

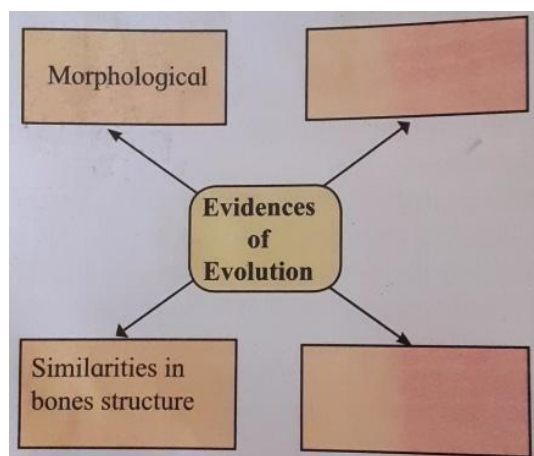
Q. 2 A) Give scientific reasons.

- 1) Some of the characters of parents are seen in their offspring.
- 2) Peripatus is said to be the connecting link between annelida and arthropoda.
- 3) Vertebrates have slowly originated from invertebrates.
- 4) Duckbill platypus shows relationship with mammals.
- 5) We feel tired after exercising.
- 6) Oxygen is necessary for complete oxidation of glucose.
- 7) Fibres are one of the important nutrients.
- 8) Cell division is one of the very important properties of cells and living organisms.
- 9) Some higher plants, animals and aerobic microorganisms also sometimes perform anaerobic respiration.
- 10) Kreb's cycle is also called a citric acid cycle.
- 11) Flower is a structural unit of sexual reproduction in plants.
- 12) Older women are more likely to give birth to children with some abnormalities .
- 13) Fertilisation in plants is called double fertilisation.
- 14) There is a menopause when women are 45 – 50 years old.
- 15) The new individual produced by sexual reproduction always has the recombined genes of both the parents.
- 16) Pollution is a very broad concept.
- 17) The role of human beings in environmental balance is important.
- 18) The various food chains in the ecosystem maintain the environmental balance.
- 19) Without the existence of nature, human existence is almost impossible.
- 20) The schematic of a turbine also varies according to the type of power generation.
- 21) It is essential to control the process of nuclear fission in a nuclear power plant.
- 22) It is possible to produce energy from mW to MW using solar photovoltaic cells.

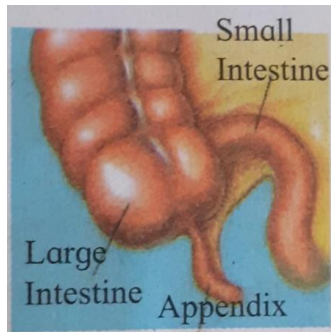
- 23) Hydropower, solar energy and wind energy are called renewable energy.
- 24) Energy saving is a need of the hour.
- 25) Earthworm is said to be a farmer's friend.
- 26) Body temperature of reptiles is not stable.
- 27) Our body irritates if it comes in contact with a jellyfish.
- 28) Though tortoises live on land as well as in water, it cannot be included in class-
Amphibia.
- 29) Probiotics have got more importance in recent times.
- 30) Bread and other products made using commercial yeast are nutritious.
- 31) Microbial enzymes are eco-friendly.
- 32) A biofuel is an important tool in renewable energy sources.
- 33) The landfill pit is lined with plastic sheets.
- 34) Microorganisms are used to control the effects of sea oil spills.
- 35) Weed control plants are beneficial for agriculture.
- 36) Recently made vaccines are safe.
- 37) Concepts of body donation and organ donation have come forward.
- 38) Stem cells are extremely important in regenerative therapies.
- 39) Sewage should not be discharged into the river without treatment.
- 40) Genetically modified crops are beneficial to farmers.
- 41) Some of the organs in the human body are precious.
- 42) Nowadays school children have to deal with mental stress.
- 43) The importance of outdoor sports is incomparable.
- 44) Alcoholism is always bad.

Q.2.B) Solve the following subquestions

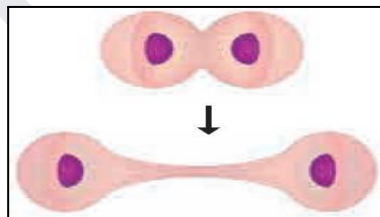
- 1) Write a short note : Embryological evidences
- 2) Complete the flowchart.



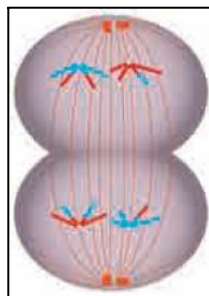
- 3) Write advantages of Hereditary.
- 4) Enlist the evidences of evolution.
- 5) What is inheritance of acquired characters?
- 6) What is species & speciation?
- 7) Which genetic disorders are caused by mutation?
- 8) Define the evidence of evolution shown in the figure.



- 9) What are the main energy sources of living organisms?
- 10) What is cellular respiration? State names of its two methods.
- 11) Which molecules are formed during the glycolysis process?
- 12) Which molecules are formed after whole oxidation of Acetyl co-enzyme A?
- 13) Which amino acids are obtained after digestion of proteins?
- 14) Explain the use of fatty acids.
- 15) What are vitamins? State it's two groups & six types.
- 16) Explain the advantages of cell division to your friend.
- 17) Explain the following figure.



- 18) State the characteristics of step of cell division shown in figure.



- 19) Identify the type of reproduction from the following explanation & draw a neat & labelled diagram.

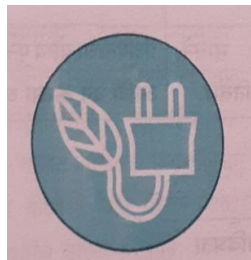
A) The body of the parent organism breaks up into many fragments & each fragment starts to live as an independent new organism.

B) Give two examples of living organisms which follow this type of reproduction method.

- 20) Distinguish between self-pollination & cross-pollination.
- 21) Distinguish between Sexual & asexual reproduction.
- 22) Explain the process of fertilisation.
- 23) State names of organs in male reproductive system.
- 24) State names of organs in the female reproductive system.
- 25) Explain asexual reproduction in plants.
- 26) What would be the effect if meiosis did not occur in nature?
- 27) What is reproduction? Explain the importance of the reproduction process.
- 28) Explain two main process in sexual reproduction
- 29) What are the meanings of symbols A, B, C shown in the figure with respect to the environment?



A

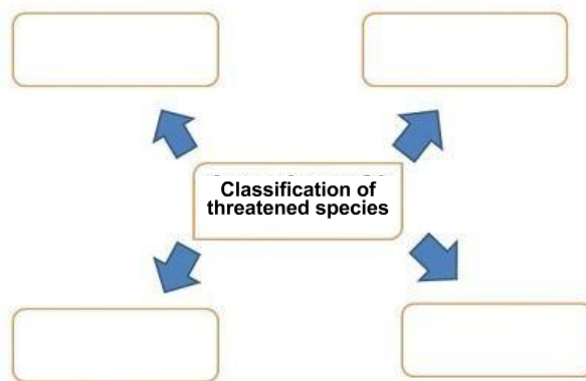


B



C

- 30) What is environmental pollution? Which are types of pollution?
- 31) Which are two components affecting the environment? State two examples of each.
- 32) Complete following concept chart.

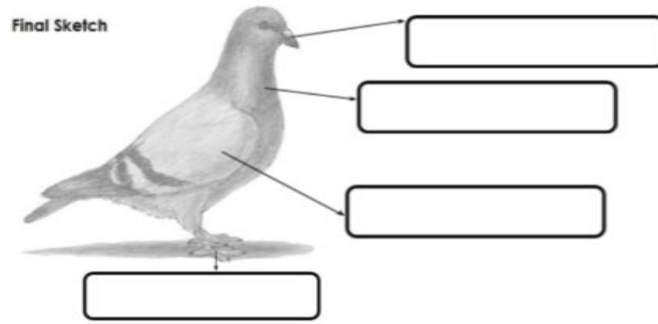


33) Complete food chain.

Grass ----->.....> Frog ----->.....> Eagle

34) What is the moral of the story of Jadav Molai Payeng?

- 35) What are vulnerable species? Give two examples.
 36) Label the figure.



- 37) Complete the following chart.

	Type	Example
A)	Pieces	
B)	Amphibians	
C)	Mammalians	
D)	Reptilians	

- 38) Distinguish between Class Aves & Class Mammalians
 39) Distinguish between Class Pisces & Class Amphibians
 40) Distinguish between Butterfly & Bat
 41) Complete the following activity.
 a) Who am I, if I respire with gills?
 b) Identify me, if I am warm blooded?
 c) Who am I, if I have mammary glands?
 42) Answer the following.
 a) Name the phylum in which earthworm & starfish belong to.
 b) How does locomotion occur in earthworm & starfish?
 c) To which phylum I belong to, if I have a sting to prick?
 43) We are Crocodiles & Alligators.
 a) To which phylum we belong to?
 b) In which three sections our body is divided?
 c) We can't breathe in water, why?
 44) Answer the following.
 a) In which phylum, the animals have setae or parapodia for locomotion?
 b) Which phylum has the characteristic phenomenon 'jointed appendages'?
 c) In which class, animals have soft legs?
 45) Answer the following

- a) According to the course of animal evolution, which phylum is at the lowest level?
- b) Through which hole the animals in this phylum give out water from their body?
- c) Through which hole the animals in this phylum take water in their body?

46) Answer the following

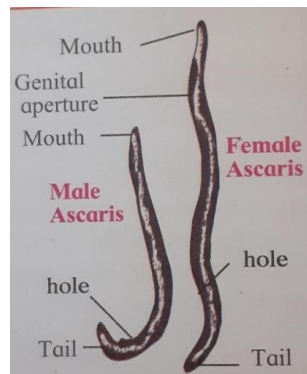
- a) To which phylum we belong to, if we are marine aquatic animals?
- b) What is the use of cnidoblast for us?
- c) How do we destroy the harmful insects?

47) Give advantages of the classification of animals.

48) Draw a neat & labelled diagram.

- a) Hydra b) Liver Fluke c) Herdmania d) Jellyfish

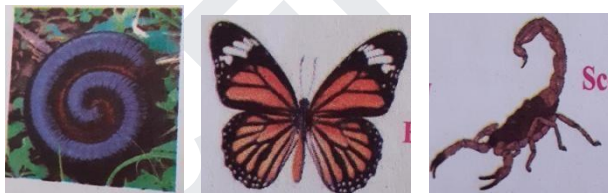
49) Observe the given figure & answer the following.



a) Name the phylum.

b) Give the characteristics of this animal.

50) Observe the following figure & answer the following.



a) Due to which common characteristic the animals shown in the figure belong to the same phylum?

b) The exoskeleton of these animals is made up of which chemical?

c) Give another two examples of this phylum.

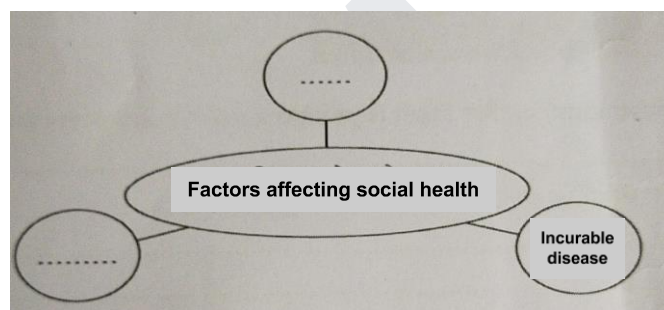
51) Answer the questions based on the given paragraph.

Lady Bug Beetle

Lady bug beetles are friends of farmers as they destroy harmful insects. It is a predatory insect, which lives on biting worms, white fly worms, white moths, flower insects and

bread worms. It acts as a natural insecticide for crops like maize, *jawar*, cotton, sugarcane, cereals, vegetables, fruit trees, etc. These are attractive red or yellow or grey coloured insects. Many species of this insect are found in our farms. The lifecycle of this insect follows eggs, larvae, cocoon & moth stages. The eggs are found in flutter. The larvae are grey in colour. Larvae & adults both live on sucking insects.

- a) How does the lady bug beetle live?
 - b) Of which colour the lady bug beetles are?
 - c) State the stages of its lifecycle.
 - d) How does it help the farmers?
- 52) What are stem cells? State its two types.
 - 53) Why some of the organs in the human body are most valuable?
 - 54) What is Biotechnology? Give two examples of biotechnology.
 - 55) What is the importance of stem cells in medical science?
 - 56) Explain vaccination.
 - 57) Concept the following concept chart.



- 58) Answer the following.
 - a) State the importance of good communication with others.
 - b) What will you do if your friend has developed the hobby of snapping selfies?
 - c) What will you do if the child of your neighbour is addicted to tobacco chewing?
- 59) State three aspects of disaster which are important in view of common citizens.
- 60) Write the effects of political disaster.
- 61) Define disaster.
- 62) Write a short note on **Phase of emergency**.
- 63) What are the seven main aspects of a disaster management cycle?
- 64) Give two examples of Mock Drill.
- 65) Write four objectives of Mock Drill.
- 66) How would we rescue the citizens whose clothes had caught fire?
- 67) Enlist the necessary materials in the First-Aid kit.

- 68) Give an example of disaster due to unawareness.
- 69) Give two examples of Post-disaster management.
- 70) Give one example each of a huge disaster & small disaster.
- 71) Give one example each of long duration disaster & short duration disaster.
- 72) In account of disaster, which important facts are to be considered?
- 73) What is the transitional phase of disaster?
- 74) Which disastrous effects occur during earthquakes?
- 75) What is a catastrophic disaster? Give an example.
- 76) Mention the long term effects of disaster on society.
- 77) Which are very dangerous environmental events?
- 78) Which are natural disasters?
- 79) Explain the symbols.



- 80) In 2020, the whole world is facing a disaster.
- Which type of disaster is it?
 - Write the name of the virus causing this disaster.
 - Which four rules did you follow to survive from this disaster?
 - Write any four effects of this disaster you observed.
- 81) Observe the given photographs & answer the questions.



- Name the disaster shown in pictures.
 - Write any two effects of this disaster.
- 82) Observe the given pictures & answer the questions.



A

B

- a) Identify the disasters shown in both pictures.
- b) Write their effects.
- c) Which primary precautions will you take in both situations?

Q. 2 B)II. Write short notes.

- | | | |
|---|-------------------------------|--|
| 1) Big bang theory | 15) Green energy | 31) White Revolution |
| 2) Energy currency | 16) Connection of solar cells | 32) Blue Revolution |
| 3) Co-enzymes | 17) Collar cells | 33) Pearl culture |
| 4) Homologous chromosomes | 18) Octopus | 34) Biotechnology |
| 5) Fragmentation | 19) Star Fish | 35) Addiction |
| 6) Pollination | 20) Mammals | 36) Various ways for stress management |
| 7) Population explosion | 21) Probiotics | 37) Budding in Hydra |
| 8) Radioactive pollution | 22) Yoghurt | 38) In-vitro fertilisation (IVF) |
| 9) Sacred Grooves | 23) Types of cheese | 39) Reasons of infertility |
| 10) Chipko Movement | 24) Microbial Enzymes | 40) Cyber crimes |
| 11) Lake Tapping | 25) Bio-fuels | 41) National Disaster Response Force |
| 12) Radio carbon | 26) Land filling sites | |
| 13) Nuclear Power Plant | 27) Microbial Inoculants | |
| 14) Problems due to nuclear power plant | 28) Bio-insecticides | |
| | 29) Organ & Body Donation | |
| | 30) Green Revolution | |

2 B) III. Distinguish between following.

- 1) Translation & Transcription
- 2) Binary fission & Multiple fission
- 3) Meiosis & Mitosis
- 4) Self pollination and cross pollination
- 5) Aerobic & anaerobic respiration
- 6) Biotic and abiotic factors of an ecosystem
- 7) Natural and man-made factors affecting the environment
- 8) Air pollution and water pollution
- 9) Conventional energy sources & Non-conventional energy sources
- 10) Thermal Power Plant & Solar thermal power plant
- 11) Electricity generation from solar cells & solar thermal power generation

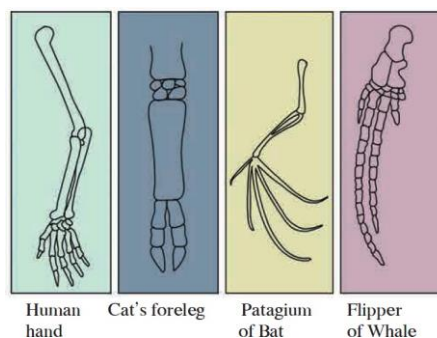
- 12) Series and parallel connection of solar cells
- 13) Diploblastic and triploblastic germ layers
- 14) Local cow and Jersey cow

Q.3 Answer the following questions.

- 1) What is heredity ? explain the mechanism of hereditary changes.
- 2) What is carbon dating? Where is it used?
- 3) What are objections raised against Darwin's theory?
- 4) Observe the given images and answer the following questions.



- a) Which evolutionary evidence does it indicate?
 - b) What does it prove?
 - c) State another example of evolutionary evidence.
- 5) Define vestigial organs. Write names of some vestigial organs in the human body and write the names of those animals in whom the same organs are functioning.
 - 6) Define fossils. Explain the importance of fossils as a proof of evolution with an example.
 - 7) Explain Lamarck's Principle.
 - 8) Which evidence of evolution is shown in the given picture? Explain the importance of this evidence.



- 9) Explain in brief Darwin's theory of natural selection.
- 10) Complete the following paragraph with the words given in brackets.
 (Cro-Magnon, brain, fire, agriculture, Cultural , homo-sapien, wise man)