

Answers Paper-2

Q.1. (A) Choose the correct answer and write the letter of the alphabet of it : 4

1. A) 4 Kcal 2. D) lactose 3. B) grasshoppers 4. C) 60 5. C) 2.3%

B) Answer the following : 5

1) Match the following :

Ans : 1) Morphological evidences - Leaf venation

2) Paleontological evidences - Fossils

2) Find an odd one out :

Prostate glands, Bartholin glands, Cowper's gland, Seminal vesicle

Ans : Bartholin glands

3) Complete the analogy :

Insulin : Diabetes :: Interleukin : **Cancer**

4) Name the following :

Radical symmetric animal having ability of regeneration -

Ans : Star fish

5) State whether the following statement is True or False :

We obtain fibers from leafy vegetables, fruits and cereals, etc.

Ans : True

Q. 2 (A) Give scientific reason : (any TWO) 4

1) It is absolutely necessary to control the fission reaction in nuclear power plants.

Ans : i) In nuclear power plants, fission reaction results in release of thermal energy.

ii) If the chain reaction is not controlled there are chances that fatal accidents will take place.

iii) Uncontrolled chain reaction also emits radioactive and harmful radiations.

iv) Hence, it is necessary to control the fission reaction in nuclear power plants.

2) Fibers are one of the important nutrients.

Ans : i) Fibers cannot be digested and are thrown out along with other useless and undigested matter.

ii) Fibers also help in separating undigested food materials and throwing them out of the body.

iii) Hence, fibers are one of the important nutrients.

3) Use of mutant strains has been increased in industrial microbiology.

- Ans :** i) Mutant varieties of micro-organisms are different from the original microbes.
 ii) These are created by insertion of genes of interest in a particular organism through a technique called genetic engineering.
 iii) Mutant microbes have character which are not present in the original strain and thus make useful for various purposes.
 iv) Artificially, some strains are developed that will help to avoid unnecessary steps. It also helps bring about important changes necessary for the industrial production.
 v) Therefore the use of mutated strains has increased in industrial microbiology.

Q. 2 (B) Answer the following : (any THREE)

6

1) Write practical uses of biotechnology.

Ans :

Sr. No.	Field	Uses
A	Crop Biotechnology	It is useful in the agriculture field to improve the variety and yield of crops.
B	Hybrid seeds	It is useful to recombine the genes of two different crops to form hybrids of various crops. This is particularly useful for fruits.

2) Write any four harmful effects of consumption of alcoholic drinks on human body.

Ans : i) Alcohol can damage your body.

- ii) Mental health conditions, such as anxiety and depression and interference with antidepressant medication.
 iii) Nutrition-related conditions, such as folate deficiency and malnutrition.
 iv) Overweight and obesity
 v) liver disease, diabetes, long term cognitive impairment.

3) What is the use of antibiotics to human and other animals?

Ans : i) Many diseases of human and other animals have been controlled due to antibiotics obtained from different types of bacteria and fungi.

- ii) Antibiotics like penicillin, cephalosporins, monobactam, bacitracin, neomycin, erythromycin, gentamycin, streptomycin, tetracyclins, vancomycin etc. are used against various strains of gram positive and gram negative bacteria.
 iii) Rifamycin is effective against tuberculosis.

4) Which precautions will you take during spraying of pesticides?

Ans : Following are the precautions one should take :

- i) Only recommended amount of pesticide should be sprayed.
 ii) Care should be taken that pesticides is not sprayed in the opposite direction to that of wind.
 iii) Containers used for mixing or storing pesticide should then be not used for domestic purposes.
 iv) Animals or humans should not be allowed in the field immediately after spraying pesticide.

5) Explain the following symbol :

- Ans :** i) This symbol represents acute toxic substances, which are harmful even on a single exposure.
- ii) The action of such substance is rapid and can be fatal. The disaster associated with this symbol is an unpredictable or intentional health disaster.
- iii) Exposure to radiation, certain chemicals and poisonous gases are examples of toxic substances.

Q. 3 Answer the following : (any FIVE)

15

1) Answer the following questions :

a) What is likely to happen when children watch too much of cartoon films?

Ans : When children watch too much of cartoon films they may start imitating characters of those films.

b) What is the effect of playing games like virtual war or car race?

Ans : Virtual war or car racing types of game make the tendency and behaviour of the children very negative.

c) Give two negative effects of computer or mobile games that you know.

Ans : Mobile and computer games can be time consuming as kids get addicted to them. It also results in economic loss as many games designed in such a way that people have to buy them.

2) How will you justify that overcoming the pollution is a powerful way of environmental management?

- Ans :** i) Various natural as well as man-made factors have led to a negative impact on the environment with pollution being the biggest problem.
- ii) Pollution is a result of natural disasters as well as several man-made activities like mining which introduces unwanted and harmful changes in the environment.
- iii) Air, water and land all are affected due to pollution.
- iv) Pollution can be controlled by changing the ways of humans like reduce the use of automobiles which releases carbon monoxide in the air. Carbon monoxide when inhaled by living things can prove to be lethal.
- v) Similarly reducing use of electronics like air conditioners which release CFC's and avoiding bursting of fire crackers which will reduce air pollution as well as noise pollution.
- vi) All these control measures will prove to be helpful to human beings and other living organisms which are an integral part of ecosystem.
- vii) Thus, it can be stated that overcoming the pollution is an powerful way of environmental management.

3) What are the meanings of following symbols? Write your role accordingly?

Ans : i) This is a symbol of 'Recycle'

ii) It indicates items which can be recycled and converted into another form which is useful to us.

iii) Items like newspapers, glass bottles, paper etc. can all be recycled.

iv) As a student, one can always recycle paper and books which are so easily available to us.

v) In this way, we can contribute a little from our side to the environment protection.

4) Observe the picture and answer the following questions.

a) The given picture indicates which principle?

Ans : The given picture indicates Lamarckism or inheritance of acquired characters.

b) Explain that principle in your language.

Ans : Lamarckism or inheritance of acquired characters :

i) Lamarckism is the theory of inheritance of acquired characters from one generation to another, given by Jean-Baptiste Lamarck.

ii) It states that the morphological changes occurring in living organisms are responsible for evolution. This concept was based on the principle of use and disuse of organs.

iii) Morphological changes may occur gradually, either due to specific activities or laziness of a particular organism.

iv) For e.g. the neck of giraffe has become too long due to browsing on leaves of tall plants by extending their neck for several generations; similarly, shoulders of the ironsmith have become very strong due to frequent hammering movements. Wings of birds like ostrich and emu have become weak due to no use. Legs of the birds like swan and duck have become useful for swimming due to living in water and snakes have lost their legs by modifications in their body for burrowing habit.

c) What is the meaning of acquired characteristics?

Ans : Modification in structure or function acquired by an organism during its life, caused by environmental factors is known as acquired character.

5) What is first aid kit? Name the things present in first-aid kit.

Ans : i) Things that are required to provide first aid are called as first aid kit.

ii) It is essential to have material necessary for first aid with us.

iii) This material is available in the first aid kit.

iv) One can also prepare a first aid kit.

v) It is also important to use whatever the material available in the given condition for first aid.

Following are the necessary things that are to be present in a first aid kit:

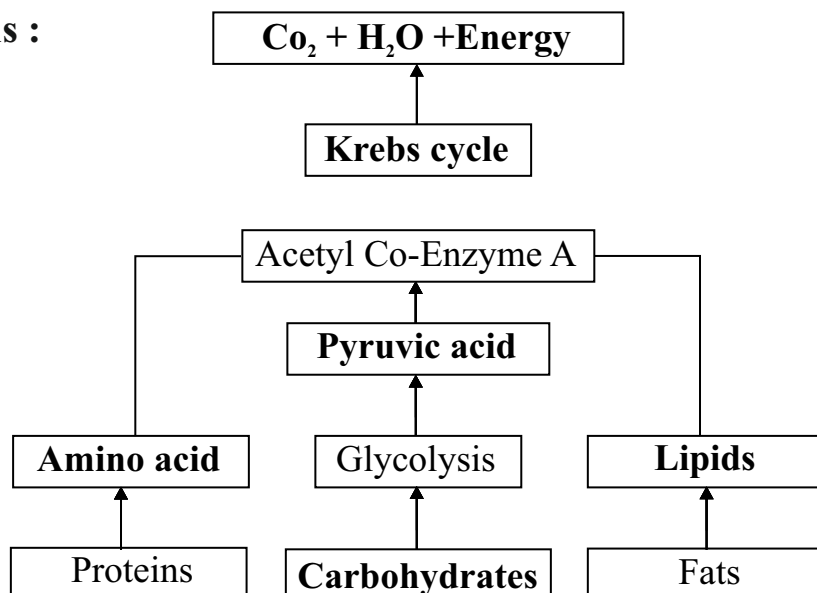
1. Bandage strips of different size
2. Wound gauze.
3. Triangular and circular bandage.
4. Medicated cotton
5. Hand gloves
6. Clean and dry cloth pieces.
7. Soap
8. Antiseptic (Dettol/ Sarlon)
9. Safety pins
10. Blade
11. Small pins
12. Needle
13. Band aid
14. Torch
15. Scissor
16. Thermometer
17. Petroleum jelly

6) Complete the paragraph with the help of words given in the bracket :

Ans : Growth of follicles present in the ovary occurs under the effect of **follicle stimulating hormone**. This follicle secretes estrogen. **Endometrium of uterus** grows/ regenerates under the effect of estrogen. Under the effect of **luteinizing hormone**, fully grown up follicle bursts, ovulation occurs and **corpus luteum** is formed from remaining part of follicle. It secretes **progesterone** under the effect of these hormones, glands of **endometrium of uterus** are activated and it becomes ready for implantation.

7) Correct the diagram given below.

Ans :



8) Answer the following sub-questions.

a) What are probiotic?

Ans : Probiotic foodstuffs are dairy products which have active bacteria in it like Lactobacillus acidophilus, Lactobacillus casei, Bifidobacterium bifidum, etc.

b) What are the uses of microbes present in probiotics?

Ans : i) The microbes present in probiotics maintain the balance of intestinal microorganisms i.e. increase the population of microbes helping the digestion.

ii) Probiotics also help decrease the population of harmful microbes like Clostridium.

c) Name the probiotic foodstuffs.

Ans : Probiotic products are available in various forms like yoghurt, kefir, sauerkraut (pickle of cabbage), dark chocolate, miso soup, pickles, oils, corn syrup, artificial sweeteners, microalgae (sea food like Spirulina, Chlorella, Blue green algae etc.)

Q. 4 Answer the following : (any ONE)

5

1) Answer the questions based on the given paragraph.

a) How does the lady bug beetle live?

Ans : The lady bug beetle live on biting worm, white fly worm, white moth, flower insects and bread worms.

b) Of which colour the lady bug beetles are?

Ans : Lady bug beetles are red or yellow or grey coloured.

c) State the stages of its lifecycle.

Ans : The lifecycle of this insect follows eggs, larvae, cocoon and moth stages.

d) How does it help the farmers?

Ans : Lady bug beetles are predatory insects that help farmers in destroying harmful insects

e) Who live on sucking insects?

Ans : Larvae & adults both live on sucking insects.

2) Observe the figure and label it properly and answer the following questions :

a) What is the figure related to ?

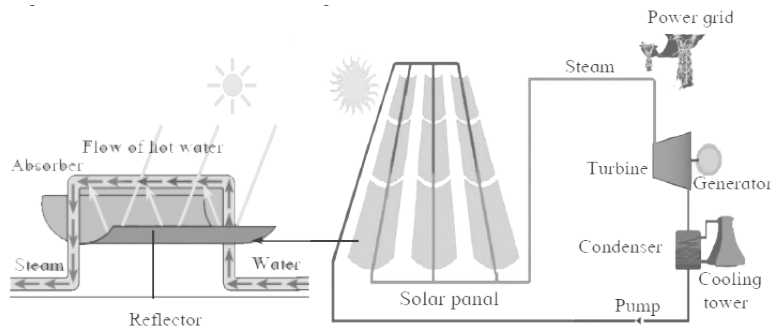
Ans : The figure is related to schematic diagram of solar thermal power plant.

b) Why are reflectors used ?

Ans : Many reflectors reflect and concentrate solar radiation on absorbers.

c) Draw a flow chart showing different stages in such process.

Ans :



d) How is the process used to generate electricity?

Ans : The energy in solar radiation is converted into thermal energy first. Then a turbine generator system is driven using that thermal energy to generate electricity.

e) What other method can be used to generate electricity using same energy source ?

Ans : Solar photovoltaic cell converts the solar radiation energy into electrical energy. This is called solar photovoltaic effect. The electrical energy generated through this energy transformation process is DC in nature.