Section A	Total Marks: 50

Q.1 Choose the correct answer for the given statements and encircle it. [__/30]

i. Micro-organisms cannot be seen without the help of

A. telescope

B. periscope

C. microscope

D. binocular

ii. Which of these is NOT true about micro-organisms?

A. they are all harmful

B. they feed and grow

C. they reproduce

D. some are decomposers

iii. Yeast is a type of fungus. What do we use yeast for?

A. to cure chickenpox

B. to make bread rise

C. to make yoghurt

D. to make antibiotics

iv. Why should cooked and uncooked foods be stored separately?

A. because bacteria can grow in cooked food only

B. because bacteria are present in uncooked food

C. to stop bacteria spreading from one to the other

D. none of the above

v. Which of these is NOT caused by a micro-organism?

A. measles

B. a sprained ankle

C. tooth decay

D. typhoid fever

vi. Which of these micro-organisms is useful?

A. lactobacillus bacteria

B. e. coli bacteria

C. chickenpox virus

D. plasmodium

vii. Which of these micro-organisms is harmful?

A. fungus penicillium

B. bacteria in yoghurt

C. yeast in bread

D. influenza virus

viii. Bacteria and microscopic fungi are types of micro-organisms. Which is smaller?

A. bacteria

B. microscopic fungi

C. they both are the same size

D. none of the above

ix. Which of the following is not a part of the alimentary canal?

A. mouth

B. stomach

C. kidneys

D. liver

x. The teeth and stomach breaking down food into smaller pieces are examples of

A. absorption

B. physical digestion

C. chemical digestion

D. circulation

xi. Which of the following basic nutrients is needed for building and repair of tissue in the body?

A. fiber

B. proteins

C. vitamins

D. mineral

xii. A chemical indicator that when added to a solution and heated, changes colour to show the presence of simple sugars is

A. iodine solution

B. benedict's solution

C. biuret solution

D. amylase solution

xiii. Fats are important nutrients because they

A. provide genetic information

B. contain reserve supply of energy

C. build body muscles and tissues

D. maintain strong bones

xiv. The main function of the human digestive system is to

A. break down foods for absorption into blood

B. exchange oxygen and carbon dioxide in the lungs

C. release energy from food molecules within the cells

D. carry nutrients to all parts of the body

xv. The energy obtained from food is measured in units called

A. watts

B. degree celsius

C. kilocalories

D. pounds

xvi. A rich source of protein is:

A. fish meat

B. cereals

C. palm oil

D. vegetables

xvii. During day time, the air becomes warm due to the process of

A. condensation

B. conduction

C. convection

D. radiation

xviii. A bimetallic strip is made of brass and iron. On heating

A. brass expands more than iron

B. iron expands more than brass

C. both expands equally

D. brass expands, but does not contract

xix. Common home appliances like electric kettle, air conditioner and fridge make use of _____ for even transfer of thermal energy.

A. conduction

B. evaporation

C. condensation

D. convection

xx. The device which is used to measure the body temperature is

A. sensor with data logger

B. laboratory thermometer

C. clinical thermometer

D. bimetal strip

xxi. Heat gain or heat loss has the following effects

A. change in the state of matter

B. change in the temperature of matter

C. expansion or contraction of matter

D. all of the above

xxii. Which of the statements is **not** TRUE about Thermal insulators? They are used to

A. reduce the conduction of heat

B. transfer heat quickly

C. stop heat gain or heat loss

D. used for keeping hot liquids hot

xxiii. Which of the following causes land and sea breezes

A. radiation

B. conduction

C. convection

D. condensation

xxiv. The process of light bending is called

A. reflection

B. refraction

C. dispersion

D. convection

xxv. The angle of incident of a light ray is always

A. smaller than the angle of reflection

B. larger than the angle of reflection

C. equal to the angle of reflection

D. none of the above

xxvi. Apparent depth and dispersion of light are the effects of

A. reflection of light

B. dispersion of light

C. refraction of light

D. all of the above

xxvii. A_____ enables us to see distant objects such as Moon, planets and stars.

A. periscope

B. telescope

C. microscope

D. kaleidoscope

xxviii. The speed of light in vacuum is

A. 300,000,000 m/s

B. 300,000 m/s

C. 370,000,000 m/s

D. 450,000,000m/s

xxix. Magenta is formed by mixing

A. red + green

B. green + blue

C. blue + red

D. yellow + cyan

xxx. If an object reflects all the colours of white light, it appears

A. white

B. green

C. black

D. magenta

Q.2 Write 'True' or 'False' for the given statements. Rewrite the statement if it is false, to make it correct. [__/10]

i. The infection caused by a fungus on the skin or scalp as a circular, itchy and scaly patch is known as ringworm.

_____

_____

ii. Micro-organisms and viruses which can cause infectious diseases are known as pathogen or germs.

_____

_____

iii. Antigens are the chemical compounds produced by the white blood cells to fight germs.

_____

_____

iv. The final products of digestion are glucose, amino acids, fatty acids and glycerol.

_____

_____

v. Lipase is a digestive enzyme which breaks down starch into maltose.

_____

vi. Freezers in the supermarkets are not covered because cold air rises up.

_____

vii. The uneven expansion of the bimetallic strip is used in thermostats of heaters and electric irons.

_____

_____

viii. In convection, energy is passed from one particle to another through a medium.

_____

_____

ix. Reflection from a smooth and shiny surface is called diffused or scattered reflection.

_____

_____

x. Concave mirrors produce magnified images if the objects are away from the mirror.

_____

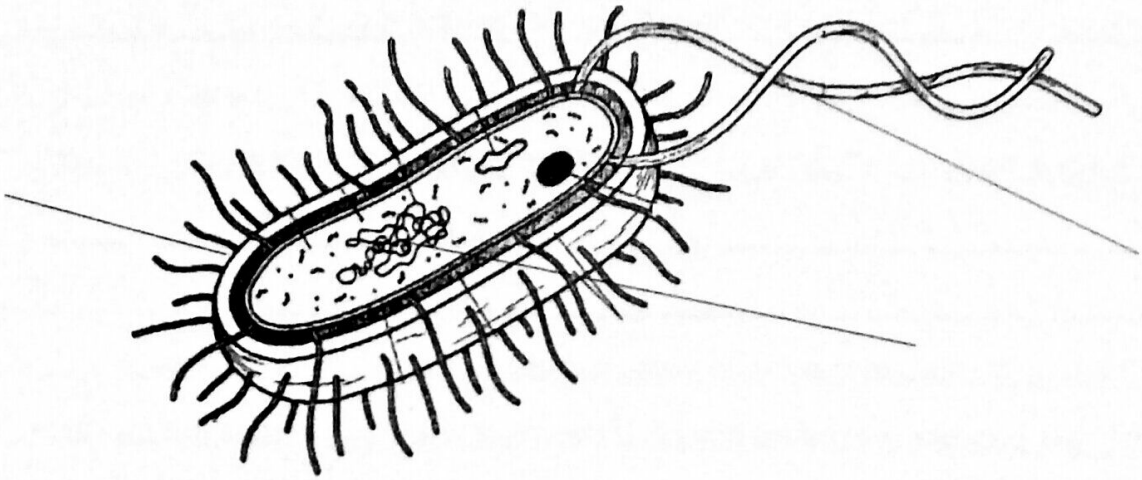
_____

Q.3 Read the terms given in column A **and match them with their correct interpretation in** column B. **Write your final answer in** column C. **[__/10]**

Column A	Column B	Column C
1. iysozymes	a. partial shadow formed by an extended source of light.	1 _____
2. antibodies	b. energy is passed from one particle to another through a medium	2 _____
3. vectors	c. energy is carried by circulating current of particles within a liquid or gas.	3 _____
4. vitamin D	d. enzymes that digest the cell walls of bacteria	4 _____
5. bile	e. for growth and development of bones and teeth	5 _____
6. conduction	f. protein which is produced by the white blood cells to defend the body	6 _____
7. convection	g. carry the germs in their bodies and pass the germs on to someone when they bite or sting the person.	7 _____
8. umbra	h. a bitter, alkaline, yellow or greenish liquid produced in the liver.	8 _____
9. penumbra	i. splitting of white light into its component colours.	9 _____
10. dispersion	j. shadow formed consists of a dark region.	10 _____

Section B	Total Marks: 50

Q.4 **[14]**



a. The diagram above shows one of the main three types of microorganisms.

i. Name the organism in the diagram and identify three main structures and label it. [__/4]

_____

_____

_____

_____

ii. Write down one way in which it is useful in food production. [__/1]

_____

iii. Name two infectious diseases caused by this microorganism. [__/2]

_____

_____

iv. What is the shape of this micro-organism? What other shapes are these micro-organisms found in? [__/1]

_____

b. Germs are all around us; however we do not fall sick frequently.

i. Enlist the natural barriers of the body against infections and diseases. [__/2]

_____

_____

ii. White blood cells are a part of our immune system. Describe their functions and the role of antibodies against antigens. [__/4]

_____

_____

_____

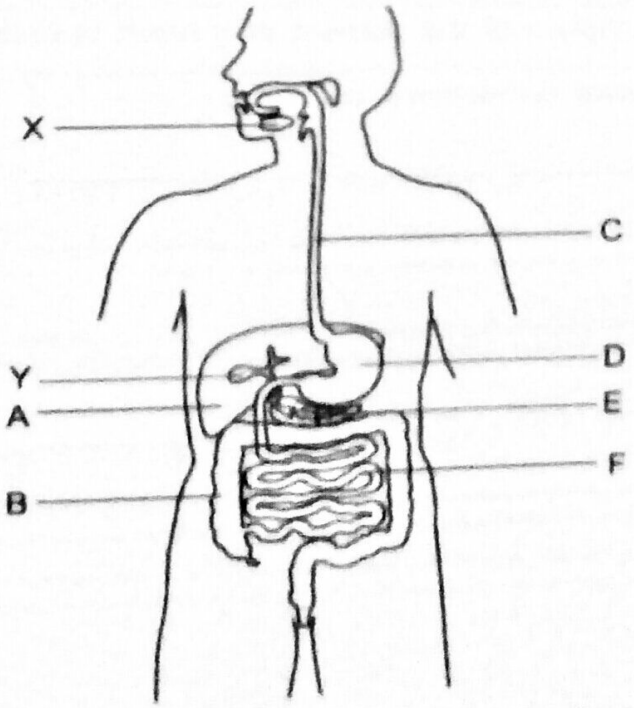
_____

_____

_____

Q.5.a This diagram shows the digestive system in the human body. [__/6]

i. Name parts A to F (not X or Y).



A._____ B._____ C._____

D._____ E._____ F._____

ii. X is a gland below the mouth. What substance does X secrete?

_____

iii. Y is connected to the liver. Which substance is stored in Y?

_____

iv. D contains a strong acid. What is the purpose of this acid?

_____

b. Nutrients are needed to supply the substances in the materials needed for maintaining good health and resisting diseases.

i. The deficiency disease of this nutrient is kwashiorkor. Name the nutrient and state its function in our body. [__/2]

_____

_____

ii. The excessive consumption of the nutrient may result in heart diseases. Identify the nutrient and write down its function in our body. [__/2]

_____

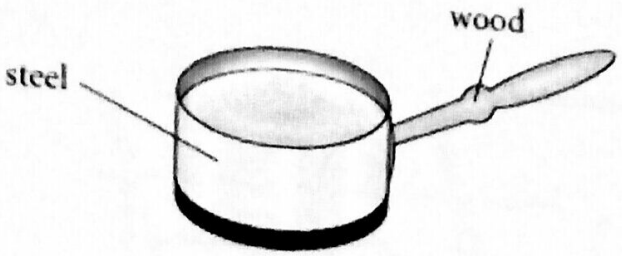
_____

iii. Excessive loss of this nutrient may result in a condition called dehydration. Recognize the nutrient and explain its function in our body. [__/2]

_____

_____

Q.6.a A steel saucepan has a wooden handle.



i. Why would it not be sensible to use a metal handle? [__/1]

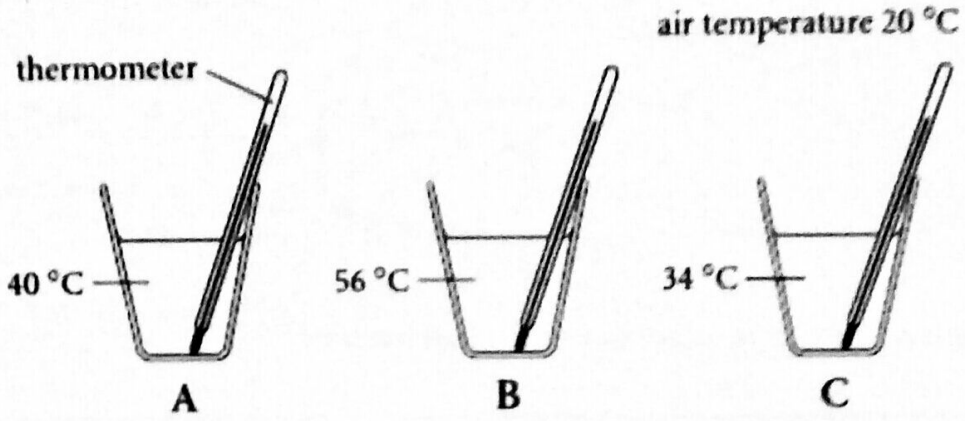
ii. What property of wood makes it a good choice for the handle? [__/1]

iii. Suggest another material that could be used to make the handle. [__/1]

iv. Why is steel is used to make the body of the sauce pan? [__/1]

v. Suggest another metal that can be used and why? [__/2]

b. The diagram below shows cups of hot drinks at different temperatures.



i. Which one will lose heat fastest and why? [__/2]

_____

_____

ii. Describe the method of heat transfer in the above example. [__/2]

_____

_____

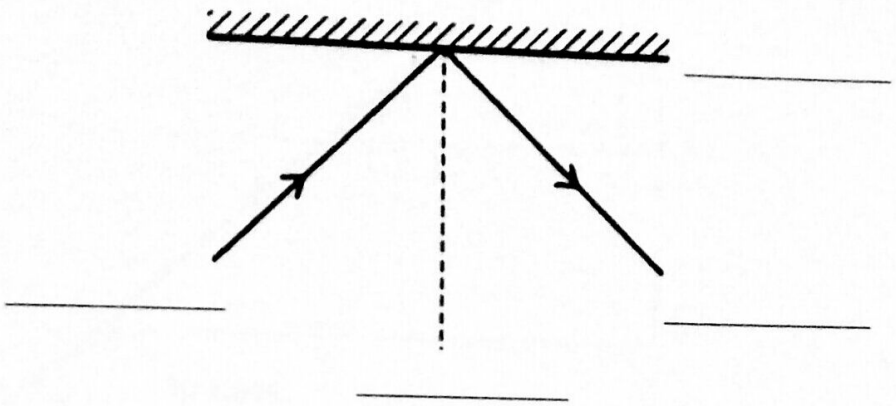
iii. What are the two other methods of heat transfer besides the one shown in the example? [__/2]

_____

_____

Q.7 **Label the diagram below using these words.** [__/2]

mirror normal incident ray reflected ray



a. What kind of reflection is produced when light strikes [__/2]

i. Uneven or rough surface

_____

ii. A shiny and smooth surface?

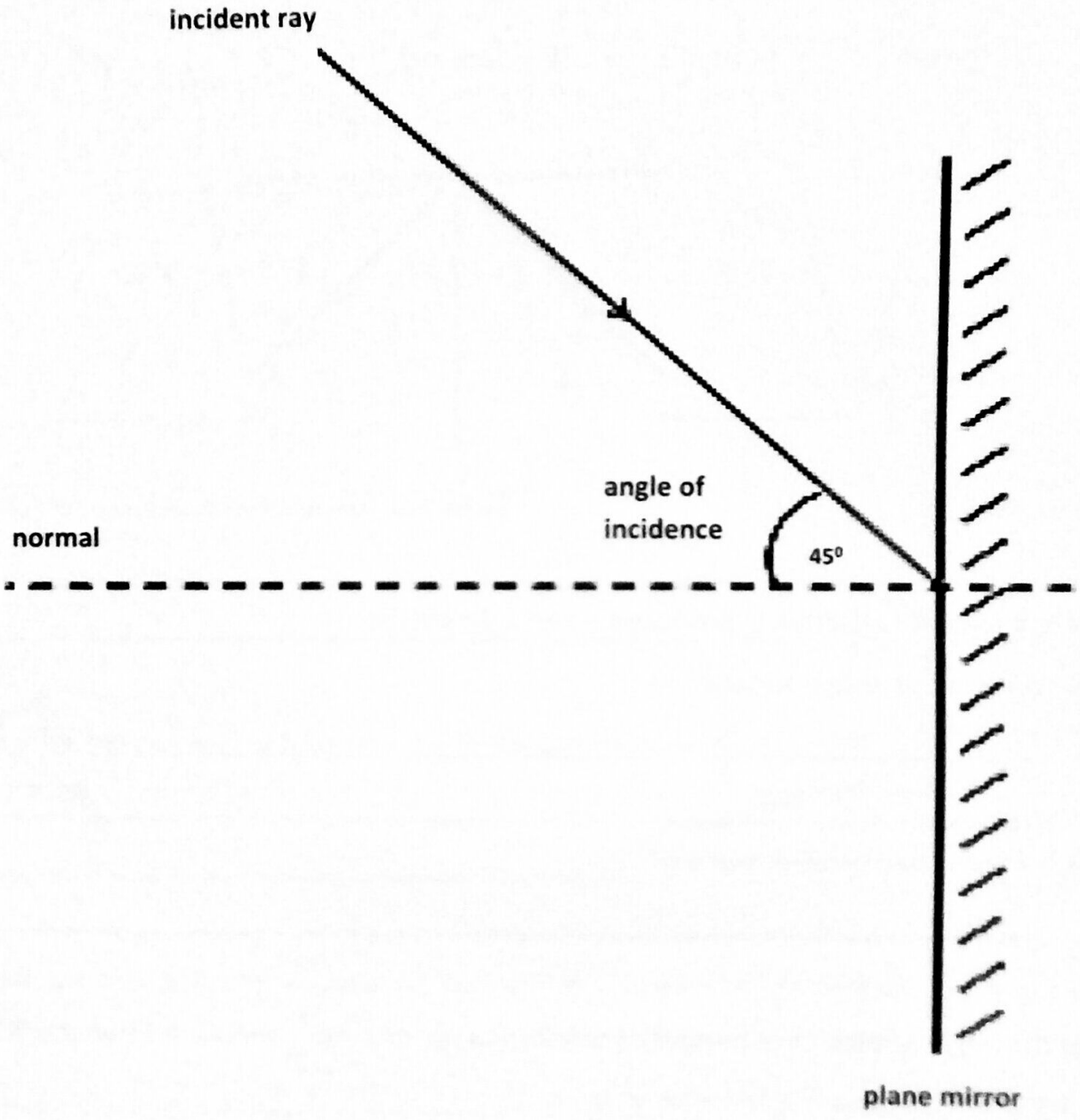
_____

b. If the angle of incidence between the incident ray and the normal is 48^0 what will be the angle of reflection. Explain your answer. [__/2]

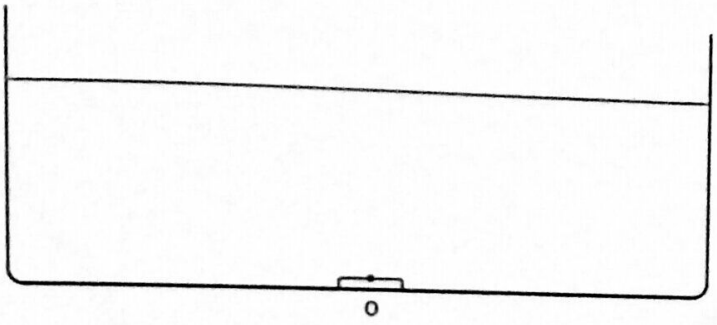
_____

_____

Q.8.a Draw the reflected ray of light and label the angle of reflection in the given figure. [__/1]



b. **Draw the light rays from a coin at point O to the eyes of the observer.** [__/1]



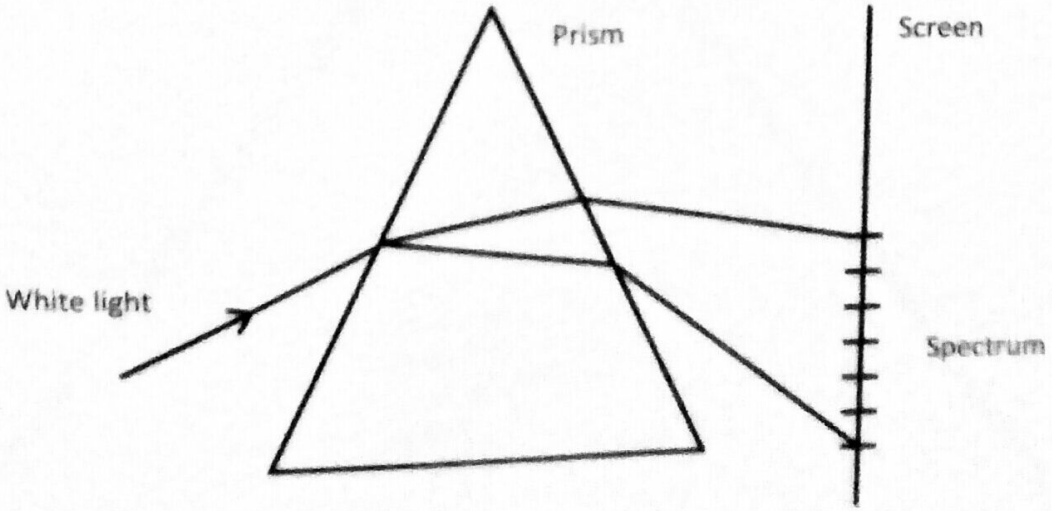
i. Draw the apparent depth of coin in the beaker of water. [__/1]

ii. What will happen if the light is falling on the glass slab at right angle? [__/1]

_____

_____

c. Write the colour of the most refracted and the colour of the least refracted light on the diagram below. [__/2]



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_____