



CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)
CSSC JOINT EXAMINATIONS FOR CHURCH SCHOOLS
EASTERN ZONE
FORM II PRE – NATIONAL EXAMINATION 2024
PHYSICS

CODE: 031**Time: 2:30 Hours****Date: Tuesday, 27th August, 2024 a.m****Instructions**

1. This paper consists of sections **A, B and C** with a total of **ten (10)** questions.
2. Answer **all** questions in the space provided.
3. All writing must be in blue or black ink except drawing which must be in pencil.
4. Communication devices and any unauthorized materials are not allowed in the assessment room.
5. Write your **Examination Number** on the top right hand corner of every page.
6. Where necessary the following constants may be used;
 - (i) Acceleration due to gravity, $g = 10\text{m/s}^2$
 - (ii) $\Pi = 3.14$

FOR EXAMINER'S USE ONLY

QUESTION NUMBER	SCORE	EXAMINER'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		

SECTION A: (15 Marks)

Answer **all** questions in this section

1. For each of the items (i) – (x), choose the correct answer from among the given alternatives and write its letter beside the item number in the space provided.
 - (i) Which of the following sources of energy does not originate from the sun?
 - A. Hydroelectric energy
 - B. Wind energy
 - C. Geothermal energy
 - D. Solar energy
 - E. Wave energy
 - (ii) Which of the following is an example of fundamental forces?
 - A. Frictional force
 - B. Torsional force
 - C. Gravitational force
 - D. Stetetring force
 - E. Compressional force
 - (iii) Solar energy can be converted to electrical energy by using a:-
 - A. Magnet
 - B. Dry cell
 - C. Capacitor
 - D. Photocell
 - E. Dynamo
 - (iv) What will be the total capacitance when those capacitors $2\mu F$ and $5\mu F$ are connected in series.
 - A. $0.95\mu F$
 - B. $1.43\mu F$
 - C. $1.05F$
 - D. $0.95F$
 - E. $95\mu F$
 - (v) A girl is looking her smile face at the reflecting surface of a plane mirror. The image will be -----
 - A. Inverted
 - B. Real
 - C. Virtual
 - D. Diminished
 - E. Magnified
 - (vi) _____ is a variable which does not change even when the experimental conditions are changed.
 - A. Controlled variable
 - B. Independent variable
 - C. Dependent variable
 - D. Constant experiment

- E. Experimental variable
- (vii) What is the force acting on a block that is dropping into the floor?
- Gravitational force
 - Frictional force
 - Torsional force
 - Stretching force
 - Compressional force
- (viii) Why does it take a shorter time a rotten egg smell to diffuse in air than in water?
- Air molecules are packed closer compared to those of water
 - Air molecules are fresh compared to water
 - Water molecules are less far apart compared to those of air
 - Water molecules move with higher speed compared to those of air
 - Because solid molecules have low speed
- (xi) _____ is the name given to the process in which a parallel beam incident light is reflected as a parallel beam in one direction.
- diffuse reflection
 - regular deflection
 - regular refraction
 - Regular reflection
 - Regular diffraction
- (x) _____ refers to the process of limiting the flow of magnetic fields between two locations by separating them with a banner made of conductive ferromagnetic materials.
- Neutral point
 - magnetic field
 - magnetic shielding
 - Inclination of an angle
 - Induced field

Answers

i	ii	iii	iv	v	vi	vii	viii	ix	x

5. (a) (i) Why there is No any workdone by normal force acting to the box on horizontal plane during the motion?

- (ii) A motor exerts a horizontal force of 200N in pulling a box 10m across a level floor. How much workdone the motor do?

- (b) (i) State the principle of conservation of energy.

- (ii) At its extreme (highest) point a pendulum of mass 0.5kg is 1.4m above the mean position. If the pendulum passes a certain point on its path at a velocity of 3.0m/s, what will be the corresponding height at such a point?

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[illegible]

(ii) As an expert in electricity, how lightning conductors protect buildings from lightning strikes?

7. (a) Explain the following terms as applied in forces in equilibrium.

(i) Centre of mass

(ii) Moment of force

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8. (a) Explain three ways for the demagnetization process of a magnet.

[illegible]

- (b) Explain three properties of magnetic lines of force of a magnetic bar.

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[illegible]

(c) Using the diagram, explain what happens when two bars of magnet are brought closer to each other with the same pole each?

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Answer question ten (10)

[illegible][illegible]

Candidate's Examination Number _____
