N 644

Seat No. | | | | | | | |

2019 III 18 1100 – N 644 – SCIENCE AND TECHNOLOGY (72) – PAPER II (E)

(NEW COURSE)

Time : 2 Hours (Pages 9) Max. Marks : 40

Note :— (*i*) *All* questions are compulsory.

(*ii*) Draw scientifically correct labelled diagrams wherever necessary.

(*iii*) Start writing each main question on new page.

(*iv*) Figures to the right indicate full marks.

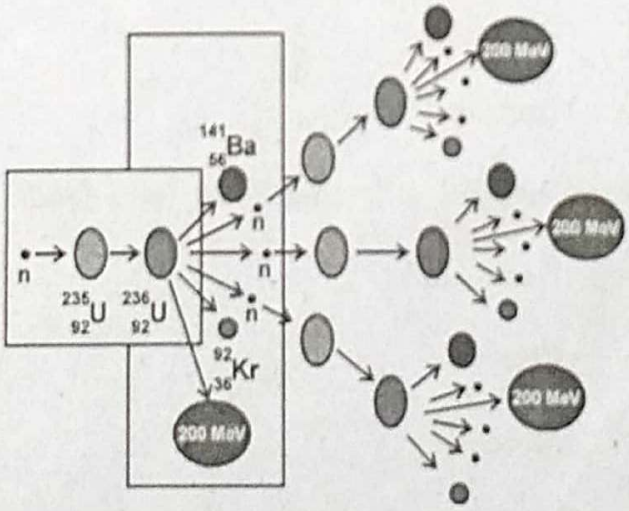
(*v*) For each MCQ (i.e. Q. No. 1-B) evaluation would be done for first attempt only.

(*vi*) For each MCQ correct answer must be written along with its alphabet.

Eg. : (*i*) (*a*)....., (*ii*) (*b*)....., (*iii*) (*c*)..... .

1. (A) Solve the following questions : 5

(*i*) Identify the process shown in figure and name it. 1



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(*ii*) Pranav and Pritee are twins in your class. They belong to ..... twins type. 1

(*iii*) There is a oil layer on the water surface of river in your area. What will you do ? 1

(*iv*) Fill in the boxes with the help of the given clue : 1

Continuous consumption of alcohol and tobacco material .....

A							O	

(*v*) Find out the correlation : 1

White revolution : Increase in dairy production :: Green revolution : ..... .

(B) Choose the *correct* alternative and rewrite the statements : 5

(*i*) Somatic and stem cells undergo ..... type of division.

(*a*) meiosis

(*b*) mitosis

(*c*) budding

(*d*) cloning

(*ii*) Which of the following is a man-made disaster ?

(*a*) Earthquake

(*b*) Flood

(*c*) Meteoric

(*d*) Leakage of toxic gases

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(*iii*) In a food chain autotrophic plants are present at the ..... level.

(*a*) Tertiary nutrition

(*b*) Secondary nutrition

(*c*) Producer

(*d*) Apex

(*iv*) ..... is a cold blooded animal.

(*a*) Bat

(*b*) Snake

(*c*) Rabbit

(*d*) Elephant

(*v*) ..... is a connecting link between annelida and arthropoda.

(*a*) Duck-billed platypus

(*b*) Peripatus

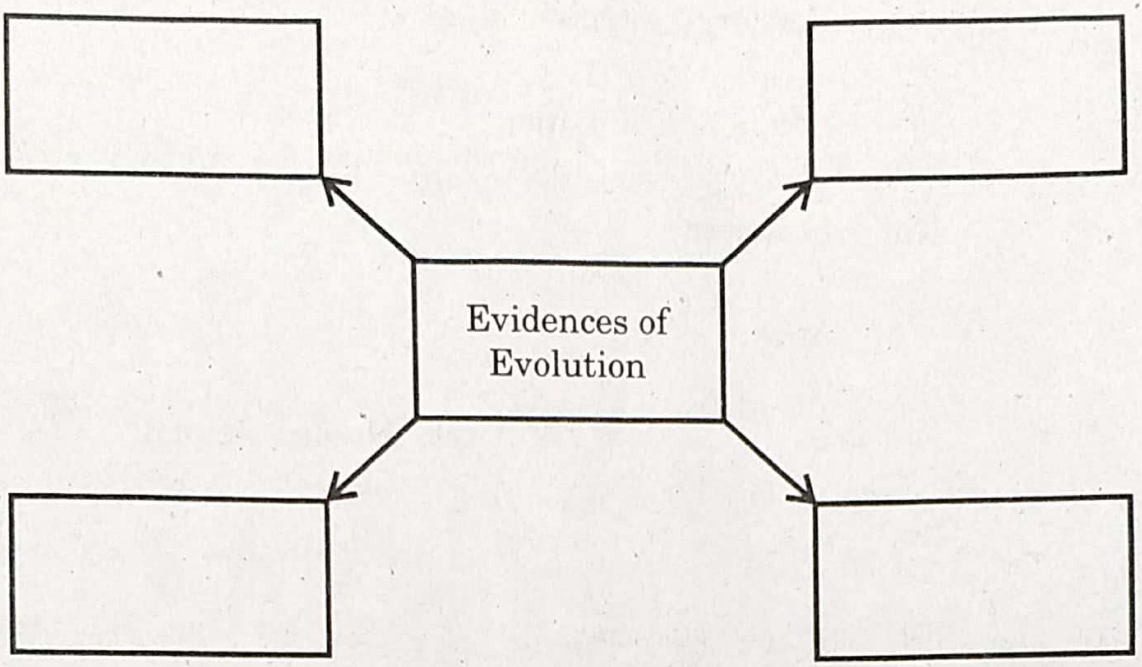
(*c*) Lungfish

(*d*) Whale

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2. Solve any *five* of the following questions : 10

(*i*) Complete the following chart :



(*ii*) Draw a neat diagram of the structure of chromosome and label the parts :

(*a*) Centromere

(*b*) *p*-arm.

(*iii*) What are the advantages of hydroelectric power generation ?

(*iv*) State any *four* benefits of animal classification.

(*v*) State any *four* objectives of disaster management.

(*vi*) Give scientific reason :

Microbial enzymes are used instead of chemical catalyst in a chemical industry.

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(*vii*) Read the following extract and answer the questions that follow :

A liberal view behind the concept of organ and body donation is that after death our body should be useful to other needful persons so that their miserable life would become comfortable. Awareness about these concepts is increasing in our country and people are voluntarily donating their bodies.

Life of many people can be saved by organ and body donation. Blinds can regain their vision. Life of many people can be rendered comfortable by donation of organs like liver, kidneys, heart, heart valves, skin etc. Similarly, body can be made available for research in medical studies. Many government and social organizations are working towards increasing the awareness about body donation.

(*a*) What is the liberal view behind the organ and body donation ?

(*b*) Name any *four* organs that can be donated.

3. Solve the following questions (any *five*) : 15

(*i*) Answer the following questions :

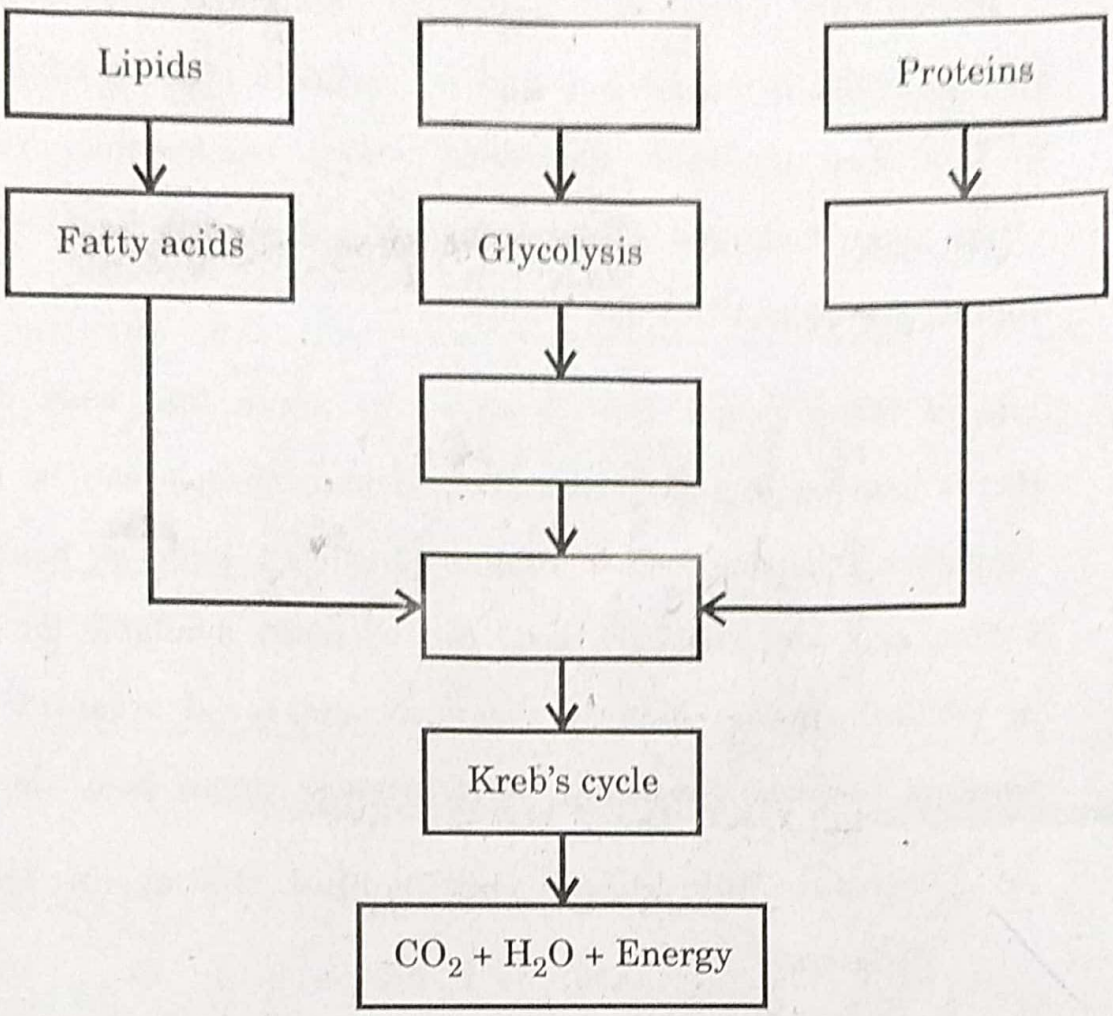
(*a*) What do you mean by central dogma ?

(*b*) What is transcription ?

(*c*) What is meant by triplet codon ?

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(*ii*) Complete the following chart and state which process of energy production it represents :



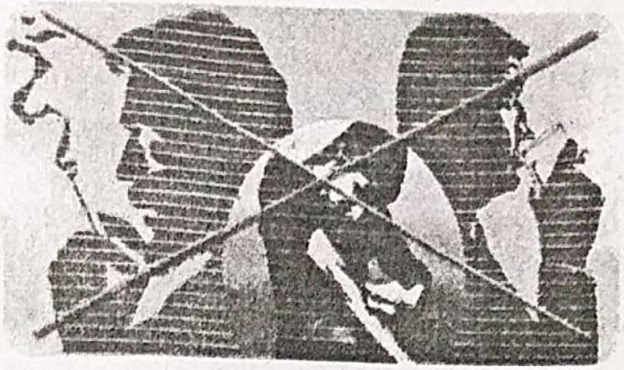
(*iii*) (*a*) Playing games on mobile while eating is right or wrong. Justify.



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(*b*) What do you conclude from the following picture ?

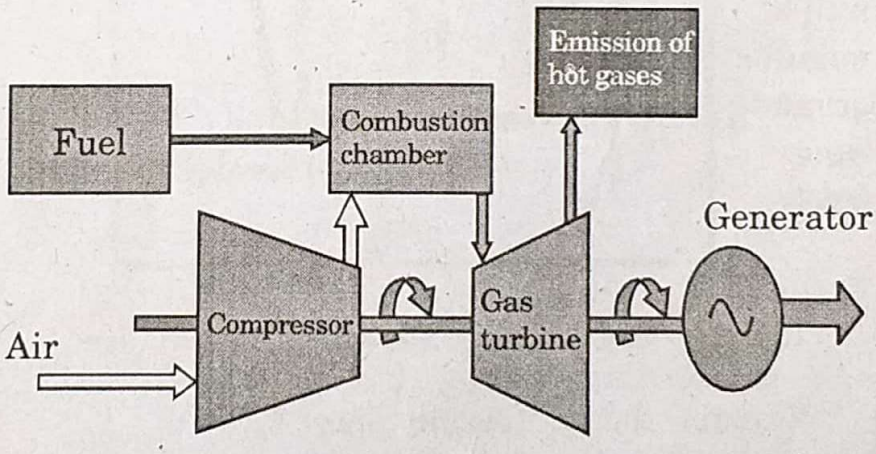




(*c*) Observe the following picture and state what can be the outcome ?



(*iv*) Observe the diagram and answer the questions :



(*a*) Which energy is generated from the power plant ?

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(*b*) State its source.

(*c*) Which is more ecofriendly — Power generation from coal or Power generation from natural gas ? Why ?

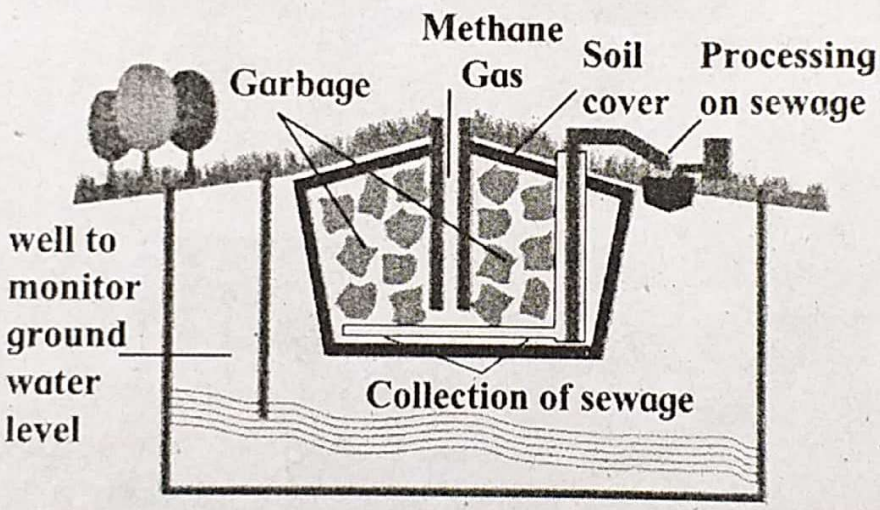
(*v*) Identify my class/phylum and give *one* example of it :

(*a*) I have mammary glands and exoskeleton in the form of hair.

(*b*) We form the highest number of animals on the planet. We have bilateral symmetry and our exoskeleton is in the form of chitin.

(*c*) I live in your small intestine, my body is long and thread like and pseudocoelomate.

(*vi*) Observe the following figure and answer the questions :



(*a*) Identify the process shown in the figure.

(*b*) Explain the process in short.

(*vii*) (*a*) What is biotechnology ?

(*b*) Explain any *two* commercial applications of it.

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4. Solve any *one* of the following questions : **5**

(*i*) (*a*) Identify the following symbols and state their significance : 2



(*i*)



(*ii*)

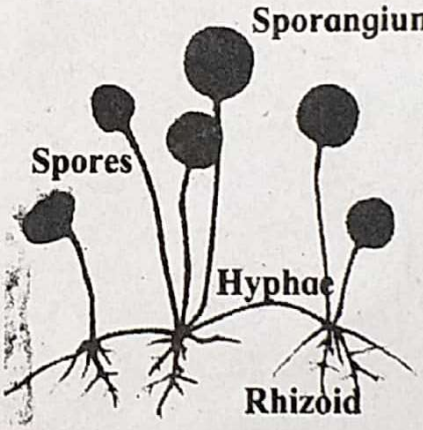
(*b*) How can biodiversity be conserved ? 3

(*ii*) Answer the following questions :

(*a*) "Gender of child is determined by the male partner of couple." Draw a diagram explaining the above statement. 2

(*b*) Prepare a slogan for campaign against female foeticide. 1

(*c*) In the following figure, explain how new fungal colonies of mucor are formed : 1



(*d*) Identify and state the type of reproduction represented in the above figure. 1

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