



**Akenten Appiah-Menka University  
of Skills Training and Entrepreneurial  
Development**

**Institute for Teacher Professional Development and Lifelong  
Learning**



**End of Second Semester Examinations - October, 2024**

<b>College:</b>	
<b>Course Code:</b>	ECS 121
<b>Course Title:</b>	INTRODUCTION TO INTEGRATED SCIENCE II
<b>Duration:</b>	Two (2) Hours
<b>Instruction:</b>	This paper consists of five sections (A-E). Answer...

**VISIT: COLEMANPUBLICATION.COM FOR MORE**

For questions 1-20, Choose the most appropriate answer from the options lettered A, B, C and D provided.

1. The energy possessed by a body by virtue of its position is called...
  - A. kinetic energy
  - B. position energy
  - C. potential energy,
  - D. total energy
2. A lady positioned to dive into a swimming pool will have ..... energy
  - A. heat
  - B. kinetic
  - C. potential ,
  - D. sound
3. Which of the following sources of energy is **not** a renewable energy source?
  - A. Natural gas .
  - B. Solar energy
  - C. Tidal waves
  - D. Wind energy

4. What is its kinetic energy if an object has a mass of 10 kg and is moving at a velocity of 3 m/s?

A. 15J

B. 30J

C. 45J

D. 60J

$$K.E = \frac{1}{2} m v^2$$

$$K.E = \frac{1}{2} (10) \times (3)^2$$

$$\frac{1}{2} (10) \times (9) = \frac{90}{2}$$

5. The purpose of a transistor in a circuit board is to...

A. amplify signals

B. convert AC to DC

C. resist current flow

D. store energy

6. All the following are active electronic components **except**

A. Diode

B. Integrated Circuits

C. Switch

D. transistor

7. An electric circuit operates in...type of connectivity configuration.

A. close

B. disconnected

C. open

D. short

8. All the following are infectious diseases **except**.

A. Cholera

B. Chicken pox

C. Measles

D. Mental Disease

9. Malaria is caused by which pathogen?

A. Bacteria.

B. Fungi.

C. Parasite.

D. Virus.

10. Which of the following stages in the life cycle of a mosquito is found in water?
- A. Egg, larva and adult
  - B. Larva, pupa and adult
  - C. Egg and Larva
  - D. Egg, larva and pupa
11. The primary purpose of a portfolio in education is to ...
- A. serves as a random collection of student work.
  - B. provide a systematic collection that documents student progress.
  - C. showcase only the best work of students.
  - D. fulfill administrative requirements.
12. What type of assessment does a portfolio primarily support?
- A. Formative assessment
  - B. Criterion-referenced
  - C. Norm-referenced assessment
  - D. Summative assessment
13. The purpose of a displayed portfolio is to...
- A. diagnose the difficulty areas of learners.
  - B. demonstrate the highest level of achievement attained by the learner.
  - C. document students' learning of specific learning outcomes.
  - D. demonstrate mastery of learners in any curricular areas.
14. Which of the following is **not** a feature of the portfolio?
- A. Collect work samples over time, reflecting development changes. ✓
  - B. Involves students in design, collection and evaluation.
  - C. Promotes self-regulation by involving students in the assessment of their learning progress.
  - D. Comprises disconnected tests and quizzes and helps in ascertaining the product of learning.
15. A broken bone is scientifically known as ...
- A. burns
  - B. fracture
  - C. injury
  - D. wound



VISIT: [COLEMANPUBLICATION.COM](http://COLEMANPUBLICATION.COM) FOR MORE

16. All the following are the purpose of giving first aid **except** to...
- A. keep the victims half alive.
  - B. preserve life.
  - C. promote recovery.
  - D. stop further bleeding.
17. Which of the following is **not** a problem associated with overpopulation?
- A. Employment
  - B. Food
  - C. Housing
  - D. Labour .
18. All the following are effects of urbanization **except**...
- A. decrease in demand for water. •
  - B. decrease in the amount of farming land.
  - C. increase in the demand for power.
  - D. increase in traffic.
19. Which colour is typically associated with prohibition or danger in safety signs?
- A. Blue
  - B. Green
  - C. Red
  - D. Yellow
20. What does the acronym PASS stand for in fire extinguisher usage?
- A. Pull, Aim, Squeeze, Sweep
  - B. Push, Aim, Squeeze, Sweep
  - C. Pull, Aim, Squeeze, Stop
  - D. Push, Aim, Squeeze, Stop
- 26  
30

### SECTION B (5 Marks)

For questions 21-25, indicate which of the following statements is TRUE or FALSE.

21. A solar-powered calculator changes electricity into light energy.
22. Kinetic energy is a form of Mechanical energy.
23. Fossil fuels are energy stored from photosynthesis over millions of years.
24. The physical environment consists of both abiotic and non-living factors.
25. A tentative characteristic explains that technology is not subject to change.

### SECTION C (5 Marks)

For questions 26-30, match the word/concept to the uses. Do so by writing the letters against each question number.

- |    |                      |             |   |  |
|----|----------------------|-------------|---|--|
| 26 | ..... <u>C</u> ..... | Fuse        | A | Converts electrical energy into light. ✓   |
| 27 | ..... <u>A</u> ..... | Transformer | B | Allow current flow in one direction. ✓     |
| 28 | ..... <u>E</u> ..... | Capacitor   | C | Protect against over-current.              |
| 29 | ..... <u>B</u> ..... | Diode       | D | Step up or down voltage.                   |
| 30 | ..... <u>G</u> ..... | Resistor    | E | Store electricity energy temporally.       |
|    |                      |             | F | Limit the flow of electrical current.      |
|    |                      |             | G | Control the flow of current in the circuit |

### SECTION D (10 Marks)

For questions 31-40, provide the appropriate word to complete them.

31. The extensive planting of trees to increase forest cover is called.....Afforestation
32. A professional tool that the teacher uses to reflect on their progress and professional growth is called.....Portfolio
33. An item in the first aid box that is used to clean a wound is referred to as.....Cotton
34. The application of scientific and mathematical concepts to solve human needs is .....Technology
35. When a flashlight is turned on, the chemical energy stored in the batteries is transformed into electrical energy to produce light.
36. The resources that can be replenished or replaced naturally in a short time are termed as.....Renewable
37. The practice of keeping oneself and surroundings clean, especially to prevent illness or spread of disease is termed as.....Hygiene

VISIT: [COLEMANPUBLICATION.COM](http://COLEMANPUBLICATION.COM) FOR MORE

38. The form of disease related to the absence of certain nutrients in the diet is referred to as.....<sup>Deficiency</sup> disease.

39. A transistor is a semiconductor device used to.....<sup>Amplify</sup> or switch electrical signals and power.

40. The term that best describes a situation where one or more bones at a joint are pulled out of place is called.....<sup>Dislocation</sup>

### SECTION E (20 Marks)

Answer only One question from this section.

41. A. (i) What is a non-communicable disease? (2Marks) <sup>Diseases that cannot be spread from one person to another.</sup>

(ii) Give any three (3) examples of non-communicable diseases. <sup>Stroke</sup> (3Marks)  
<sup>Cancer</sup>  
<sup>Asthma.</sup>

B. (i) An object of mass 50 g is placed on top of a mountain.

Potential energy ← (a) State the type of energy stored in the object on top of the mountain. <sup>P.E</sup> (2Mark)

(b) Calculate the amount of the energy stored in the object if the height of the mountain is

50m. [ Take  $g = 10 \text{ m/s}^2$  ;  $U = 0 \text{ m/s}$  ] (4 Mark)

$$P.E = m \times g \times h = 0.05 \times 10 \times 50$$

$$P.E = 250 \text{ J}$$

C. (a) State any four (4) benefits of a portfolio in the educational system. (4 Marks)

D. (a) State any two (2) examples of occupational hazards. (2Marks)

(b) Enumerate three (3) ways of preventing occupational hazards. (3Marks)

A circuit contains a voltage which is directly proportional to the current and resistance encountered by the current in the circuit.

42. (A) (i) State Ohm's law. (2Marks)

(ii) State the energy changes that occur when the TV set is switched on. (3Marks)

Electrical → Light → Sound → heat · E-L-S-H

B. (i) State any two safety rules for students in science practical activities. (2Marks)

(ii) Sort the following diseases into pathogenic and non-pathogenic. (3Marks)

1. Stress - Non
2. Malaria - Patho
3. Obesity - Non
4. Typhoid - Patho
5. Ricket - Pathogenic
6. Goiter - Nonpathogenic

C. (i) By giving specific examples, differentiate between communicable and non-communicable diseases. (3 Marks)

(ii) Differentiate between kinetic energy and potential energy. (3 Marks)

D. Differentiate between renewable and non-renewable sources with specific examples (4 Marks)

43.

A. Briefly explain the acronym "PASS" as used in the firefighting. (4 Marks)

B. State four (4) sources of class one source of fire. (4 Marks)

C. Explain why it is advisable to close doors and windows as a firefighting precaution. (4Marks)

D. State any four (4) benefits of a portfolio in the educational system. (4 Marks)

E. State the energy transformations that occur in the following (4 Marks)

1. Electric irons convert electrical energy into... heat energy
2. An electric generator converts mechanical energy into... electrical to sound.

→ VISIT: COLEMANPUBLICATION.COM FOR MORE