



CHUMEY HIGHER SECONDARY SCHOOL
BUMTHANG
TRIAL EXAMINATION



SCIENCE (CLASS VIII)

Date: 6th December 2022

Total Marks: 80

Time: 2 Hours

Index Code.....

Directions:

- The first fifteen minutes of the examination are for reading the question paper only. Students must **NOT** start writing during this time.
- This paper has two sections A and B.
- **Section A:** All questions are compulsory.
- **Section B:** Attempt ANY five questions.
- The intended marks for each question are given in brackets [].
- Write the answers in the given space below question.
- This Booklet paper consist of 12 pages.

SECTION A (30 Marks)

Attempt all the questions

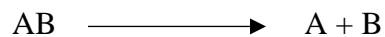
Question 1

[10]

Direction: For each question, there are four alternatives: A, B, C and D. Choose the correct alternative and circle it. Do not circle more than ONE alternative. If there are more than one choice circled, NO score will be awarded.

1. Proteins are responsible for nearly every task of cellular life. The cell organelle that synthesizes protein is
 - A. ribosome.
 - B. chloroplast.
 - C. golgi bodies.
 - D. mitochondrion
2. If 'X' is the symbol of an element, which of the following are the isotopes of the element?
 - A. ${}_8X^{15}$ ${}_9X^{17}$
 - B. ${}_8X^{15}$ ${}_9X^{14}$
 - C. ${}_8X^{15}$ ${}_8X^{17}$
 - D. ${}_8X^{15}$ ${}_9X^{15}$

3. What kind of chemical reaction is shown by the following equation?



- A. synthesis
B. substitution
C. displacement
D. decomposition
4. Karma was surprised to notice his legs appear shorter while crossing a river. Upon investigation, he found out that it was due to the phenomenon called

- A. reflection.
B. diffraction.
C. dispersion.
D. refraction

5. Which of the following activity dissipate light energy?

- A. lighting a bulb
B. lighting a torch
C. using a car battery
D. cooking using LPG

6. Most of the electrical energy we use in Bhutan is generated from the

- A. air.
B. sun.
C. soil.
D. Water

7. Which one of the following events describes kinetic energy?

- A. loaded truck
B. book lying on a table
C. dart striking a target
D. an exhausted dry cell

8. A crane lifts a car of mass 300kg to a vertical height of 200m in 5 minutes. If acceleration due to gravity is 9.8m/s^2 , then the power used to lift the car is

- A. 1906 W
B. 9610 W
C. 1690 W
D. 1960 W

9. A rectangular box of 2m x 1m x 0.5 m has a mass of 2500kg as shown in Figure. What is the pressure exerted by the box on the ground? (Take: $g = 10\text{ms}^{-2}$)



- A. 2500 Pa
B. 12500 Pa
C. 25000 Pa
D. 50000 Pa

10. Chortens constructed out of lime stones need periodic renovations since they get damaged due to various kinds of weathering. This kind of weathering can be due to



- A. hydration.
- B. oxidation.

- C. corrosion.
- D. wind abrasion

Question 2

[7]

Direction: Fill in the blanks with appropriate words.

- i. A bucket tied to a rope is swung in a circular motion. The force produced in the rope is _____.
- ii. Stars produce their own heat and light. Therefore, they are called _____ objects.
- iii. Bicep's contract and triceps relax while lifting the weight. Such muscles are called _____.
- iv. A farmer would like to propagate sugarcane. The most suitable artificial method for the propagation would be _____.
- v. In an ecosystem, a variety of plant and animal species live in harmony. This variety of life forms is called _____.
- vi. These days, florescent bulbs are used at homes as they are more _____ than the incandescent bulbs.
- vii. The siren of an ambulance is very shrill in nature. This quality of sound is determined by its _____.

Question 3

Direction: Match each item in column I against the most appropriate item in column II. Write the letter against the number in Column III. [6]

Column I	Column II	Column III
i. Reaction between an acid and a base	a. acceleration	i.
ii. Separation of colors in a mixture	b. atomic number	ii.
iii. Number of protons in an atom	c. dissipation of energy	iii.
iv. Rate of change of velocity	d. neutralization	iv.
v. Overcoming friction between parts of a machine	e. chromatography	v.
vi. Long-term solution to environmental issues	f. mass number	vi.
	g. sustainable development	
	h. distillation	

Question 4

[7]

Direction: Write TRUE or FALSE against each statement in the space provided.

- i. Cones are photoreceptor cells which are responsible for vision in a dim room. (_____)
- ii. Maize, beans and pumpkins are mostly grown together in the same field in the same season. Such practice is called mixed-cropping. (_____)
- iii. A light ray bends towards normal when it travels from air to glass. (_____)
- iv. For an electric fuse to work, its current rating must be equal to the current rating of the electrical appliance. (_____)
- v. The strength of an electromagnet is directly proportional to the number of the turns of coil. (_____)
- vi. Corona virus is an example of a multicellular organism. (_____)
- vii. The movement of minerals from soil into the roots of plants using energy is an example of osmosis. (_____).

SECTION B (60 Marks)

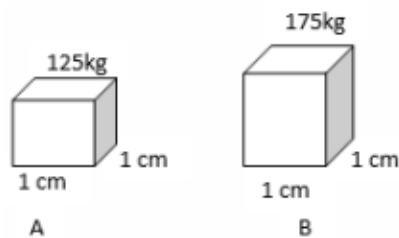
Attempt ANY FIVE Questions.

Question 2

- a) Why does the Sun appear to move across the sky? (1)
- b) As global warming and climate change is real and a growing issue. It is crucial that more effort is put into reducing energy consumption in homes. What steps can you take to save energy in your home? (2)
- c) A car weighing 400kg carries a load of mass 200kg and reaches the top of a gradient in 10 minutes. If power of the car is 4900W, calculate the height of the gradient the car climbed. (Take $g = 9.8 \text{ m s}^{-2}$) (2)

- d) Sonam carries 50 kg of rice and walked 15 steps each of 10cm height in 5 minutes. Find the power required by Sonam to carry the bag of rice. [Take $g = 9.8\text{ms}^{-2}$] (2)

- e) Figure below shows two wooden blocks kept on the ground. ($g = 10\text{ms}^{-2}$). Answer the questions i to iii based on Figure given below.



- Predict which wooden block will exert more pressure on the ground (1)
- Calculate the pressure exerted on the ground by each wooden block. (2)

Question 3

- a) When Sangay was in Gasa, he weighed 60N. On the same day, when he reached Phuentsholing, he weighed 100N. Do you think he has put on weight? Explain. (3)

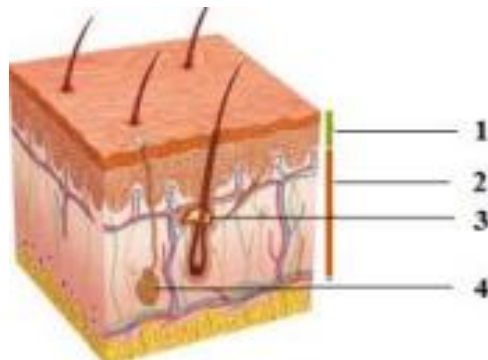
b) Deki drinks Coco Cola during recess as well as during meals. Do you think it is a good habit? What would you advise her? (3)

c) State Law of Conservation of Mass (2)

d) Define Isotopes with example (2)

Question 4

i. Name and write the function of the part numbered 1, 2, 3 and 4 (4)



1)

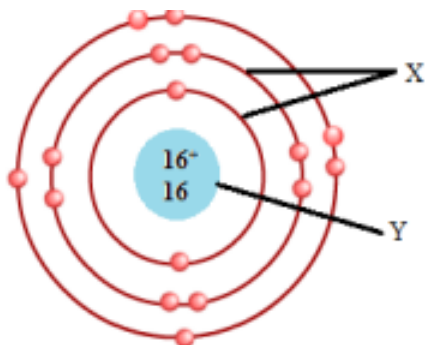
2)

3)

4)

Question 5

- a) With reference to Figure given below which shows an atomic structure, answer the questions that follow.



- i. Label X and Y. (2)
- ii. Name the particle that does not carry any charge. (2)
- iii. Calculate its atomic mass and atomic number. (2)

b. Identify the type of joint labelled A to D in Figure given below.

(4)



- A.
- B.
- C.
- D.

Question 6

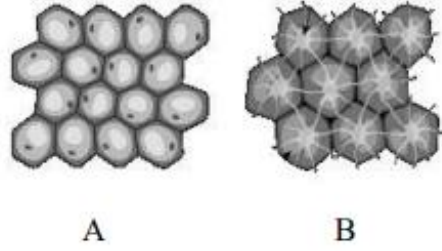
- a) A weight lifter lifts an object weighing 100kg to a height of 2m by exerting a force of 1000N, what is the work done? (2)

b) Our age-old social, cultural and spiritual beliefs about nature have helped conserve our biodiversity. Justify the statement with any TWO specific examples of such beliefs. (2)

c) In hospitals, kidney patients are treated with dialysis. Mention the separating technique used in the dialysis machine. (2)

d) To minimize the use of harmful chemical substances, the Ministry of Agriculture encourages farmers to practice organic farming. Design a poster showing any THREE methods of organic farming in the country. (2)

e) Observe the tissues, A and B given below and answer the questions that follow.



i. Identify tissues A and B. (1)

ii. Mention ONE function of each tissue. (1)