10-20	22
20-40	42
40-45	30

- i) Construct a histogram to represent above data. (7)  
 ii) Find the probability of catching a fish with a length less than 20cm. (3)

(20 marks)

### Question 03

Use the following graph to answer the questions below.



- i) What are the roots of the equation  $f(x)=0$ ? (2)  
 ii) Write the equation of the axis of symmetry of the curve  $y=f(x)$ . (2)  
 iii) Write the range of values of  $x$  for which the function  $f(x)$  increases positively. (2)

- iv) Obtain the equation of the curve  $y=f(x)$  in the form  $y = ax^2 + bx + c$  where  $a, b, c$  are constants to be found. (4)
- v) Find the coordinates of the turning point. (2)

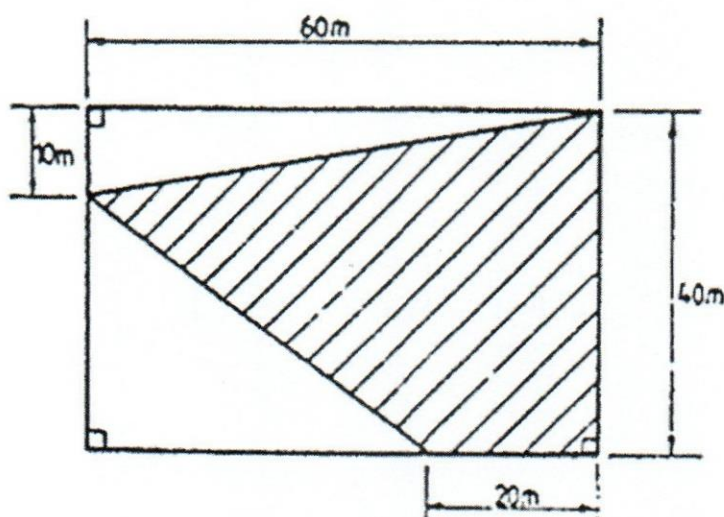
The straight-line  $y = mx+c$  is a tangent to the curve at the point  $A (-1, -4)$ .  $B(-4,5)$  is a point on this tangent.

- vi) Obtain the equation of the straight line in the form  $y= mx+c$ . (5)
- vii) Obtain the equation of the straight line perpendicular to the tangent which passes through the point  $(-1, -4)$ . (3)

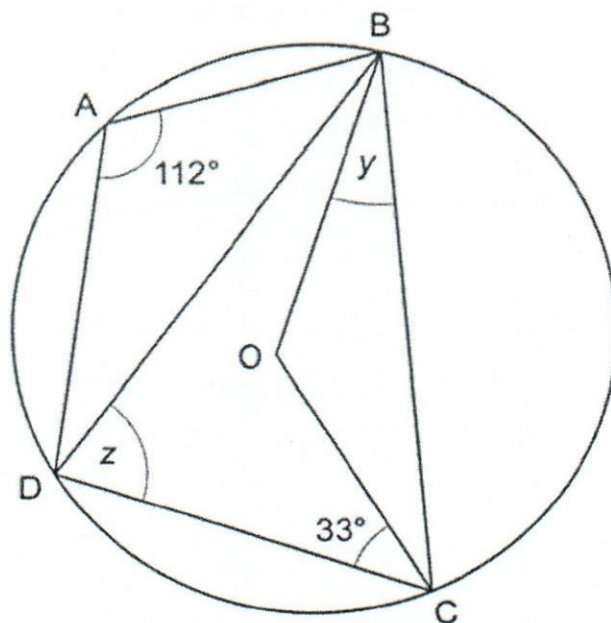
(20 marks)

#### Question 04

- a) Find the area of the shaded region. (10)



- b)  $A, B, C$  and  $D$  are four points on the circumference of a circle, centre  $O$ . angle  $BAD$  is  $112^\circ$  and angle  $OCD$  is  $33^\circ$ . Find the magnitude of the angles  $y$  and  $z$  giving reasons for each stage of your workings. (10)



(20 marks)

**Question 05**

Given that

$$B = \begin{bmatrix} 2 & 0 & 1 \\ -1 & 3 & 2 \end{bmatrix} \quad C = \begin{bmatrix} 1 & -2 \\ 2 & 2 \\ 3 & 0 \end{bmatrix}$$

If  $A = B \times C$ ;

- i) Find the matrix A (4)
- ii) Find the determinant of the matrix A. (3)
- iii) Find  $A^{-1}$  (3)

Solve the equation given by the determinant;

$$\text{iv) } \begin{vmatrix} x-2 & -4 \\ 1 & x+3 \end{vmatrix} = 0 \quad (10)$$

(20 marks)

-----END OF THE QUESTION PAPER-----



## FINAL EXAMINATION QUESTION PAPER

CODE-QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: DIPLOMA IN TEACHING MATHEMATICS & SCIENCE

COURSE CODE: LC-0844

SUBJECT: SECONDARY SCIENCE

Faculty	Department / Section/Division
Humanities and Education	Education

<i>INSTRUCTIONS TO CANDIDATES</i>	Date: 2022.08.12
Total Marks = 100	Duration of the examination = 02 hours
	Candidates could be disqualified if you violate examination rules.
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### PART-1

*ANSWER ALL THE QUESTIONS GIVEN. UNDERLINE THE MOST SUITABLE ANSWER.*

(01). Why do all food chains start with plants?

1. Because plants are easily grown
2. Because plants are nutritious
3. Because plants can produce its own energy
4. Because plants do not require energy

(02). The teeth at the front of the mouth which are used for chopping are called:

1. incisors,    2. canines,    3. premolars,    4. molars.

(03). When proteins are completely broken down the end products are:

1. glucose molecules,    2. glycerol molecules,    3. amino acids,    4. vitamins.

(04). Which is the largest gland in the human body?

1. Thyroid                  2. Liver                  3. Pancreas                  4. None of these



(05). Examples for fruits and seeds dispersed by wind

1. Hora, thotila, ranawara, wara, monerakudumbiya
2. Hora, thotila, gammalu, wara, monerakudumbiya
3. Hora, balsam, gammalu, rubber, monerakudumbiya
4. Water lily, thotila, gammalu, wara, mahagony

(06). When the diaphragm contracts (is pulled downward), \_\_\_\_\_ occurs.

1. Inhalation
2. exhalation
3. a hiccup
4. the lungs deflate

(07). Gynaecium of a flower is,

- |                                  |                               |
|----------------------------------|-------------------------------|
| 1). Stamens, ovary and stigma    | 2). Stamens, pollen and ovary |
| 3). Ovary, stigma and pollen sac | 4). Ovary, style and stigma   |

(08). What is the excretory system in charge of?

- 1). Breaking down food so it can be used by the body.
- 2). Giving the body support and strength
- 3). Removing wastes and excess fluid from the body
- 4). Wastes and excess fluid from the body

(09). Which acid is secreted by the cells of the gastric glands in the stomach?

- 1). hydrochloric acid
- 2). nitric acid
- 3). hydroiodic acid
- 4). Sulphuric acid

(10). Excess glucose in the human body are stored as \_\_\_\_\_ in the liver.

- 1). Glycerol
- 2). Glycerine
- 3). glycogen
- 4). Glucose

(11). The ascent of sap in plants takes place due to \_\_\_\_\_.

- |                   |                        |
|-------------------|------------------------|
| 1). root pressure | 2). transpiration pull |
| 3). both a and b  | 4). osmosis            |

(12). The movements that propel the food particles through the digestive tract are called,

- 1). peristalsis
- 2). rhythm
- 3). mastication
- 4). Hydrolysis

(13). Digestion takes place in a long tube-like canal called the alimentary canal, or the digestive tract. Food travels through these organs in the following order:

1. Mouth, gullet, stomach, small intestine, large intestine and rectum
2. Mouth, oesophagus, stomach, large intestine, small intestine and rectum
3. Mouth, stomach, oesophagus, small intestine, large intestine and rectum
4. Mouth, stomach, gullet, small intestine, large intestine and rectum

(14). Why does blood turn dark red as it circulates through the body?

1. It starts to clot.
2. It gets old and dirty flowing through the body.
3. The oxygen in it is replaced with carbon dioxide.
4. The farther blood is from the heart, the more dark red it is.

(15). A structure that could be seen in plant cell, but not in an animal cell is

- |                  |                    |
|------------------|--------------------|
| 1). mitochondria | 2) cell wall       |
| 3). cytoplasm    | 4) plasma membrane |

(16). What is used as a solvent to dissolve chlorophyll from a leaf.

- |                      |           |            |                  |
|----------------------|-----------|------------|------------------|
| 1. methylated spirit | 2. iodine | 3. alcohol | 4. boiled water. |
|----------------------|-----------|------------|------------------|

(17). What is a food chain?

1. A long chain made of food
2. Process of preparing food
3. Food where locked by chain
4. Pathway that energy and nutrients flow through the ecosystem

(18). Which is the most accurate statement?

The principal role of a flower in the life cycle of a plant is.....

- |                       |                     |
|-----------------------|---------------------|
| 1. attracting insects | 2. producing seeds  |
| 3. producing pollen   | 4. producing nectar |

(19). Which acid is secreted by the cells of the gastric glands in the stomach?

- 1). hydrochloric acid
- 2). nitric acid
- 3). hydroiodic acid
- 4). sulphuric acid

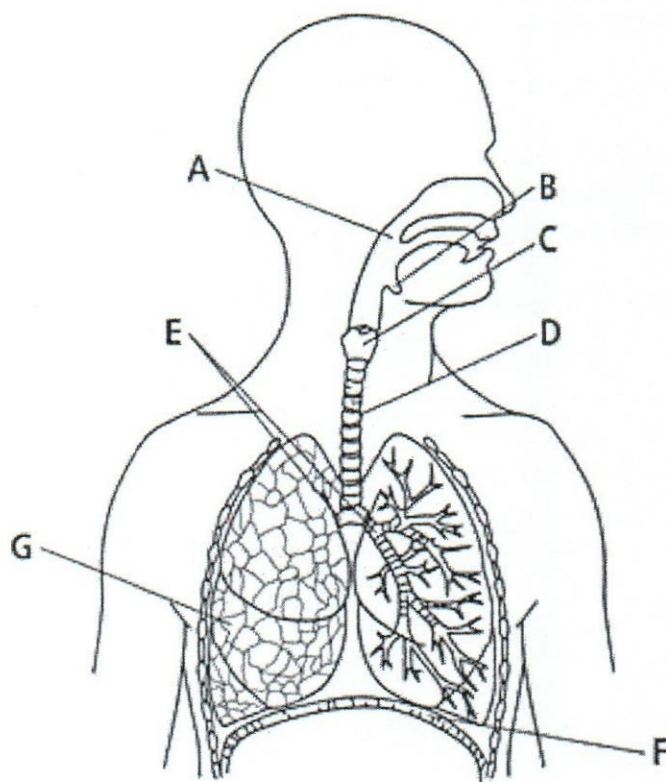
(20). The liquid portion of the blood is called \_\_\_\_\_.

- |           |            |           |           |
|-----------|------------|-----------|-----------|
| 1). water | 2). Plasma | 3). serum | 4). serum |
|-----------|------------|-----------|-----------|

## PART II

\* Answer any four questions given. Each question carries equal marks.

(01). Human respiratory system is an important system in regulating most of the functions.



- i. Name the parts from A to G of the above figure.
- ii. Name the functions of respiratory system.
- iii. Indicate the path of oxygen which enter from nostrils and travel to lungs.
- iv. Briefly explain the inspiration and expiration.
- v. What are the changes happen to air enters to the nostrils.

(20 marks)

02). i. Draw two food chains?

ii. Draw a food web?

iii. Who are autotrophies? What is their position in food chains?

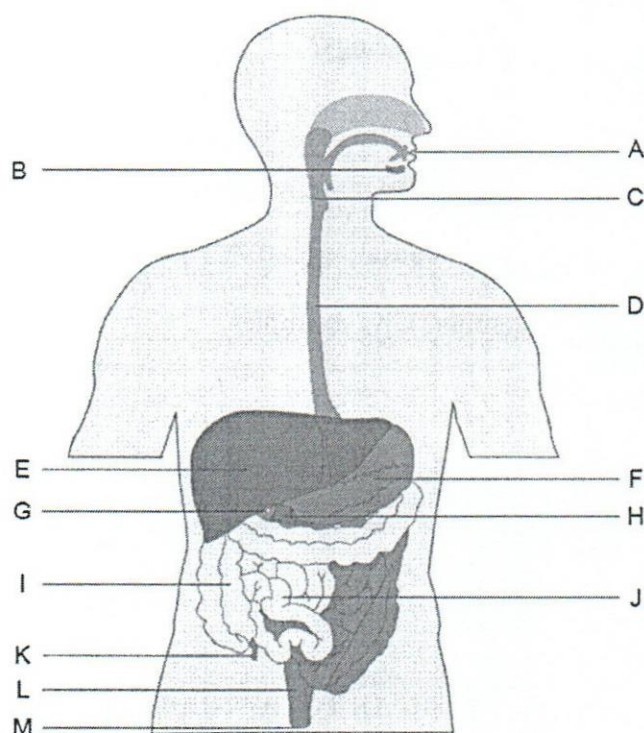
iv. Name three herbivorous animals?

v. Who are omnivorous animals? Name three omnivorous animals? (20 marks)

- 03). i. What is Environment pollution?
- ii. What are the three main categories of environment pollution?
- iii. List five main ways of air pollution?
- iv. Write five ways of water pollution?
- v. What is global warming? What are the bad effects of global warming?

(20 marks)

- (04). Digestive system is one of the most important systems of the body.  
i. Label the parts from A-M of the following figure.



- ii. Name two hormones secreted by the organ J.
- iii. What is the main function of the organ K?
- iv. What are the adaptations of K to do its functions?
- v. Write the functions of the two hormones mentioned in above II

(20 Marks)

(05) i. Prepare a dichotomous key to group the following animals.

*Elephant, frog, fish, parrot, bee, snake, crocodile, earth worm, butterfly, bee, man, dog*

ii. What are the features of mammals?

iii. List five characteristics of Arthropods?

iv. Who are warm blooded animals? Give two examples?

v. What are the main two categories the animals are divided?

(20 marks)

(06).i. What are the characteristics of living beings?

ii. Write ten uses of water?

iii. Write ten ways how water gets polluted.

iv. What are the main nutrients of the food?

v. What are the two groups of vitamins? Give examples.

(20 marks)

-----END OF THE QUESTION PAPER-----

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**FINAL EXAMINATION QUESTION PAPER**

CODE - QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: DIPLOMA IN TEACHING MATHEMATICS & SCIENCE

COURSE CODE: LC - 0844

SUBJECT: SCIENCE TEACHING METHODOLOGY

Faculty	Department / Section/Division
Humanities and Education	Education

<i>INSTRUCTIONS TO CANDIDATES</i>	Date: 2022.05.22
Answer all five questions.	Duration of the examination = 02 hours
Total Marks = 100	Candidates could be disqualified if you violate examination rules.
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**PART- I.**

**ANSWER ALL THE QUESTIONS IN PART- I.**

- (01). Symposium is a type of
- (a) Discovery method
  - (b) Discussion method
  - (c) Lecture method
  - (d) Demonstration method
- (02). Activities involves
- (a) Physical action
  - (b) Mental action
  - (c) Creative action
  - (d) Physical and mental action
- (03). In 5E method in teaching is considered as,
- (a). One-way method
  - (b). Transition method
  - (c). Transaction method
  - (d). Transformation method

- (04). Select the correct fact of being ready for class.
- (a). Show confidence in your teaching
  - (b). Few rules are more effective.
  - (c). Don't use sarcasm on students
  - (d). Applause the student's effort, and manners.
- (05). To go beyond the given information is
- (a) Unistructural level
  - (b) Multi structural level
  - (c) Rational level
  - (d) Extended abstract level
- (06). Students are passive in
- (a) Project method
  - (b) Discovery method
  - (c) Lecture method
  - (d) Inquiry method
- (07). Which is not true about projects
- (a) It is a purposeful activity
  - (b) It is proceeded in social environment
  - (c) It is accomplished in real life
  - (d) It is teacher centered activity
- (08). In teaching, experienced members guide the immature one's for
- (a) Spending time
  - (b) Qualification
  - (c) Quality of life
  - (d) Adjustment of life
- (09). Which is not the focal point of triangular process of teaching
- (a) Teaching method
  - (b) Teacher
  - (c) Pupil
  - (d) Contents
- (10). The goal of teaching is
- (a) to give information
  - (b) To involve pupils in activities
  - (c) To impart knowledge
  - (d) Desirable change in behavior
- (11). Duration of lessons in macro- lesson plans is
- (a) 5-10 min
  - (b) 10-20 min
  - (c) 20-30 min
  - (d) 35-45 min

- (12). Which is not true about lesson plan
- (a) It develops confidence
  - (b) It helps in orderly delivery of contents
  - (c) It is developed by students
  - (d) It saves from haphazard teaching
- (13). Most important part of a lesson plan is
- (a). Materials use
  - (b). Home work
  - (c). Objective
  - (d). Content of the lesson
- (14). Present day classroom use
- (a). Teacher centered
  - (b). Lecture method
  - (c). Child centered
  - (d). Transmission method
- (15). Assessment of a lesson is done
- (a). At the beginning of a class
  - (b). At the middle of the class
  - (c). Throughout the lesson
  - (d). End of the lesson
- (16). In 5E method in teaching, elaboration part is done by,
- (a). Students
  - (b). Teacher
  - (c). Teacher and students
  - (d). Elaboration is not done
- (17). Practice is made in
- (a) Inductive method
  - (b) Deductive method
  - (c) Drill method
  - (d) Discussion method
- (18). A Student-centered Classroom,
- (a). One-way method
  - (b). Only teachers speak
  - (c). Lots of group activities are there
  - (d). Elaboration is not done



- (19) . Evaluation in the classroom helps teacher
- (a). Cover the syllabus
  - (b). Spent the time
  - (c) . Explain the content of the lesson
  - (d). To assess whether the teacher met the objective.

- (20). In 5E method in teaching, last step is,
- (a). Explore
  - (b). Evaluation
  - (c). Engage
  - (d). Elaboration

**(Marks. 1 X 20 = 20)**

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## Part II

**Answer any four questions given.**

- (01). Prepare a lesson plan for grade six Science lesson for any topic you like.. **(20 Marks)**
- (02). Briefly explain the steps of 5E teaching methodology. **(20 Marks)**
- (03). Write ten qualities of an effective teacher. **(20 marks)**
- (04). List the advantages of having a proper lesson plan. **(20 Marks)**
- (05). Activity based/ competency based teaching is effective in today's class room. Explain this by giving suitable examples. **(20 Marks)**



## FINAL EXAMINATION QUESTION PAPER

CODE - QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: DIPLOMA IN TEACHING MATHEMATICS & SCIENCE

COURSE CODE: LC-0844

SUBJECT: SECONDARY MATHEMATICS

Faculty	Department / Section/Division
Humanities and Education	Education

<i>INSTRUCTIONS TO CANDIDATES</i>	Date: 2022.05.20
Total Marks = 100	Duration of the examination = 02 hours
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- ❖ Part I consists of 10 M.C.Q questions.
- ❖ Part II consists of 05 structured questions.
- ❖ Answer all the questions in part I and choose four (04) questions from part II.

### Part I

Answer ALL Questions

Choose the correct answer and circle the number.

- 1)  $\sqrt{4 \times 2}$  is;
  - i) A rational number
  - ii) An irrational number
  - iii) A whole number
  - iv) A complex number
  
- 2) Given that  $A \times 10^{-3} = 4.5 \times 0.02 + 3$ ; the scientific notation of the number displayed by A is;
  - i)  $3.09 \times 10^3$
  - ii)  $3.09 \times 10^{-3}$
  - iii)  $1.359 \times 10^{-1}$
  - iv)  $1.359 \times 10^1$
  
- 3) The decimal expansion of a surd is
  - i) Repeating
  - ii) Never repeating
  - iii) Terminating
  - iv) Repeating and non-terminating

- 4) The correct statement about a rhombus is,  
i) Equiangular but not equilateral  
ii) Equilateral but not equiangular  
iii) Equilateral and equiangular both  
iv) The centre is equidistant from each vertex.
- 5) Choose the correct circle theorem.  
i) The angle at the circumference is twice the angle at the centre.  
ii) A diameter that bisects a chord is not perpendicular to it.  
iii) A diameter that is perpendicular to a chord bisects it.  
iv) The angle between the tangent and the side of the triangle is equal to the adjacent interior angle.
- 6) Choose the incorrect statement about the straight line which has a zero gradient.  
i) The straight line is parallel to the x-axis.  
ii) As, x values increase the y values remain same.  
iii) As, y values increase the x values remain same.  
iv) The angle form by the straight line with the positive axis is  $0^0$  or  $180^0$ .
- 7) The statistical diagram which represents the relationship between two variables is,  
i) Box plot  
ii) Stem and Leaf diagram  
iii) Frequency polygon  
iv) Scatter plot
- 8) The number of subsets of the set  $A = \{\text{prime numbers between 1 and 10}\}$  is,  
i) 4  
ii) 5  
iii) 16  
iv) 32
- 9) The probability of an event cannot be  
i) -1  
ii) 0  
iii) 1  
iv) 0.5
- 10) Choose the incorrect statement about matrices.  
i) Any symmetric matrix is a square matrix.  
ii) All the square matrices are diagonal matrices.  
iii) A transpose matrix can be obtained when the matrix is symmetric.  
iv) Any identity matrix is symmetric.

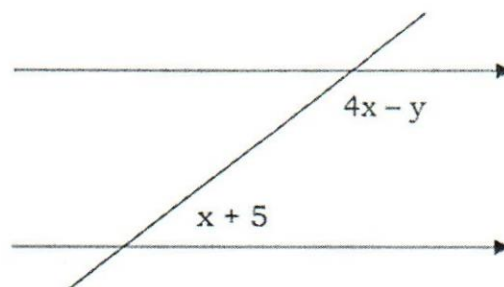
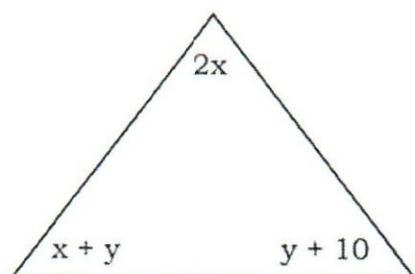
(2x10=20 marks)

## Part II

Answer Four (04) Questions Only.

## Question 01

a)



i) Write two equations in terms of  $x$  and  $y$  by referring to the above figures. (4)

ii) Solve the two equations you wrote in part (i) simultaneously. (6)

b) The diagonal of a rectangular field is 60 meters more than the shorter side. The longer side is 30 meters more than the shorter side.

i) Draw a suitable diagram to solve the problem. (2)

ii) Construct a quadratic equation to find the length of two sides. (2)

iii) Solve the equation you wrote in part (ii) and find the dimensions of the rectangular field.

(6)

(20 marks)

### Question 02

- a) The stem and leaf diagram below shows the weight of set of puppies in kilograms. Use this statistical diagram to answer the questions below.

		Key: 1 9 means 1.9kg		
1	9			
2	2	8		
3	1	4	4	9
4	5	8		
5	1			

- i) What is the modal weight? (1)
- ii) Find the median weight of the set of puppies. (3)
- iii) Calculate the average weight of a puppy. (4)
- iv) Find the range of weight for the set of puppies. (2)
- b) Below is a grouped frequency distribution that shows the height of plants in a garden.

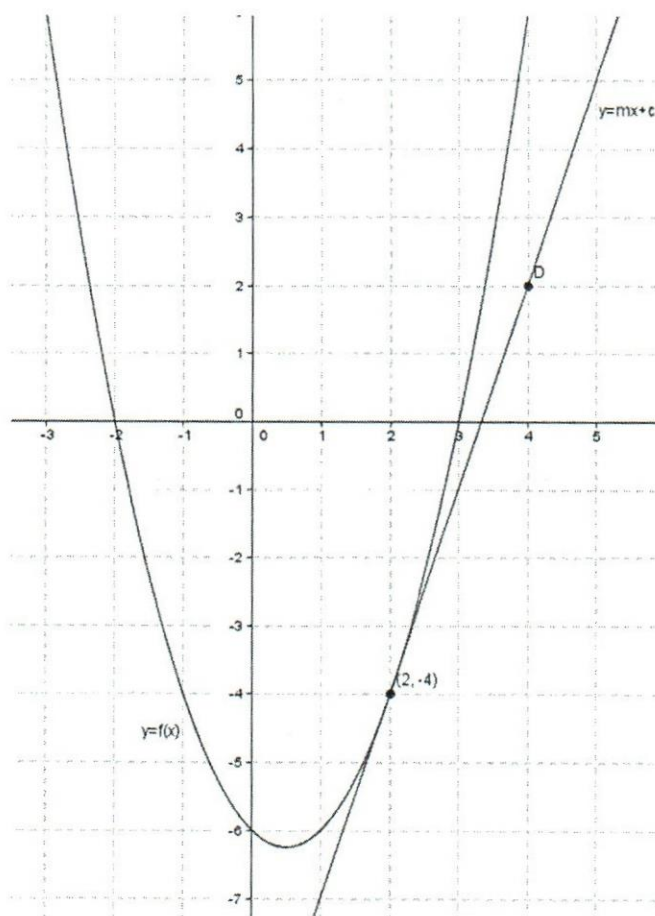
Height(h)/cm	No. of plants
0-10	5
10-20	15
20-24	16
24-30	21
30-50	18

- i) Construct a histogram to represent above data. (7)
- ii) Find the probability of choosing a plant with a height less than 20cm. (3)

(20 marks)

## Question 03

Use the following graph to answer the questions below.



the

- i) What are the roots of equation  $f(x)=0$ ?

(2)

- ii) Write the equation of the axis of symmetry of the curve  $y=f(x)$ . (2)
- iii) Hence find the turning point of the curve  $y=f(x)$ . (2)
- iv) Write the range of values of  $x$  for which the function  $f(x)$  increases positively. (2)
- v) Obtain the equation of the curve  $y=f(x)$  in the form  $y = ax^2 + bx + c$  where  $a, b, c$  are constants to be found. (4)

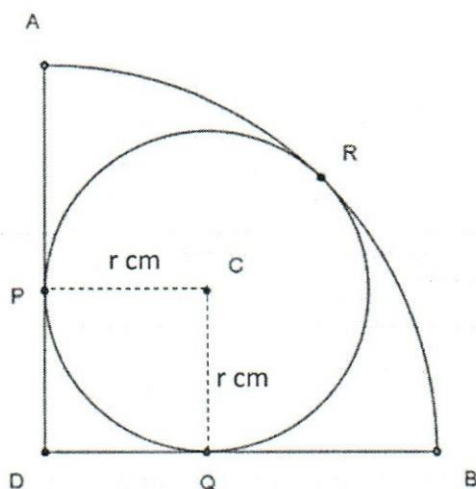
The straight-line  $y = mx+c$  is a tangent to the curve at the point  $(2, -4)$ .  $D$  is a point on this tangent.

- vi) Obtain the equation of the straight line in the form  $y= mx+c$ . (5)
- vii) Obtain the equation of the straight line perpendicular to the tangent which passes through the point  $(2, -4)$ . (3)

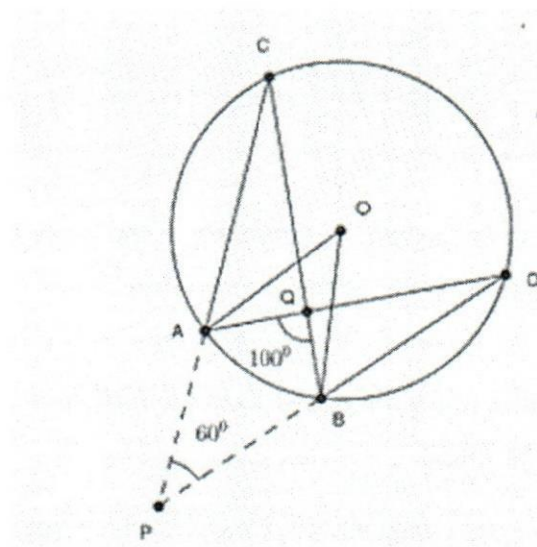
(20 marks)

### Question 04

- a) In figure below ARBD is a quarter circle of radius 1cm and a second circle is inscribed within the quarter circle touching it at three points. Find the length of the radius of the inscribed circle and give your answer as a surd. (10)



- b) Find the magnitude of the angle AOB using the diagram below. (10)



(20 marks)

**Question 05**

Given that

$$B = \begin{bmatrix} 1 & -3 & -2 \\ 2 & 0 & 1 \end{bmatrix} \quad C = \begin{bmatrix} 2 & 1 \\ -2 & -1 \\ 3 & 0 \end{bmatrix}$$

If  $A = B \times C$ ;

- i) Find the matrix A (4)
- ii) Find the determinant of the matrix A. (3)
- iii) Find  $A^{-1}$  (3)

Solve the equation given by the determinant;

iv)  $\begin{vmatrix} x-1 & 4 \\ 1 & x+2 \end{vmatrix} = 0$  (10)

(20 marks)

-----END OF THE QUESTION PAPER-----



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FINAL EXAMINATION QUESTION PAPER

CODE- QP

Approved for Quality Management System

EDUCATION & TRAINING COURSE: DIPLOMA IN TEACHING MATHEMATICS & SCIENCE

COURSE CODE: LC -0844

SUBJECT: SECONDARY SCIENCE

Faculty	Department / Section/Division
Humanities and Education	Education

<i>INSTRUCTIONS TO CANDIDATES</i>	Date: 2022.05.20
Total Marks = 100	Duration of the examination = 02 hours
	Candidates could be disqualified if you violate examination rules.
	Candidates are not allowed to communicate with and disturb fellow candidates during the examination.

PART-1

ANSWER ALL THE QUESTIONS GIVEN. UNDERLINE THE MOST SUITABLE ANSWER.

- (01). Which acid is secreted by the cells of the gastric glands in the stomach?
- 1). hydrochloric acid
  - 2). nitric acid
  - 3). hydroiodic acid
  - 4). sulphuric acid
- (02). Excess glucose in the human body are stored as \_\_\_\_\_ in the liver.
- 1). Glycerol
  - 2). Glycerine
  - 3). glycogen
  - 4). Glucose

- (03). The ascent of sap in plants takes place due to \_\_\_\_\_.
- 1). root pressure
  - 2). transpiration pull
  - 3). both a and b
  - 4). osmosis
- (04). When the diaphragm contracts (is pulled downward), \_\_\_\_\_ occurs.
1. Inhalation
  2. exhalation
  3. a hiccup
  4. the lungs deflate
- (05). Gynaecium of a flower is,
- 1). Stamens, ovary and stigma
  - 2). Stamens, pollen and ovary
  - 3). Ovary, stigma and pollen sac
  - 4). Ovary, style and stigma
- (06). What is the excretory system in charge of?
- 1). Breaking down food so it can be used by the body.
  - 2). Giving the body support and strength
  - 3). Removing wastes and excess fluid from the body
  - 4). Wastes and excess fluid from the body
- (07). The movements that propel the food particles through the digestive tract are called,
- 1). peristalsis
  - 2). rhythm
  - 3). mastication
  - 4). Hydrolysis
- (08). Digestion takes place in a long tube-like canal called the alimentary canal, or the digestive tract. Food travels through these organs in the following order:
1. Mouth, gullet, stomach, small intestine, large intestine and rectum
  2. Mouth, oesophagus, stomach, large intestine, small intestine and rectum
  3. Mouth, stomach, oesophagus, small intestine, large intestine and rectum
  4. Mouth, stomach, gullet, small intestine, large intestine and rectum
- (09). Why does blood turn dark red as it circulates through the body?
1. It starts to clot.
  2. It gets old and dirty flowing through the body.
  3. The oxygen in it is replaced with carbon dioxide.
  4. The farther blood is from the heart, the more dark red it is.
- (10). A structure that could be seen in plant cell, but not in an animal cell is
- 1). mitochondria
  - 2) cell wall
  - 3). cytoplasm
  - 4) plasma membrane

(11). What is used as a solvent to dissolve chlorophyll from a leaf.

- 1 . methylated spirit      2.iodine      3. alcohol      4.boiled water.

(12).Which is the largest gland in the human body?

- i. Thyroid      ii. Liver      iii. Pancreas      iv. None of these

(13). Examples for fruits and seeds dispersed by wind

1. Hora, thotila, ranawara, wara, monerakudumbiya
2. Hora, thotila, gammalu, wara,monerakudumbiya
3. Hora, balsam, gammalu, rubber,monerakudumbiya
4. Water lily, thotila, gammalu, wara, mahagony

(14). The teeth at the front of the mouth which are used for chopping are called:

- (a) incisors, (b) canines, (c) premolars, (d) molars.

(15). What is a food chain?

- a) A long chain made of food
- b) Process of preparing food
- c) Food where locked by chain
- d) Pathway that energy and nutrients flow through the ecosystem

(16). When proteins are completely broken down the end products are:

- (a) glucose molecules, (b) glycerol molecules, (c) amino acids, (d) vitamins.

(17). The gas emitted during the process of photosynthesis is

- a) oxygen      b) carbon dioxide      c) nitrogen      d) hydrogen

(18). The most suitable equipment to observe the micro-organisms in water is

- a) telescope      b) compound microscope      c) magnifying glass      d) binocular

(19). Why do all food chains start with plants?

- a) Because plants are easily grown
- b) Because plants are nutritious
- c) Because plants can produce its own energy
- d) Because plants do not require energy

(20). Which is the most accurate statement?

The principal role of a flower in the life cycle of a plant is.....

- |                       |                     |
|-----------------------|---------------------|
| 1. attracting insects | 2. producing seeds  |
| 3. producing pollen   | 4. producing nectar |

**(Total 20 marks)**

## PART II

\* Answer any **four** questions given. Each question carries equal marks.

(01).

A. Select the most suitable word and fill in the blank.

- i. The energy needed for photosynthesis is supplied by ..... (sun / man).
- ii. There ..... (is / isn't) a limit of growth within plants.
- iii. Most of the animals are ..... (autotrophic/heterotrophic).
- iv. A characteristic which can be seen in animals but cannot be seen in most plants is .....(locomotion/reproduction)
- v. An essential requirement for photosynthesis is..... (oxygen / carbon dioxide)

B. Describe the following sentences in one word or two words.

- i. Objects which emit their own light.....
- ii. Objects which do not emit their own light.....
- iii. Objects which allow light to travel through and the object on the other side can be seen clearly.....
- iv. Objects which allow light to travel through but cannot see the object on the other side clearly.....
- v. Light does not travel through some objects. Such objects are known as.....

(20 marks)

(02). i. What are the characteristics of living beings?

ii. Write ten uses of water?

iii. Write ten ways how water gets polluted.

iv. What are the main nutrients required by the body?

v. What are the two groups of vitamins? Give examples. (20 marks)

(03). I. What is a food chain. Draw two food chains?

ii. Draw a food web?

iii. Who are autotrophs? What is their position in food chains?

iv. Name three herbivorous animals?

v. Who are omnivorous animals? Name three omnivorous animals? (20 marks)

(04). i. What is Environment pollution?

ii. What are the three main categories of environment pollution?

iii. List five main ways of air pollution?

iv. Write five ways of how water get polluted.

v. What is global warming? What are the bad effects of global warming?

(20 marks)

(05) i. List three ways how plant cell differ from animal cell..

ii. What are the features of mammals?

iii. List five characteristics of Arthropods?

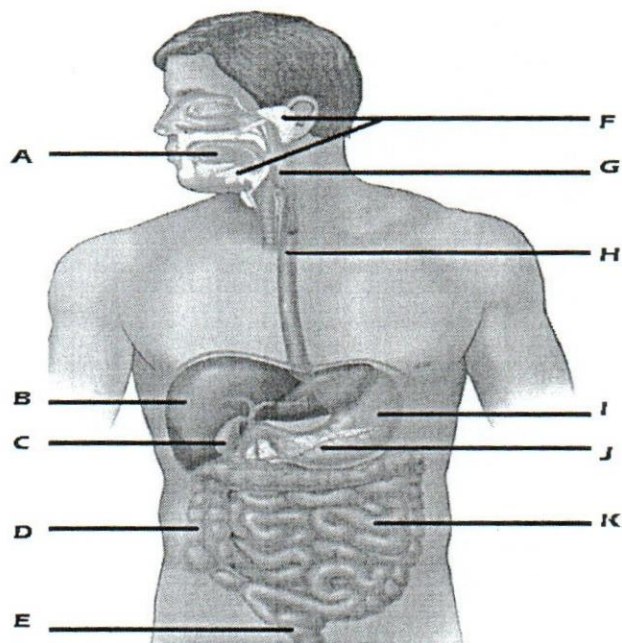
iv. Who are warm blooded animals? Give two examples?

v. What are the main two categories the animals are divided?

(20 marks)

(06). Digestive system is one of the most important systems of the body.

i. Label the parts from A-L of the following figure.



- ii. Name two hormones secreted by the organ J.
- iii. What is the main function of the organ K?
- iv. What are the adaptations of K to do its functions?
- v. Write the functions of the two hormones mentioned in above II

**(20 Marks)**