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Question Bank

Standard:- 10th

Subject :- Science and Technology Part II

March 2021

सूचना

१. फक्त विद्यार्थ्यांना प्रश्नप्रकारांचा सराव करून देण्यासाठीच

२. सदर प्रश्नसंचातील प्रश्न बोर्डाच्या प्रश्नपत्रिकेत येतीलच असे नाही याची नोंद घ्यावी.

Question Bank

Science and Technology Part 2

Q 1 A) Choose the correct option.

1) Transfer of information from molecules of DNA to mRNA is called _____ process.
   A. translocation B. translation C. transcription. D. differentiation
2) Similarities in initial stages indicate the _____ evidence.
   A. Connecting links B. Anatomical C. Embryological. D. Palaeontological
3) _____ is a vestigial organ in human beings.
   A. Wisdom teeth B. Ear muscles C. Body hairs D. All the above
4) Protein located in bones is _____.
   A. myosin B. melanin C. haemoglobin D. ossein
5) Which of the following vitamins is necessary for synthesis of NADH2 ?
   A. Vitamin B3 B. Vitamin C C. Vitamin B2 D. Vitamin K
6) _____ cells divide by mitosis.
   A. Somatic. B. Gametes C. Stem. D. Both A and C
7) The first step of karyokinesis is _____.
   A. anaphase B. telophase C. metaphase. D. prophase.
8) _____ is not a part of mitosis.
   A. Anaphase B. Diplatin C. Prophase D. Cytokinesis
9) We get _____ energy from lipids.
   A. 4 cal / gm. B. 9 cal/ gm C. 9 kcal/ gm. D. 4 kcal/gm.
10) In Humans there are ___ pairs of chromosomes.
   A. 22. B. 23 C. 44 D. 46
11) Which of the following is not a type of asexual reproduction in multicellular organisms?
   A. fragmentation B. regeneration C. Budding D. binary fission
12) Find the odd one out:
   A. Stigma B. Anther C. Style D. Ovary
13) At the time of birth , there are _____oocytes in the ovary of a female foetus.
   A. 1 to 2 million B. 2 to 3 million C. 2 to 4 million D. none of these
14) _____ modern remedial technique is used if there is a problem in implantation of embryo in the uterus.
   A. Surrogacy. B. Sperm bank C. In vitro fertilization. D. none of these.
15) Implantation of the embryo occurs in _____.
   A. uterus. B. overy C. oviduct. D. vagina

16) In humans,sperm production occurs in the organ _____.

A. testes. B. scrotum C. prostate gland. D. ovaries.

17) Pregnant mother supplies nourishment to her foetus through _____.

A. uterus. B. placenta C. ovary D. oviduct.

18) _____ twins are formed from a single embryo.

A. Dizygotic B. Monozygotic C. Multiple zygote. D. Zygote

19) Pollen grains are formed by _____ division in locules of anthers.

A. meiosis B. mitosis C. amitosis. D binary.

20) Asexual reproduction occurs by _____ cell division.

A. mitotic B. meiotic C. fertilization. D. double fertilization.

21) This method of asexual reproduction is seen in paramecium.

A. transverse binary fission. B. longitudinal binary fission

C. simple binary fission. D. regeneration

22) In meiosis, the number of chromosomes becomes _____.

A. multiple times. B. triple C. half. D.double

23) Generally, every month, _____ ovum is released in the abdominal cavity alternately from each ovary.

A. 1 B. 2 C. 3 D. 4

24) _____ is present in unisexual flower.

A. Both androecium and gynoecium B. Only androccium

C. Only gynoecium D. Androecium or gynoecium

25) _____ is a chemical factor of abiotic components.

A. Air. B.water. C.Nutrients D.sunlight

26) _____ is an organic compound of abiotic components.

A. Proteins. B. Iron. C. Sodium. D. Oxygen

27) _____ is a rare species.

A. Lesser florican B. Tiger C. Giant squirrel. D. Musk deer

28) _____ is an indeterminate species.

A. Red panda. B. Lion C. Lion tailed monkey D. Giant squirrel

29) Occurrence of diversity among the organisms of the same species is called _____ diversity.

A.species. B.genetic C.ecosystem. D.animal

30) In modern civilization,-------- has become a primary need.

A.food. B.cloth C.shelter. D.energy

31) Most electric power plants are based on the principle of _____.

A.electro induction. B. magnetic induction.

C. electro- magnetic induction D. electromagnet.

32) Principle of Electromagnetic induction was invented by the scientist _____.

A. Ohm. B. Michael Faraday C. Joule. D. Newton

33) In the power plant based on nuclear energy _____ is used to rotate the generator.

A. Steam turbine. B.air turbine C.water turbine D.none of these.

34) When a neutron is bombarded on an atom of uranium _____ neutrons generated in this process.

A. 1. B. 2. C. 3. D. 4.

35) Kinetic energy in flowing water drives _____ to generate electricity.

A. watermill. B. windmill C. turbines. D. generator.

36) Wind turbines with capacity are commercially available.

A. 1 KW to 7 MW. B. 1 KW to 7 KW C. 1 KW to 7000 W D. 1 W to 7 MW

37) Solar photovoltaic cells convert the solar radiation energy directly into _____ energy.

A. electrical B. potential C. kinetic. D. heat.

38) A silicon solar cell of dimension 1 sq.cm. generates current of about _____.

A. 50 mA B. 30 mA C. 50 A D. 30 A

39) A silicon solar cell of dimension 1 sq.cm. generates _____ potential difference .

A. 0.1 V. B.0.5 V. C. 0.1 mV. D. 0.5 mV.

40) In nuclear power plants, neutrons are bombarded on atoms of _____.

A. uranium-236. B. barium C. krypton. D. premium-235.

41) My body is soft and slimy,hence I am referred as _____ .

A. mollusca B. echinodermata C. annelida D. arthropoda

42) Which of the following is a hermaphrodite animal?

A. doliolum B. scorpion C. centipede D. cockroach

43) Which of the following animals can regenerate it's broken body parts ?

A. Frog B. Starfish C. Sparrow D. Pigeon

44) Which of the following is a warm blooded (homeothers) animal?

A. Bat B. Tortoise C. Wall lizard D. Crocodile

45) My body is _____ shaped to minimize water resistance.

A. pointed B. spindle C. cartilaginous D. flat

46) _____ animal is called a friend of farmers.

A. Rabbit B. Cat C. Leech D. Earthworm

47) Which of the following animals has a hard calcareous shell?

A. nereis B. shark C. bivalve. D. herdmania

48) _____ acid is used in Production of vitamins .

A. Citric B. Gluconic C. Lactic D. Itaconic

49) Nowadays ,--------- are used for treatment of diarrhoea and treatment of poultry also.

A. yoghurt B. probiotics C.vinegar D. cheese

50) Yoghurt is a milk product produced with the help of ---------.

A. lactobacilli B. azotobacter C. corynebacterium. D. streptococcus.

51) ------ is a powerful antibiotic against treatment of tuberculosis.

A. Penicillin. B. Rifamycin C. Streptomycin. D. Bacitracin.

52) ------- is used in the commercial bakery industry.

A. Compressed yeast. B. Algae C. Bacteria D. Microbes

53) ------- is a substance obtained by microbial processing that roles as artificial sweetener.

A. Nycin B. Lysine C. Xanthenes D. Xylitol

54) At the earliest stage of development, the organism is in the form of a mass of a cell, which are almost alike, those cells are called _____.

A. Stem cells B.RBC C. WBC D. None of these

55) Which of the following is an important requirement in organ transplantation?

A. Blood group of recipient B. Diseases of donor C. Age of donor D. all above.

56) Availability of _____ is an important requirement in organ transplantation.

A. doctor B. clinic D. donor D. ambulance.

57) The disease related with the synthesis of insulin is _____.

A. cancer B. arthritis C. heart disease D. diabetes.

58) Transgenic raw potatoes generate the immunity against _____ disease.

A. plague B. cholera C. leprosy D. TB

59) _____ have valuable contributions in the green revolution in the USA.

A. Dr. Norman Borlaug. B. Dr. Swaminathan.

C. Dr. Wargis Currian. D. Dr. Hargovind Khurana.

60) Methods like artificial insemination and embryo transplant are mainly used for _____.

A. animal husbandry. B. wild life C. pet animals. D. infertile women.

61) _____ is the revolutionary event in biotechnology after cloning.

A. Human genome project B. DNA discovery

C. Stem cell research D. All the above

62) Biotechnology integrated the toxin which is fatal for _____, was produced in leaves and bolls of cotton.

A. bollworm B. caterpillar C. sparrow D. frog

63) Cell _____ starts from 14th day of conception.

A. growth. B. differentiation C. development D. division

64) The Government of India has encouraged _____ for improving the productivity by launching the program NKM-16.

A. aquaculture. B. poultry C. piggery D. apiculture

65) _____ are present in the umbilical cord by which the foetus is joined to the uterus of the mother.

A. stem cells B. muscle cells C. neuron cells D. bone cells

66) For the purpose of preservation stem cell samples are kept in -------.

A. liquid oxygen B. hydrogen C. liquid chlorine D. liquid nitrogen

67) Phenylketonuria arises due to genetic changes in _____ cells.

A. liver B. intestine C. pancreas D. heart

68) _____ organism is used as biofertilizers.

A. Thiobacillus B. Nostoc C. Saccharomyces D. Ischeria

69) Alcohol consumption mainly affects the _____ system.

A. nervous B. excretory C. respiratory D. digestive

70) Laughter club is a remedy to drive away _____.

A. addictions B. stress C. lethargy D. epidemics

71) _____ helps to improve concentration in the studies.

A. hobbies B. sports C. meditation. D. eatables

72) _____influence is stronger in case of adolescents.

A. Teachers. B. Fathers C. Relatives. D. Peer group

73) Our _____ has been changed to some extent in the age of technology.

A. lifestyle B. habit C. circumstance D. passion

74) Hobbies like _____ pet animals help to create a positive mindset.

A. feeding B. transfering C. rearing D. looking

75) Continuous consumption of _____ substances causes carcinogenic especially on the mouth and lung.

A. hot B. sweet C. spicy D. tobacco like

76) Alcoholic person lacks the _____ thinking.

A. straight B. rational C universal D. spiritual

77) _____ may arise due to excessive use of mobile phones.

A. Headache B. Problem in vision C. Joint pains D. All above

78) Liquor is produced from _____.

A. alcohol B. glucose C. acid D. salt

79) Salaam Mumbai Foundation runs programs for _____ in a slum area.

A. education B. tobacco C. cyber crimes D. domestic violence

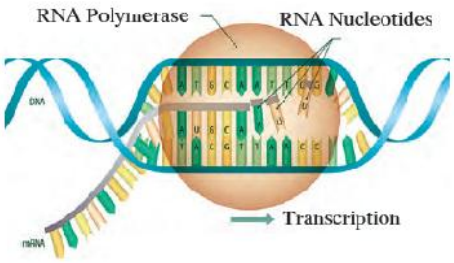
Q1 B) I. Find an odd one out.

1) Transcription, Translation, Translocation, Mutation
2) Leaf venation, Size of seeds, Leaf petiole, Leaf shape
3) Position of eyes, structure of bones of hand, structure of nostrils, structure of ear pinna
4) Human hand, flipper of whale, cat's foreleg, wings of birds
5) Carrot, Raddish, Potato, Sweet potato
6) Budding, Regeneration, Binary fission, Fragmentation
7) Vas efferens, Prostate gland, Epididymis, Vas deferens
8) Prostate glands, Bartholin glands, Cowper's gland, Seminal vesicle
9) Stigma, Style, Pollens, Ovary
10) Hibiscus, Papaya, Sun-flower, Rose, Mango
11) Conservation, Pollution, Prevention, Control
12) Hydroelectric energy, Solar energy, Atomic energy, Wind Energy
13) Silicon, Uranium, Petrol, Coal
14) Solar Photovoltaic cell, Electricity generation using wind energy, Hydroelectric power plant , Solar thermal power plant
15) Water, Wind, Natural gas, Fossil fuel
16) Edible oil, LPG, CNG, Crude oil
17) Coal, Natural gas, Plutonium, Crude oil
18) Tortoise, Crow, Lizard, Snake
19) Peacock, Parrot, Kangaroo, Duck
20) Human, Dolphin, Bat, Lizard
21) Cockroach, Butterfly, spider, honey bee
22) Star fish, Sea-urchin, Neris, Sea-cucumber
23) Tube -feet, Setae, Parapodia, Sucker
24) Penicillin, Neomycin, Isomerase, Rifamycin
25) Hydrolases, Lyases, Pepsin, Ligases
26) Bacteria, Viruses, Fungi, Plants
27) Khoa, Yoghurt, Butter, Cheese
28) *Lactobacillus, Acidophilus , Lactobacillus casei, Clostridium*

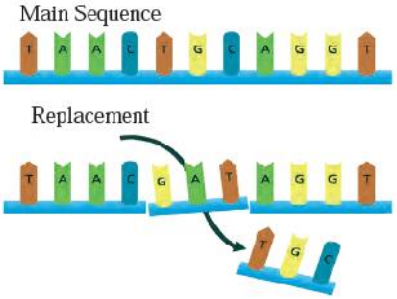
29) Frog, Earthworm, Pink bollworm, Insectivorous birds
30) DDT, Urea, Malathion, Choloropyriphos
31) Diabetes, Anemia, Leukemia, Thalassemia
32) Drying, Salting, Soaking with sugar, Cooking
33) D.D.T. Malathion, Chloropyriphos, Humus
34) Green revolution, Industrial revolution, Blue revolution, White revolution
35) Sodium, Aluminium, Phosphorus, Potassium
36) Cheese, Curd, Ice-cream, Buttermilk
37) *Pteris vitata*, Rice, Indian Mustard, Sun-flower
38) Transport facilities, Social security, Counselling, Toilets
39) Tobacco, Laughter club, Alcohol consumption, Drugs

Q.1 B) II. Name the following.

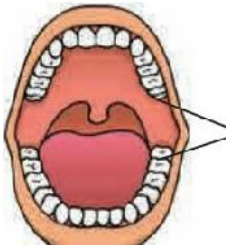
1) I am a connecting link between reptiles and mammals.Who am I ?
2) Who is the pioneer of modern genetics ?
3) Which process is shown in the following diagram ?



4) In which book Darwin had published this theory of Natural selection ?
5) Which process is shown in the diagram given below?



6) Name the parts shown in the diagram.



7) Hormones related to male reproductive system.
8) Modern technologies in reproduction.
9) Hormones secreted by the ovary of the female reproductive system.
10) The Electric Power Stations based on Thermal Energy.
11) Nuclear power plants in India
12) Major hydroelectric power plants in India
13) Forms of energy.
14) A machine/An engine required to rotate the generator.
15) Name any two natural gases.
16) Type of power generation station at Chandrapur
17) An enzyme obtained from fungi to produce vegetarian cheese.
18) Biodegradable plastic used for storing the garbage.
19) A clean (smokeless) fuel.
20) Vinegar means 4% _____
21) Microbes used along with artificial nitrogenase in organic farming.
22) Study of structure, types and organelles of cells.
23) Donation of organs such as eyes, heart after death.
24) Use of non genetic biotechnological techniques.
25) Genetically modified crops.
26) Bacterias that can be used as manure.
27) The number of different types of cells in the human body that are formed from embryonic cells.
28) Organs that can be used for organ transplantation.
29) Cells that are present in the initial development stage of zygote, that is formed by the union of male and female gametes.
30) Medicinal plant used in making medicine on cough.
31) Diseases endangering social health.
32) Factors disturbing /affecting the social health
33) Name the type of disaster.

Disaster	Type
Tsunami, volcanic eruption, earthquake	_____
cyclone, snow storms, droughts, floods	_____
Forest fire, weed, fungal disease spreading	_____
Communicable virus, bacteria, bite of poisonous animal	_____
Poisonous gases, atomic test, unplanned action, accident	_____

Question 1 B) III. Relate the following.

1) Appendix : vestigial organ : : Peripatus : -------
2) Theory of evolution : Darwin : : ----------: Lamarck
3) Changes in the nucleotide of gene : Mutation : : Changes in the place of ribosome : ----------
4) Amoeba : fission :: Hydra : ----------
5) Calyx : Sepals :: Corolla : ----------
6) Bisexual : Hibiscus :: Unisexual : ----------
7) Follicle stimulating hormone : Development of oocyte :: Luteinizing hormone : ----------
8) Accessory whorls : Calyx and corolla :: essential whorls: ----------
9) Earthquake : Natural factor : : Industrialization :: _____
10) Hydroelectric power station : Water stored in dams :: Atomic power station :_____
11) Stove : Thermal energy :: Sewing machine : _____
12) Power available from solar cells : DC :: power require to run domestic equipments : _____
13) Thermal power generation : Air pollution :: Atomic power generation : _____
14) Tapeworm: Phylum Platyhelminthes :: Intestinal worms _____
15) Mammals : Breathing through lungs :: Pisces : _____
16) Flat worms : Bisexual :: Round worms _____
17) Porifera : Asymmetrical :: Cnidaria _____
18) Arthropoda : Largest phylum :: Mollusca: _____
19) Lactobacillus :Yoghurt : : Baker's yeast: _____
20) *Saccharomyces cerevisiae* : Ethanol : : *Aspergillus oryzae* : _____
21) Lactic acid: To impart acidity : : Beta carotene: _____
22) Gaseous fuel : Coal gas : : _____: Coal
23) White revolution :Increase in Milk production : : Blue revolution : _____
24) White revolution : Milk production : : Blue revolution : _____
25) Apiculture : Honey bees : : Cultivation of medicinal plants : _____
26) Substances leading to addiction : Drugs : : Substances leading to cancer : _____
27) Control on tobacco consumption : TATA trust : : Empowering children in slum area : _____

Q 1 B) IV.Write the function of

1. Generator 2. Turbine 3. Condenser

Q 1 B) V. Write whether true or false.

1. The decaying process of c-14 occurs continuously in dead organisms only.
2. Prokaryotic cells divide through mitosis or meiosis.
3. Pollen tube reaches the embryo sac via style.
4. Sometimes twins are genetically different.
5. Pollen grains from another are transferred on the stigma.
6. Environment is a broad concept.
7. The power produced from solar cells is a DC.
8. Electrical energy is generated
9. While producing hydroelectric energy , there is no pollution.
10. In a windmill, the rotating blades drive the turbine and the turbine in turn drives the generator to generate electricity.
11. In nuclear power plants, the chain reaction can not be controlled.
12. The disposal of nuclear waste safely is a big challenge before scientists.
13. Efficiency of power generation plants based on energy of natural gas is higher than that of the power generation plant based on coal.
14. In a hydroelectric power plant, the potential energy in water stored in a dam is converted into kinetic energy.
15. In nuclear power plants turbines working on solar panels are used.
16. The potential difference available from a solar cell depends on its area.
17. Tentacles are used for capturing the prey.
18. Petromyzon is an endoparasite.
19. Locomotion of starfish takes place through pseudopodia.
20. Classification of animals makes it easy to study the vast variety of animals.
21. Shelf life of yogurt can be increased by pasteurization.
22. Vinegar is used to bring sweetness in food products.
23. Methane gas is produced by microbial oxidation of industrial waste.
24. Spinosad is a biopesticide.
25. Sulphuric acid is a source of energy for some species of bacteria like Acidophilum.
26. Microbes have the natural ability of decomposing the man made chemicals.
27. Antibiotics cannot be obtained from a variety of bacteria and fungi.
28. Non-genetic technology involves mutations in cell genes.
29. Earlier insulin was being collected from the pancreas of horses.
30. Various essential elements like N, P, K are made available to crop by earthworms and fungi.

31. We don't have any tradition of curing disease with the help of natural resources.
32. Malaria is caused due to genetic disorder taking place in liver cells.
33. Pseudomonas bacteria can separate the hydrocarbon and oil pollutants from soil and water.
34. A gene isolated from the bacterium Bacillus thuringiensis and is integrated with the genome of cotton.
35. High class of varieties of crops have been developed through the techniques of organ transplantation.
36. Genetically modified crops have low resistance for disease.
37. Vaccines produced with the help of biotechnology do not remain active for a longer duration.
38. Children who watch cartoon films may imitate the characters of those films.
39. Tobacco chewing does not cause a carcinogenic effect on mouth and lungs.
40. Stress increases due to more laughing.

Q 1 B) VI. Match the following.

1.

column A	column B
1) Morphological evidences	1) Tail-bone or wisdom teeth
2) Paleontological evidences	2) Leaf venation
	3) Fossils

2.

column A	column B
1) Polluting energy	a) smoke particles
2) Environment friendly energy	b) thermal energy
	c) wind energy

3.

column 'A'	column'B'
1) sunlight	a) Wind energy
2) Natural gas	b) Environment friendly energy
	c) Fossil fuel
	d)Atomic radiation

4.

A	B
1. Aspartame -	a.anaerobic respiration
2. Fermentation	b.microbial restrictor
3. Niacin-	c. Vanillin
4. Escence -	d. Sweetener

7.

A	B
Baker's yeast -	Probiotics
Sauerkraut-	Bread
Liasages	Antibiotics
Penicillin -	Microbial enzyme

8.

Living organism	**substance that absorbs**
1) Pseudomonas	A)Radiations
2) Pteris vitata	B) Hydrocarbons
	C) arsenicArsenic
	D)Uranium

9.

Living organism	**substance that absorbs**
1) indian mustard	A)radiations
2) Deinococcus radiodurans	B) selenium
	C) arsenic
	D) uranium

Q.1-B) VII. Define.

1) Translation
2) Translocation
3) Mutation
4) Fragmentation
5) Vegitative propagation
6) Fertilization
7) Regeneration
8) inflorescence
9) Electromagnetic induction
10) Nuclear fission
11) Vaccine
12) Biotechnology
13) Stem cell
14) Cloning
15) DNA fingerprint
16) Genetic treatment
17) Divercity
18) Social health
19) First aid

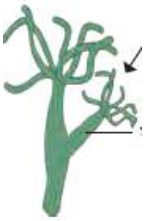
Question 1 B) VIII. Answer in one sentence.

1) What is gamete formation ?
2) Write the types of twins.
3) Write any two- Sexually transmitted diseases.
4) What determines whether the two organisms of a species will be exactly similar or not?.
5) How are the sperms formed ?
6) How is the semen produced ?
7) Which are the components of pollination ?

8) Which parts are converted into Seed and fruit respectively after fertilization ?

9) What does germination mean ?

10) Write the name of the type of reproduction in the following figure.



11) How can plants and animals save themselves from extinction?

12) Name the three types of asexual reproduction in unicellular organisms.

13) Write the functions of-.

I) ovary ii) sepals iii) penis iv) Seminal vesicle

14) What does ecosystem mean?

15) What is indicated by this symbol ?

16) Write any two man made man made factors affecting the environment.

17) The animal in figure ,belongs to which endangered species?

18) Write the advantages of the Hydroelectric Power project.

19) Write the problems associated with hydroelectric power projects.

20) Write the merits of atomic energy.

21) Write the demerits of an atomic energy plant .

22) Draw the flowchart showing generation of electrical energy.

23) Which substance is used as fuel in nuclear power plants?

24) Energy from fossil fuels and nuclear plants are not eco friendly sources, why ?

25) Solar promoters are important, why ?

26) In fuels coal and natural gas which one is eco friendly ? why?
27) State the importance of inverters.
28) Why are control pods used in nuclear reactors ?
29) What is green energy ? Which energy source can be called a green energy source?
30) Explain: Fossil energy is not an example of green energy.
31) Which animal has three pairs of legs ?
32) In how many parts is the body of Hemichordates divided ?
33) Write any one cold blooded animal you know.
34) Spongila bears numerous pores on their body .What are those pores called?
35) What are the animals having vertebral columns in their body called as ?
36) The body of the animal in which phylum is radially symmetrical and diploblastic?
37) Write the name of the animal having pseudocoelom .
38) Which animal doesn't have a neck ?
39) What is the length of a hookworm?
40) How does the animal in the figure protect itself ?

41) What are the locomotory organs of the animal given in the picture ?

42) Which fungus is used to make soya sauce by fermentation?
43) Why does the process of dirt removal occur in detergents even at low temperature ?
44) What is added to impart thickness to instant soup ?
45) Which chemical substances get mixed with the soil by adding chemical pesticides and insecticides in the agricultural industry?
46) Which microbes convert uranium to its insoluble salts ?

47) Write the names of two chronic diseases.

48) Complete the following table.

Type of disaster	Effects
A.	Injuries, emotional and mental stress, Outbreaks of epidemics, deaths of victims.
B. Environmental	.....

49) Correct the given statement and rewrite it.

An effect of disaster on economic leadership is that if local leadership is not strong enough, citizens get confused.

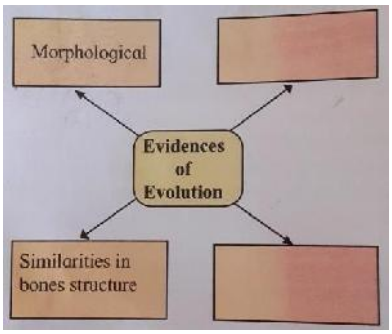
Q. 2 A) Give scientific reasons.

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) Fibers 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) Fertilization in plants is called double fertilization.
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 tortoise lives 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.

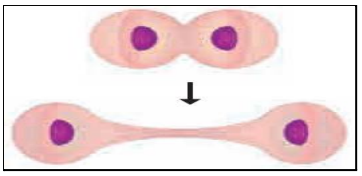
Q.2.B) Solve the following subquestions

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

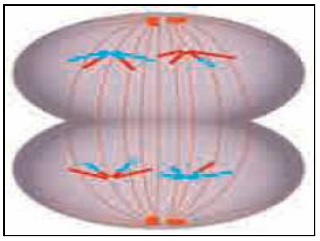


3) Write advantages of Hereditary.
4) Enlist the evidences of evolution.
5) What is inheritance of acquired characters?
6) What is species & speciation?
7) Which genetic disorders are caused by mutation?
8) Define the evidence of evolution shown in the figure.

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 & labeled 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 fertilization.

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

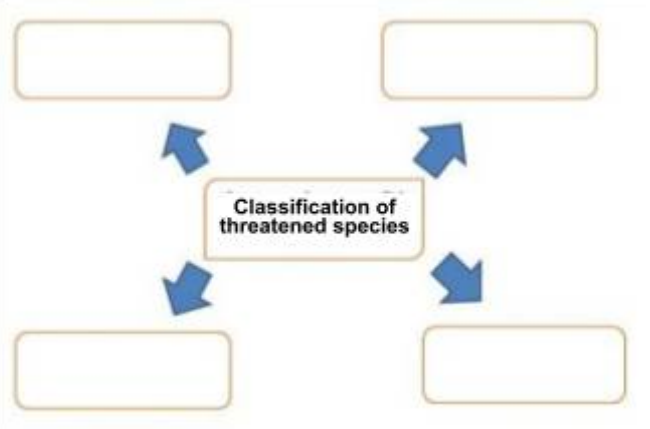
29) What are the meanings of symbols A, B, C shown in the figure with respect to environment?

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.



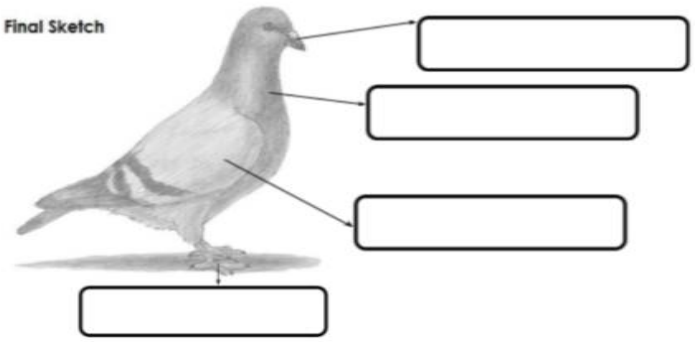
33) Complete food chain.

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 belongs 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 Crocodile & Alligator.

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?

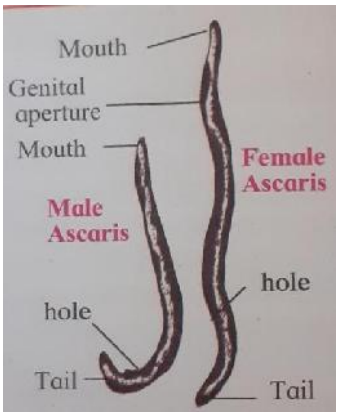
c) How do we destroy the harmful insects?

47) Give advantages of classification of animals.

48) Draw a neat & labeled 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 worm, white fly worm, white moth, 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 gray colored 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 gray 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.

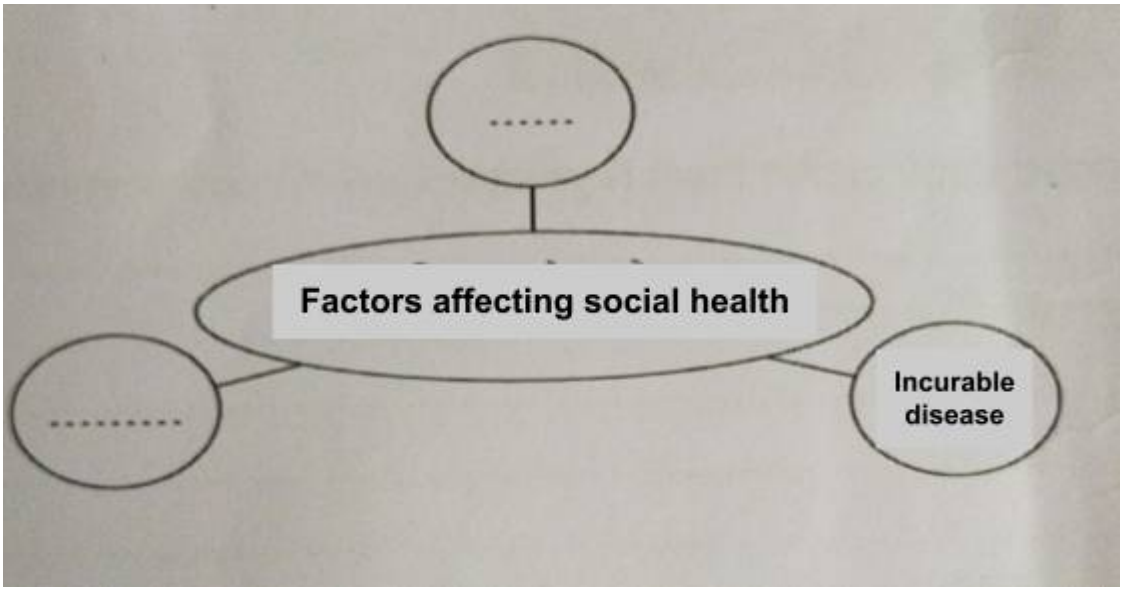
53) Why are some of the organs in the human body are most valuable?

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 neighbor 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 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.

a) Which type of disaster it is?

b) Write the name of the virus causing this disaster.

c) Which four rules you followed to survive from this disaster?

d) Write any four effects of this disaster you observed.

81) Observe the given photographs & answer the questions.

a) Name the disaster shown in pictures.

b) 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) Sacred Grooves
2) Lake Tapping
3) Nuclear Power Plant
4) Problems due to nuclear power plant
5) Collar cells
6) Star Fish
7) Mammals
8) Probiotics
9) Microbial Enzymes
10) Bio-fuels
11) Land filling sites
12) Microbial Inoculants
13) Bio-insecticides
14) Organ & Body Donation
15) Green Revolution
16) White Revolution
17) Blue Revolution
18) Biotechnology
19) Addiction
20) Various ways for stress management
21) Budding in Hydra
22) In-vitro fertilization (IVF)
23) Reasons of infertility

Q. 2 B) III. Distinguish between following.

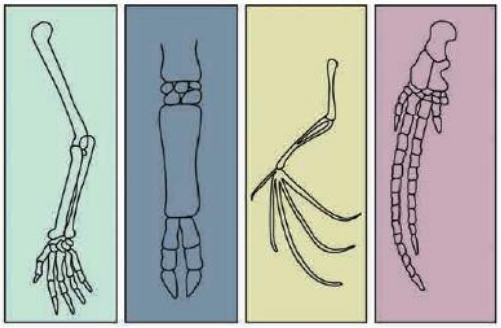
1) Translation & Transcription
2) Aerobic & anaerobic respiration
3) Conventional energy sources & Non-conventional energy sources
4) Thermal Power Plant & Solar thermal power plant
5) Electricity generation from solar cells & solar thermal power generation
6) Meiosis & Mitosis
7) Binary fission & Multiple fission

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)

   Evolution of upright man continued in the direction of developing its _____ for the period of about 1 lakh years and meanwhile it discovered the _____. Brain of a 50 thousand year old man had been sufficiently evolved to the

extent that it could be considered as a member of the class _____. Neanderthal man can be considered as the first example of _____. The _____ man evolved about 50 thousand years ago and afterwards, this evolution had been faster than the earlier. About 10 thousand years ago, wise-man started to practice the _____. It started to rear the cattle-herds and established the cities. _____ development took place.

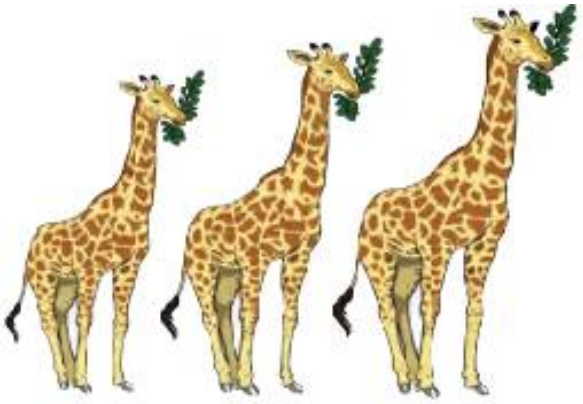
11) Observe the following images and answer the questions.

a) Which evolutionary evidences are indicated in the given picture?

b) How are they formed?

c) Which method is used to measure their age or their time?

12) Observe the picture and answer the following questions.

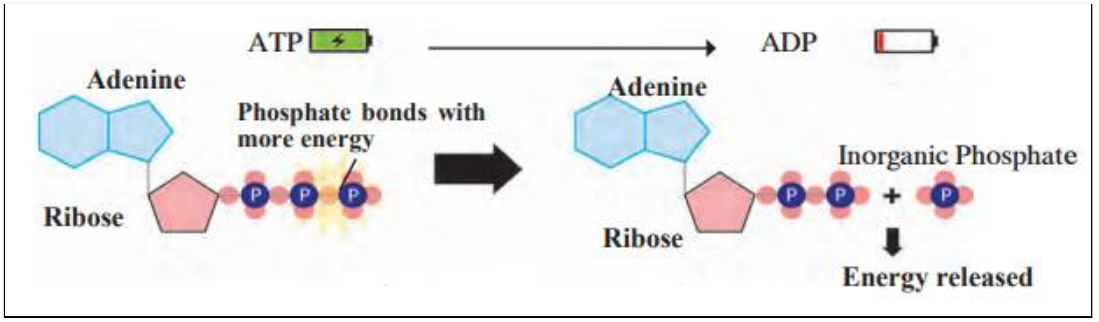


a) The given picture indicates which principle?

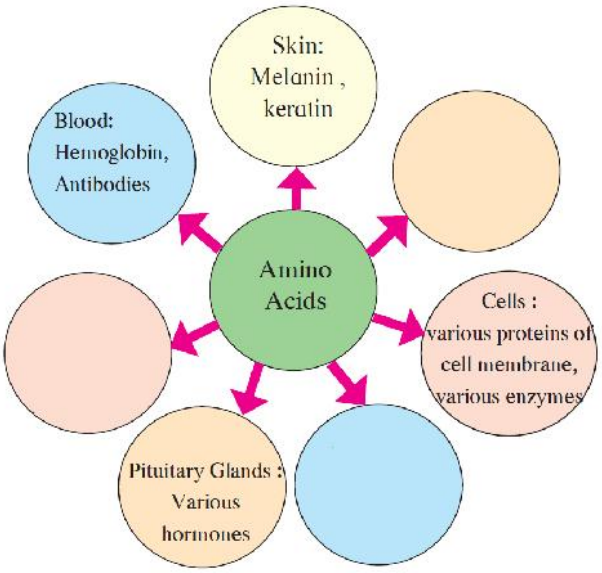
b) Explain that principle in your language.

c) What is the meaning of acquired characteristics?

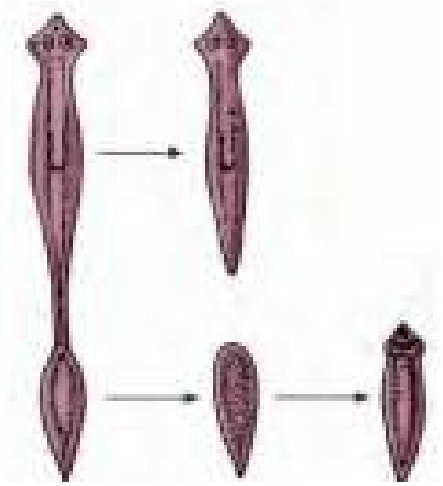
13) Identify the given reaction and explain it.



14) Explain the Steps of Glycolysis.
15) What are the main steps of Anaerobic respiration.
16) Which substances are formed after the digestion of amino acids and how are they utilized ?
17) Which hormones are formed from the fatty acids?
18) Why is water an essential nutrient?
19) Write the importance of fibers in our diet.
20) Complete the following concept map

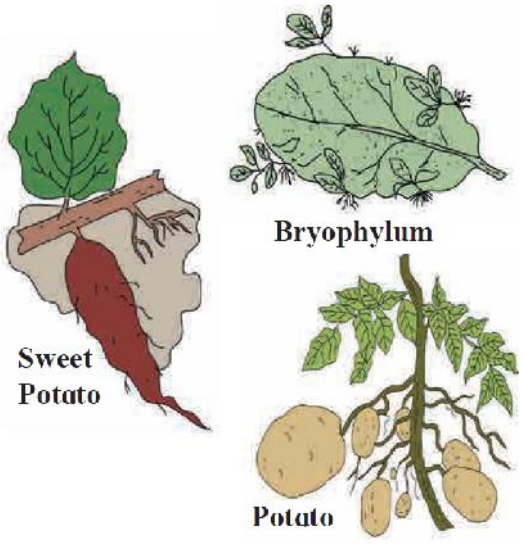


21) A married couple does not have children even after the necessary tests, so what are the solutions you would suggest?
22) Why is it necessary to maintain reproductive health ? Which precautions one should follow to maintain reproductive health?
23) Observe the given diagram and explain the method of reproduction.



24) A piece of wet bread or *bhakri* kept in a humid place for 2-3 days, then
    a) What will you observe ?
    b) State the scientific name of the living organism and write its characteristics.

25) Observe the given picture and answer the questions given below.



a) State the type of reproduction.

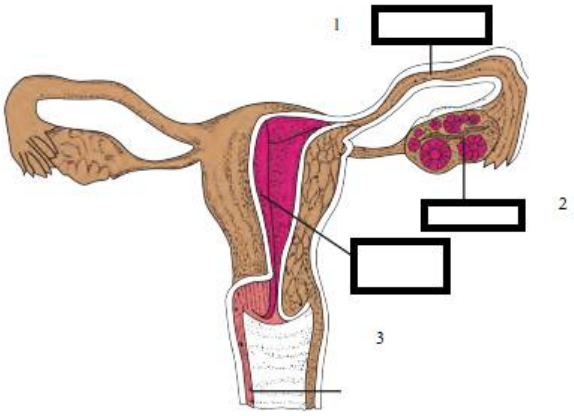
b) Identify the part of reproduction.

Sweet potato – .....

Bryophyllum – .....

Potato – .....

26) Observe the diagram and answer the following questions.



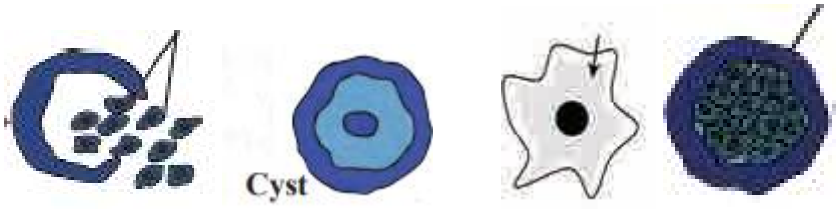
a) Label the indicated parts 1, 2 and 3 in the diagram.

b) Where the fertilization of ovum occurs?

c) Where does the embryo get implanted after fertilization?

27) a) Which type of reproduction is indicted in the following diagram?

b) Redraw the given type of reproduction in the correct sequence and explain it.



28) Complete the paragraph using the given words.

(Luteinizing hormone, endometrium of uterus, follicle stimulating hormone, estrogen, progesterone, corpus luteum) Growth of follicles present in the ovary occurs under the effect of ----- This follicle secretes estrogen. -- --- - -- -- -- grows / regenerates under the effect of estrogen. Under the effect of --- ---, fully grown up follicle bursts, ovulation occurs and -- --- -- -- is formed from the remaining part of follicle. It secrets --- --- -- -- and --- --- -- -- --. Under the effect of these hormones, glands of -- -- -- -- are activated and it becomes ready for implantation.What is the menstrual cycle? State the names of four hormones which controls menstrual cycle.

29) If newborns are produced at the age of menopause, they may be with some abnormalities. Why?

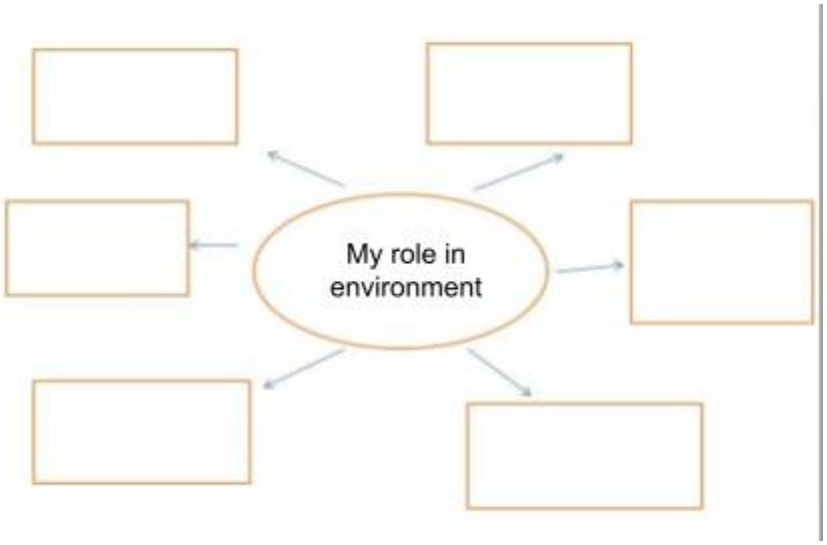
30) Complete the table.

Sex/Gender	Reasons for infertility
Female	
male	

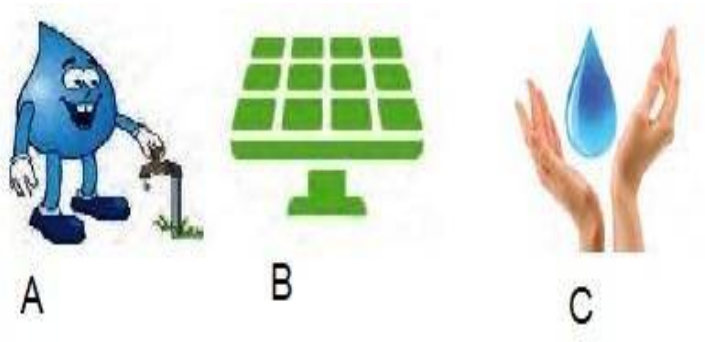
31) Explain the given concepts with the help of examples.

a) Genetic Diversity b) Species Diversity c) Ecosystem Diversity

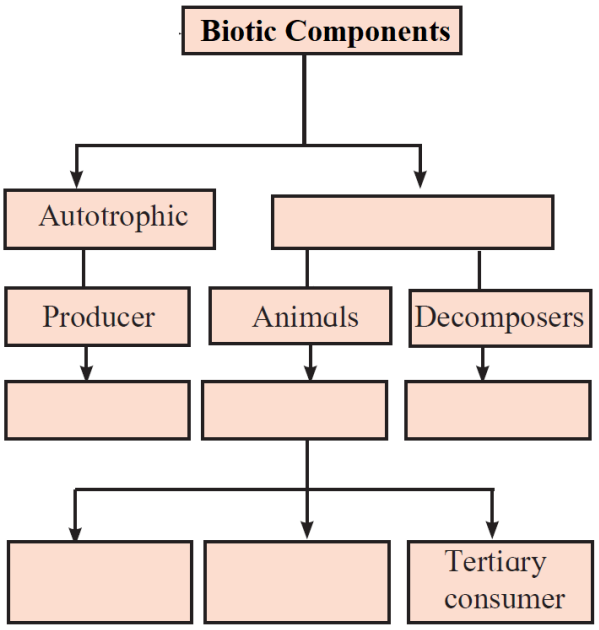
32) Complete the concept map.



33) What is the meaning of the following symbols ? Write your role accordingly.



34) Complete the concept map.



35) Why is it said that pollution control is important ?

36) a) Write the given food chain in appropriate sequence.

Grasshopper - Snake - Rice field - Eagle - Frogg

b) In which ecosystem given food chain is included ? Explain the ecosystem.

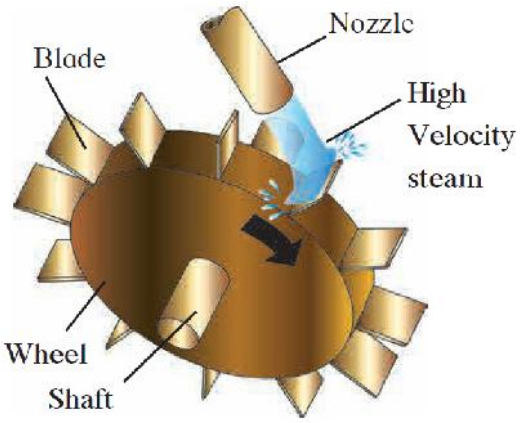
c) If the frog population declines all of a sudden what will be the effect on paddy fields?

37) Complete the table.

Endangered Heritage Places of the Country	Threatened/ endangered species of an animal	Reasons
Western ghat		
	Rhino	
	Tiger	

38) Explain the classification of threatened species of animals with an example.

39) Observe the given diagram and answer the questions given below



a) Explain the diagram.

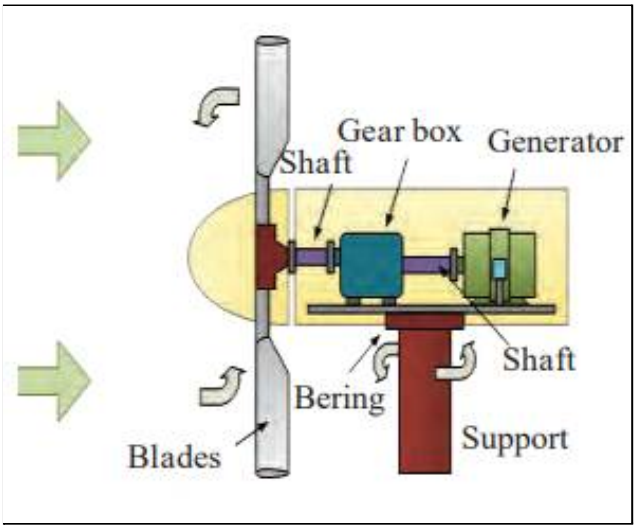
b) Answer the questions with the help of diagram.

c) What is the name of machine given in the diagram

d) Write down the function of this machine in short.

e) How does it gets/forms the motion

40) Observe the given diagram and answer the questions.



a) Which type of energy is generated?

b) This power station depends on which factors ?

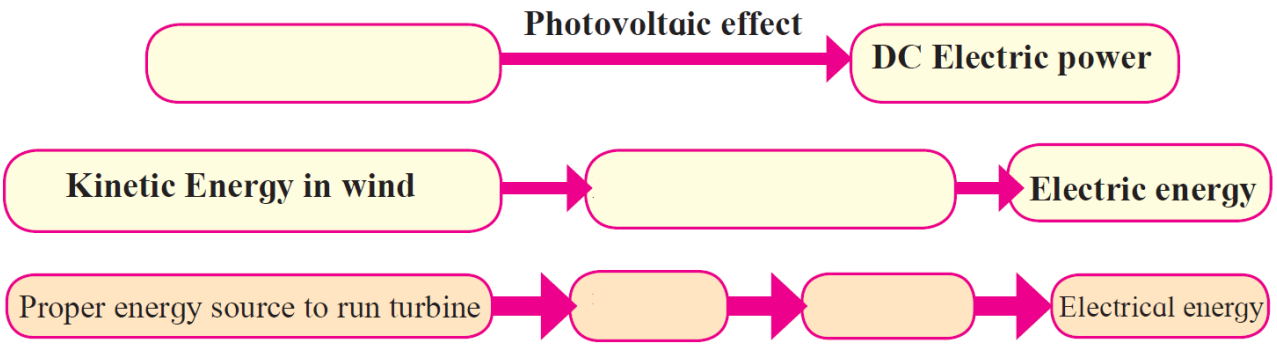
c) Is it environment friendly ?

41) Complete the table.

Advantages of hydroelectric power plant	Disadvantage of hydroelectric power plant

Limitations of solar energy	Limitations of wind energy

42) Complete the following flow charts.

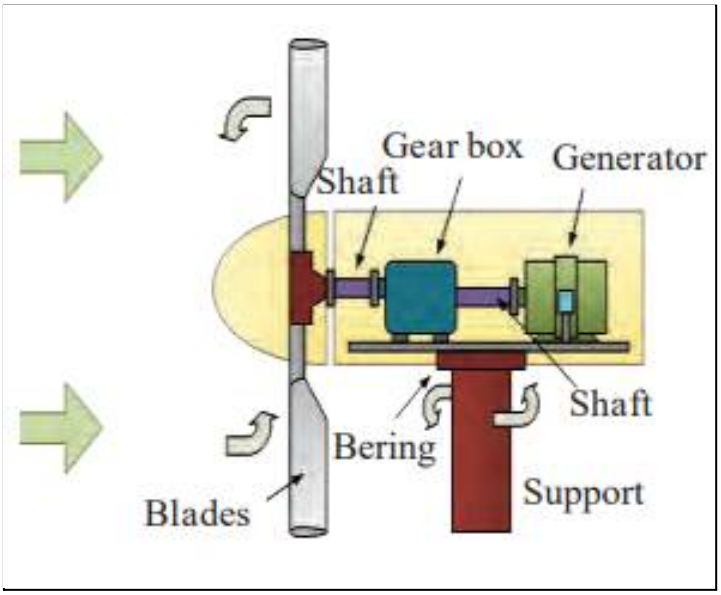


43) Draw the flowcharts for the given power stations.

a) Thermal energy based electric power plant

b) Power generation plant on energy of natural gas

44) Explain the stages in electric generation from the given schematic diagram.



45) Draw the schematic diagram of natural gas power plants and answer the following questions.

46) Where is the power plant based on natural gas in Maharashtra ?

47) Why is there less pollution by natural gas power plants?

48) Give the example of eco-friendly electric power generation plants

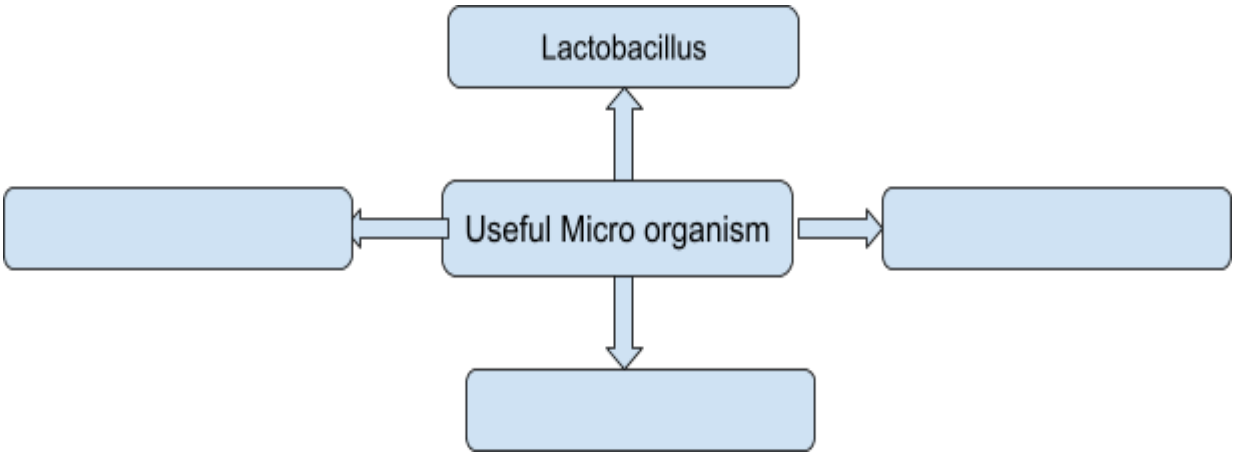
49) What is the importance/ function of a solar reflector?

50) Why are absorbing/controlling rods used in atomic reactors?

51) Complete the table.

Limitations of Solar energy	Limitation of wind energy

52) Complete the concept map.



53) In industries microbial enzymes are used over chemical enzymes.

54) How is soil pollution controlled by microbes ?

55) Why should we use bio insecticides ?

56) Explain – Importance of microbes in sewage (water) treatment in cities.

57) How are microbes useful in land filling for solid waste management?

58) Which fuels do we get from microbes ?

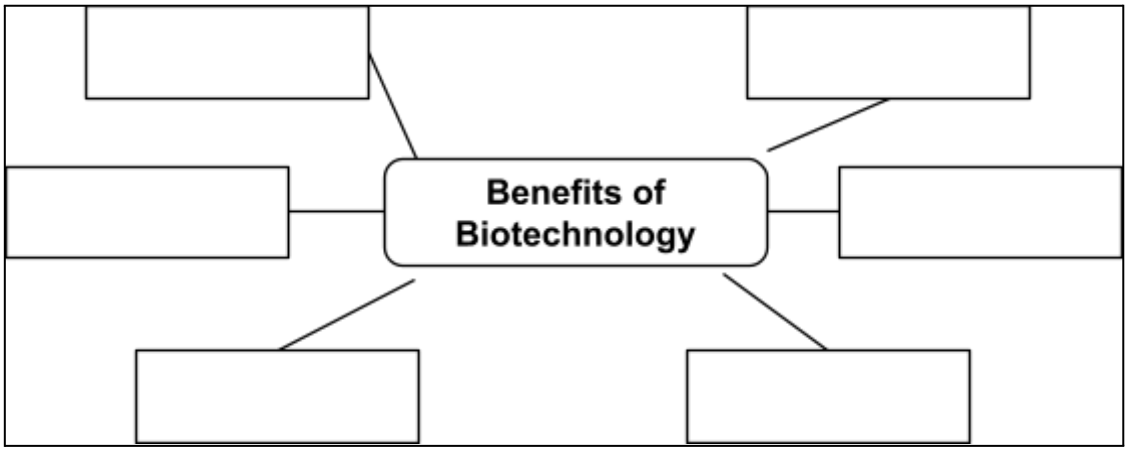
59) What is the importance of probiotics to humans ?

60) What is the use of antibiotics to human & other animals ?

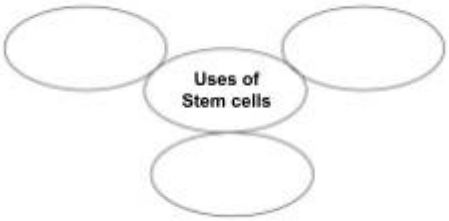
61) What are the benefits of microbial transplantation in plants?

62) Explain products mode & their uses from microbes?

63) Complete the chart.



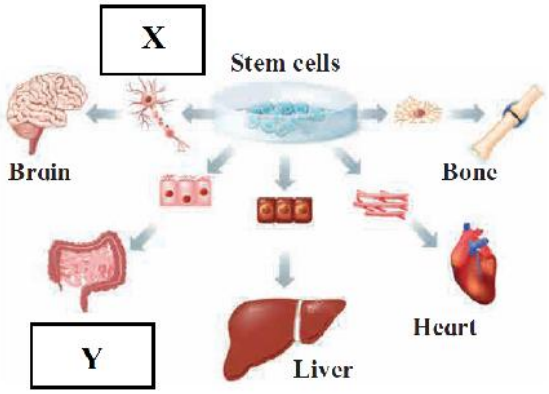
64) Write the correct answer in circles.



65) Write practical uses of biotechnology.

Sr. No.	Field	Uses
A	Crop Biotechnology	
B	Hybrid seeds	
C	GM Crops	

66) Observe the following figure and answer the questions.



a. Which property of stem cell is shown in figure?

b. Write the name of the cells or organs denoted by X and Y.

c. What is the benefit of tissue / organ culture from stem cells?

67) Complete the paragraph.

(red bone marrow, degenerated, umbilical cord, adipose, division, blastocyst)

Different tissues of the body are formed by _____ of stem cells. Stem cells are present in the _____ by which the fetus is joined to the uterus of the mother. Stem cells are also present in the _____ stage of embryonic development. Stem cells are present in _____ and _____ connective tissue of adult human beings. It has become possible to produce different types of tissues and the _____ part of any organ with the help of these stem cells.

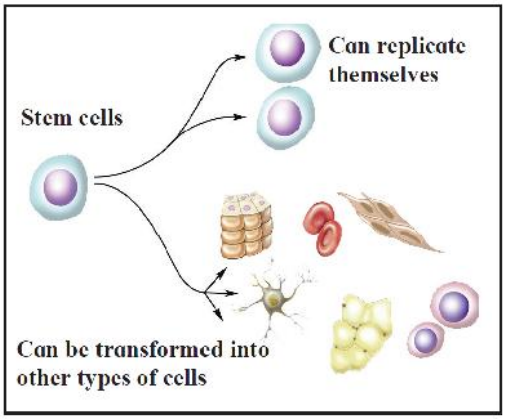
68) What is meant by Biotechnology ? What does it include ?

69) Explain the commercial applications of biotechnology with examples.

70) How can we save the lives of many people by organ donations ?
71) What are the uses of Biotechnology ?
72) How is Biotechnology useful for human health ?
73) What is meant by cloning ? Explain its types.
74) Write uses of DNA fingerprinting ?
75) How is Biotechnology useful in the development of agriculture ?
76) What precaution should be taken while using insecticides ?
77) Why are medicinal (now) plants plaute ?
78) How is Biotechnology used in food processing ?
79) What is meant by stem cells ? Write its types ?
80) Define genetically modified crops. Give two examples.
81) Give examples of bio-fertilizers mentioning their advantages.
82) What is meant by vaccination ? What is the safest method of vaccination ?
83) Why are vaccines made by biotechnology preferred ?
84) What is organic farming? Why is there an emphasis on organic farming nowadays ?
85) What will happen, if we eat transgenic potatoes ?
86) Write the things in day today life made by biotechnology.
87) Fill in the blanks in the following paragraphs.
(environment related, decomposition, microbial techniques, organic matter, oxidized, aquatic life)

It has become possible to solve _____ various problems with the help of biotechnology. _____ are already in use for treatment on sewage and solid waste. Sewage is rich in _____. If such sewage is released in natural water bodies like rivers, the organic matter in it gets _____ with the help of dissolved oxygen. Due to this, level of dissolved oxygen in water decreases, adversely affecting the _____.

88) Observe the given figure and answer the following questions.



a. What is shown in the figure?

b. What can the stem cells make in this figure?

c. What can these stem cells transform into?

89) Which proteins are made by genetics ?

90) Write the effect of biotechnology on agriculture & allied fields.

91) What is meant by the blue revolution ? Which products are produced by pisciculture?

92) What are the advantages of tissue culture ?

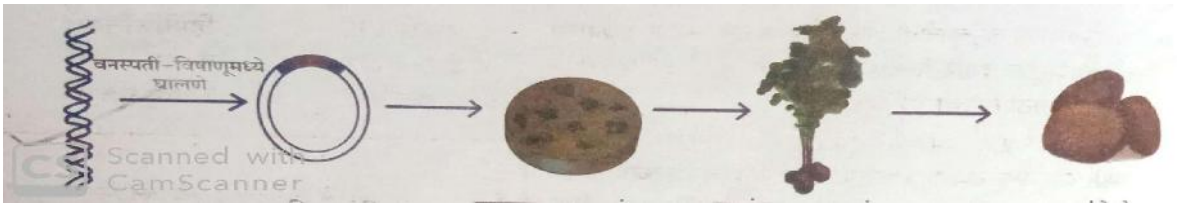
93) What is meant by edible vaccines?

94) Write down the benefits of plants grown through tissue culture.

95) Complete the following chart.

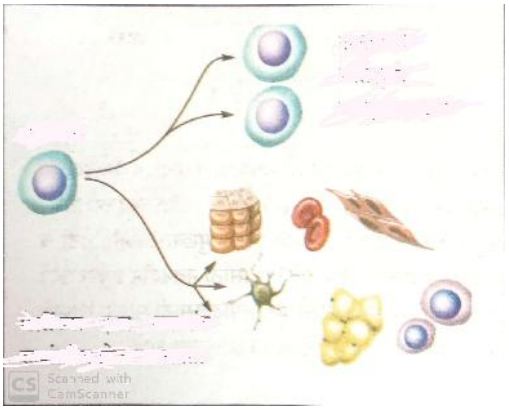
Sr. No.	Plants	Functions
1	Pteris vitata	.....
2	Pseudomonas	.....
3	.....	To absorb uranium and arsenic.
4	.....	To absorb the radiations from radioactive debris.
5	Indian mustard	.....

96) a) What does the following figure relate to?



b) Briefly describe each of these steps.

97) Identify the given figure and label it.



98) What will you do? Why?

a) Your sister has become incommunicative. She prefers to remain alone.

b) You are spending more time in internet/mobile games, phone, etc.

c) You have to use free space around your home for good purpose.

99) a) What mental disorder is shown in the given picture?

b) What social message would you give from this?

100) Complete the following.

(lungs, carcinogenic, nervous system, useful, deadly, addiction, intoxicating)

Children in their early age try upon tobacco, cigarette, gutkha, alcoholic drinks, drugs, etc. due to either peer-group pressure or symbol of high standard living or as an imitation of elders. However, it may lead to _____ to such _____ substances. Temporarily _____ drugs of plant origin and some chemicals may permanently damage the human_____, muscle system, heart, etc. Earlier, we have studied the _____ effect of tobacco containing substances on mouth and _____.

Question 4. Solve the following questions.

1) Explain any five types of evidence that support the theory of evolution.

2) Explain in short- transcription and mutation.

3) Write the answers to the questions by observing the figure below.

(a) (b) (c)

a) Write the name of the animal 'A' in the figure.

b) Write the name of the animal 'B' in the figure.

c) Write the name of the animal 'C' in the figure.

s) Which evolutionary evidence is illustrated by this figure?

E) Write the definition of that evidence for evolution.

4) Draw neat and labeled diagrams.

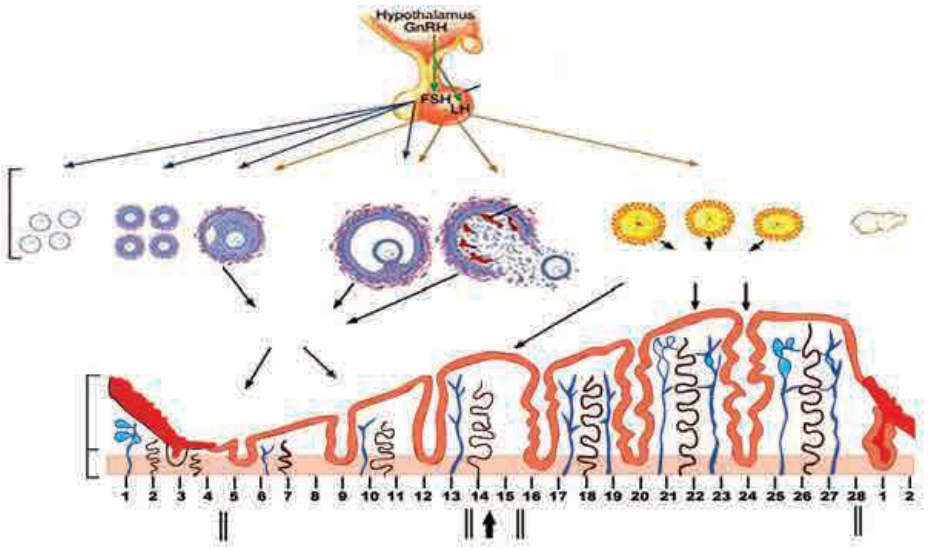
a) Double fertilization in angiosperms

b) Human male reproductive organs.

c) Spore formation

d) Human female reproductive system

5) Write the answers to the following questions by observing the figure below.



6) What does the figure above show?

7)Which organs are involved in this process?

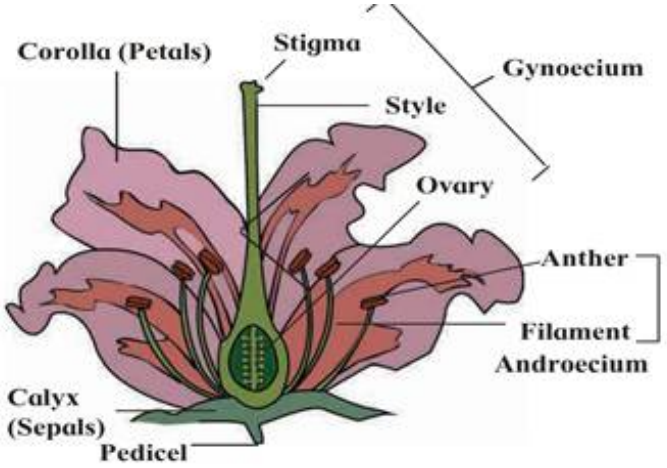
8) Which hormones are involved in this process?

9) After how many days do these changes happen again?

10) Explain your opinion about the statement that a woman's body is impure while the above process is going on.

11) Explain the sexual reproductive process in plants with a diagram.

12) Observe the figure below. Write functions of the labeled parts.



13) Read the following paragraph and write the answers to the questions based on it.

Reproduction is an important process for the survival of an organism. Asexual reproduction occurs in different ways in plants. E.g. Vegetative propagation, fragmentation, budding, spore formation etc. Gametes are formed for sexual reproduction. In the animal kingdom, various methods like budding, binary fission, and parthenogenesis are used. There is no difference between males and females in the animals in which these methods are observed. The method of regeneration also creates new organisms. But regeneration is not the real method of reproduction. Regeneration is the process of healing wounds, creating new organs. This ability has completely disappeared in the developed animals. Modern research is being done on the method of sexual reproduction, e.g. Cloning. So in the future women will be able to create their own offspring without a father.

a) How do living organisms maintain their own species continuity?

b) What are the methods of asexual reproduction in animals?

c) Why is it said that regeneration is not the real method of reproduction?

d) What are the different methods of reproduction in plants?

f) What modern breeding methods are being researched in developed animals?

14) 'Surrogacy, In Vitro Fertilization (IVF), Sperm Bank/ Semen Bank etc. modern technology will be useful to humans.' support this statement.

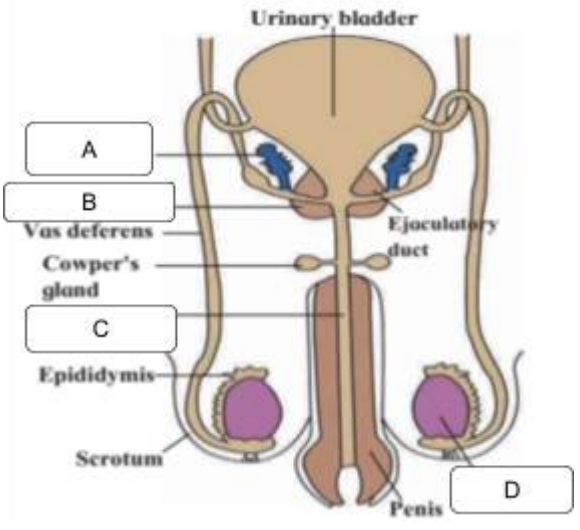
15) Write the answers to the questions by observing the figure.

a) What does the above figure show?

b) Write the names of parts A, B, C, D.

c) Write the function of the part 'D'.

d) How is semen formed?



16) a) What process does the next figure show?

b) Describe in short that process.

c) Who can benefit from this process?

17) i) Explain my role in the environment based on the following points (Write two actions each)

a) Control b) Conservation c) Production d) Preservation é) Awareness

ii) What initiatives will you take regarding environmental conservation? Write how.

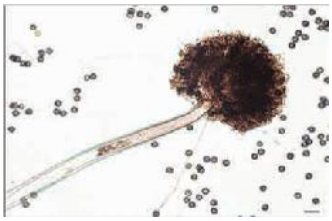
iii) What are the endangered species of animals and plants? How can they be saved?

18) Briefly explain the environmental role of microorganisms in pollution control?

19) What products do you get from microorganisms through the fermentation process? Explain with an example.

20) Explain biofuel production with the help of diagram.

21) Observe the figure and write the answers to the questions asked.

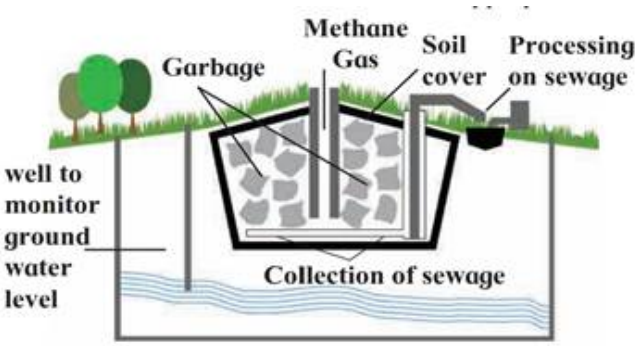


a) Write the name of the fungus in the figure above.

b) What is the source of these fungi?

c) Which organic acid obtained from this organism is used in commercial production?

22) Observe the figure and write the answers to the questions asked.



a) Name the above figure.

b) What is it used for?

c) Which gas is formed in it?

d)How is this gas formed?

e) What is done with sewage ?

23) Complete the paragraph by selecting the appropriate option in parentheses.

(energy, microbial, erosion-proof, reused, purification, environmentally Friendly)

Nowadays, instead of chemical catalysts, ……. enzymes are used in the chemical industry. These enzymes are active at low temperature, pH and pressure; due to which …….. is saved and ……. instruments are also not necessary. Enzymes carry out specific processes; hence unnecessary byproducts are not formed due to which expenses on ……. are minimised. In case of microbial enzymatic reactions, elimination and decomposition of waste material is avoided and enzymes can be …….. Hence, such enzymes are ……..

24) Read the following paragraph and write the answers to the questions asked.

Sulphuric acid is present in the acid rain and materials coming out of mines. You know that erosion of metals present in statues, bridges and buildings occurs due to it. Sulphuric acid is a source of energy for some species of bacteria like Acidophilum spp. and Acidobacillus ferrooxidans. Hence, these bacteria can control the soil pollution occurring due to acid rain.

Water soluble salts of uranium are present in the wastes produced during electroplating and in effluent released in the environment from the atomic energy plant. Geobacter convert these salts of uranium into insoluble salts and thereby prevent those salts from mixing with groundwater sources.

a) What causes metal erosion in statues, bridges and buildings?
b) Sulphuric acid is the source of energy for which bacteria?
c) What kind of pollution do these bacteria control?
d) What are the water soluble salts in nuclear power plants and in the process of electrolysis?
e) Which bacteria prevent these salts from mixing with ground water by converting them Into insoluble salts?

25) Write the answers to the questions by observing the figure.

a) What type of fuel production process is shown in the figure?
b) Write two examples each of the solid, liquid and gaseous fuels produced in this fuel production process ?
c) How do microorganisms play their role in this process?

26) Write down the names of five medicinal plants and their uses.

27) Read the following paragraph and write the answers to the questions based on them.

Vaccination gives either permanent or temporary immunity against a specific pathogen or disease. Traditionally, vaccines were prepared with the help of pathogens. Completely or partially killed pathogens were used as vaccines. However, due to this, there were chances of contracting the disease in case of some persons. Hence, as an alternative, scientists tried to artificially produce vaccines with the help of biotechnology. For this purpose, scientists produced the antigen in the laboratory with the help of genes isolated from the pathogen and used it as a vaccine. Thus, safer vaccines are being produced. Work on production of edible vaccines is in progress and presently, potatoes are being produced with the help of biotechnology.These potatoes are called transgenic potatoes. These potatoes will act against. Consumption of these raw potatoes generates immunity against pathogens. For the production of such edible vaccines, antigens are produced by isolating the desired gene from human pathogens and injecting it into plants.

a) How can people who have been vaccinated with hemophilia be infected?

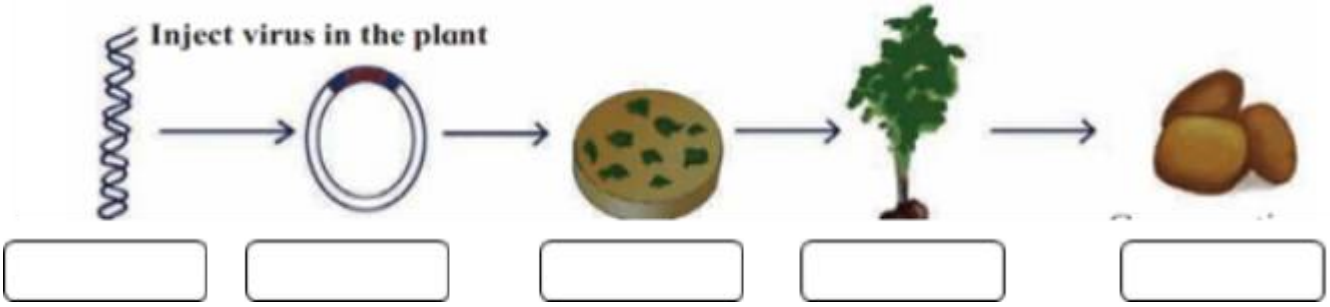
b) Why are vaccines produced with the help of biotechnology safer than conventional vaccines?

c) How does the immune system respond to vaccination?

d) What is the disadvantage of transgenic potatoes?

e) Why is vaccination more beneficial than antibiotics?

28) Write the correct statement from the statements given in the box below the figure.



a) The whole plant is formed from the pieces of leaves which contain the genes of human pathogens.

b) Consumption of raw potatoes builds immunity against those germs.

c) Isolation of desired genes from pathogens found in human beings.

d) Genetically transmitted plant-virus.

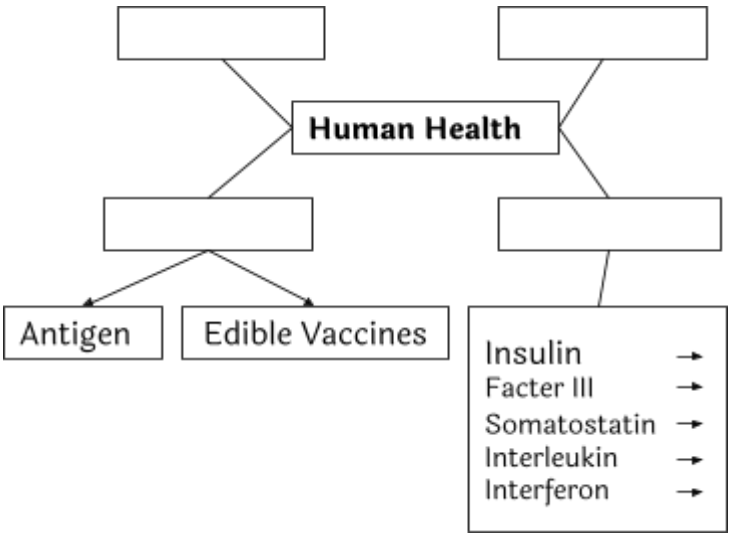
e) The virus infects pieces of potato leaves.

29) Explain the statement-The revolutionary phenomenon in biotechnology after cloning is stem cell research.

30) How can we solve many environmental problems using modern biotechnology?

31) How is biotechnology useful for human health? Explain with an example.

33) Complete the concept paper based on 'Use of Biotechnology in Human Health'.



34) Write the answers to the following questions regarding cloning.

a) What is cloning?
b) What is reproductive cloning?
c) What is therapeutic cloning?
d) Which animal was created by cloning technique?
e) Explain the advantages of cloning technique.

35)What does the next picture show? What will be the effect?

36)What does the next picture mean?

37) Observe the figure and write the answers to the questions asked.

a) What does this picture show?
b) Explain any two reasons for this problem.
c) Name any two solutions to solve this problem.

38) Write answers to the questions based on the paragraph.

Social health is the ability of a person to establish relationships with other persons. Ability to change one's own behaviour according to changing social conditions is an important characteristic of social health. A socially healthy person can also cope with a variety of social situations. Can behave appropriately and adaptable to changing circumstances. Your spouse can match such people with your co-workers and form good relationships. All of these relationships require good communication. It is important to have empathy and a sense of responsibility for each other. On the other hand, there are negative shades like jealousy, revenge, and loneliness. If there is tension in the relationship, healthy relationships will not be formed. Stress management, planning appropriate measures e.g. Regular exercise,deep breathing, and a positive attitude can improve social health.

a) What is social health?
b) What qualities are needed to build good social relationships?
c) Which vices have negative consequences?
d) What measures would you take for stress management?
e) Give two examples of negative shades.

39) What factors determine social health?

40) What are the changes in a person due to constant contact with the internet, mobile, phone?

41) Write the answers to the questions by observing the picture.

a) What is the concept shown in the picture?
b) Write its benefits.
c) What do you do when you feel stressed?

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