ICSE BOARD

Biology Sample Paper

Class X

General Instructions-

1. **The paper is divided into SECTION-A and SECTION –B**
2. **SECTION-A question 1-40 carries 1 mark each.**
3. **SECTION –B 41-45 carries two marks each.**
4. **Question 46 -51 carries 5 mark each.**

SECTION –A

(1 mark each)

Name the following

1) The outward movement of water molecules causing the cells to become 'flaccid'

Ans- Exosmosis.

2) A mineral required for synthesis of chlorophyll in plants.

Ans- Magnesium

3) Transpiration normally takes place in the presence of

Ans- Sunlight

4) Guttation occurs through the

Ans - Hydathodes

5) A plant in which leaf surface is covered by thick layer of epidermal layer.

Ans- Cucurbits.

Choose the correct option

6) Adestarched plant has

a) Leaves free from chlorophyll

b) Aerial parts free from starch

c) Leaves free from starch

d) Plant free from starch

Ans: Plant free from starch

7) The main photosynthetic pigment is

a) Chlorophyll-a

b) Carotene

c) Chlorophyll-b

d) Xanthophylls

Ans: Chlorophyll-a

8) Hormones which promote plant Growth

a) Gibberllins and Ethylene

b) Auxin

c) Auxin, cytokinin and gibberllin

d) Cytokinin and Abscisic acid

Ans: Auxin

9) Human blood consists of

a) Fluid Matrix

b) Plasma

c) Formed Elements

d) All of These

Ans: Plasma

10) The thin membranous sac serving s a reservoir of urine is

a) Urinary bladder

b) Ureter

c) Glomerulus

d) Kidney

Ans: Urinary Bladder

Fill in the blanks

11) The scientific name of Java Man is…….

Ans-Homo erectus.

12) The chemical used in the demonstration of experiment on transpiration is……..

Ans-Cobalt Chloride

13)……. Takes place through seat pores.

Ans- Perspiration

14)……. Are the tiny pores present on the lower epidermis of the leaves.

Ans- Stomata

15) The first stable product formed during CO_2 fixation is ……

Ans-Phophoglyceric Acid

Match the following:

16) Basophils	Nucleus is absent
17) Cardiac cycle	Excreted by kidney
18) RBC's	Secret histamine and heparin
19) Ammonia	Valve absent
20) Aorta	0.8 sec

Ans-

Basophil	Secret histamine and heparin
Cardiac Cycle	0.8 sec
RBC's	Nucleus absent
Aorta	Valve absent
Ammonia	excreted by Kidney

Correct the following statement.

21) The outermost layer of eye is choroid.

Ans: The outermost layer of eye is sclera.

22) Deafness is caused due to the rupturing of pinna.

Ans- Deafness is caused due to the rupturing of tympanum.

23) Medulla oblongata controls the voluntary activity of the brain.

Ans- Medulla oblongata controls the involuntary activity of the brain.

24) Light dependent reactions of photosynthesis are observed to occur in stroma of chloroplast.

Ans- Light dependent reactions of photosynthesis are observed to occur in grana of chloroplast.

25) Phototropism is the growth and movement of plant in response to the force exerted by the earth.

Ans - Geotropism is the growth and movement of plant in response to the force exerted by the earth.

Name the following

26) The time period during which embryo remains in the uterus.

Ans- Gestation period.

27) The gaseous plant hormone.

Ans- Etylene

28) Learning is related to this part of brain.

Ans- Cerebrum

29) Site of photosynthesis.

Ans- Leaves

30) Rise in temperature of earth due to high emission of of greenhouse gases.

Ans- Global Warming.

Choose the odd one out.

31). Ovulation, Anaphase, Interphase, telophase, prophase.

Ans- ovulation – it is the process of release of ovum others are phases of cell division.

32)arterioles, vein, veinules,artery, Red blood cells.

Ans-Red blood cells are component of blood others are blood vassels.

33)Sneezing , blinking, coughing, typing, a digestion

Ans- sneezing, coughing, blinking, digestion are involuntary actions whereas typing is a voluntary action.

34)ovary, fallopian tube, ureter, uterus, ovum,

Ans- Ureter – It is a part of excretoty system

35)basophil, Neutrophil, eosinophil,Lymphocyte

Ans- Lymphocyte- it is a granular white blood cell

Answer the following question.

36) What are the three accessory glands present in males?

Ans- the three accessory gland present in males are Seminal vesicles, Prostrat gland, Cowper's Gland.

37) what is the function of placenta?

Ans: The placenta serves as an interface between the mother and the developing fetus and its three main functions are:

i) Attach the fetus to the uterine wall.
ii) Provide nutrients to the fetus.
iii) Allow the fetus to transfer waste products to the mother's blood.

38) What is population explosion?

Ans- Population Explosion is the process of development to sustain natural system and their yields which can be maintained for a long time without damage to the environment.

39) What is evolutionary Biology?

Ans-Evolutionary biology is the study of history of life form of earth.

40) What is Census?

Ans - Census is the official counting or survey and study of the humanpopulation after 10 years. It gives nutritive support to the developing embryo through the umblical chord.

SECTION- B

Answer the following question.

41)Mention the exact location of following.

i) Lacrimal Gland ii) Malleus

Ans

i)Lacrimal glands are also called as tear gland. They are located at the upper sideward portion of the orbit.

ii)Malleus is an ear ossicle present in the middle ear. Its one end is attached to ear drum.

42)which hormone deficiency is responsible for the following disease?

i) Diabetes Mellitus ii) Goitre iii) Cretnism iv) Adrenal virilism

Ans-Diabetes Mellitus is due to the deficiency of Insulin.

Goitre is due to the deficiency of thyroxine(T_4) and Triidothyronine(T_3).

Cretinism is caused by deficiency of thyroxine hormone.

Adrenal virilism is caused by hyposecretion of vasopressin.

43)Explain Puberty? When is it attained?

Ans- Puberty is the age , when reproductive organs become functional.Male attains puberty at the age of 11 to 16 years. Female attains puberty at the age of 10 to 14 years.

44) what are contraceptives?

Ans- contraceptives are the name given to devices that used to prevent unwanted pregnancy. Contraceptives are also called as birth control.It should be user friendly, easily anailable and should not interfere with sexual drive.

45)Give any two function of uterus.

Ans- Uterus is the place where development of embryo takes place. It gives suitable environment for the implantation of embryo.It contains aminiotic fluid which protects the embryo from shock and jerks.

46)Give reason for the following-

i)A closed can of dried seeds burst open if water somehow enters the can.

Ans- If the water enters the can the dried seed will absord the water by inbibition and swell up. The swelling will create pressure and the pressure will be exerted on wall. This pressure will cause the seed to burst open

ii)The fish living in freshwater cannot survive in the sea water.

Ans- Sea water is saline aas compared to freshwater.It is hypoyonic for freshwater fishes.It will cause plasmolysis of cells in the fish ans the fish will die.

iii)On a rainy day there is no transpiration .

Ans- on a Rainy day there is nio transpiration because The rate of transpiration is affected by transpiration.rate of transpiration decreases in high humidiy.

iv)Microorganism like bacteria , fungi dot grow in pickles , Jams and squashes.

Ans- Preservatives like hypotonic solution of sugar or salt are added toPickles, Jam squashes. These preservatives causes plasmolysis of microbial cells so they do not grow .

v)Urine is slightly thicker in summer than in winter.

Ans-Considerable part of water is loss due to perspiration as compared to winter so more water

Is absorbed in the kidney.This maked urine thicker in summer.

47) An experiment is setup in the given diagram to show investigate the physiological process in plants. This setup is kept in sunlight for two hours. Study the set up and answer the question.

i) Which process is shown in the apparatus?

Ans- The process of transpiration is seen in the setup.

ii) explain the process.

Ans- The process of loss of water from in the form of vapour from the aerial part of plant such as leaves is called transpiration.

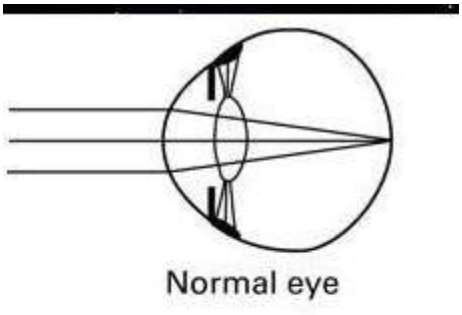
iii) What are the different adaptations in plants to reduce the given process

Ans- Stomata in leaves are deep seated in in leaves in dry environment to reduce trasnspiration. These stomata are called sunken Stomata. Example .Nerium

In most evergreen leaves a thick waxy cuticle develops over the epidermis to reduce the rate of transpiration. Example-Banyan.

In desert plants leaves are reduced to spine to prevent transpiration.

48) In the Diagram given below a defect of humaneye is depicted .Study the same and answer the following question.



i) Name the defect shown in the diagram.

Ans- The defect is Myopia or shortsightedness.

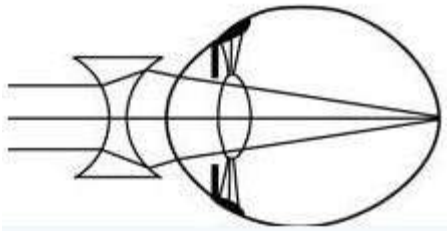
ii) explain the defect.

Ans-It is the defect in which a person cannot see the object the distant object clearly but can see the nearby object clearly.Image is formed in front of retina.

ii) Name the type of lens used to correct the defect.

Concave lens is used to rectify the defect.

iii) With the help of diagram show how the defect is rectified.


Defect is Rectified

49)Write the functions of given structures.

i) Root hairs- Root fix the plant in the soil. They help the plant to absorb mineral and water from the soil.Root hair helps in absorption of material.

ii) Xylem

Ans- Xylem is a vascular tissue present in plants.It is mainly responsible for transport of water and minerals fro root to aerial parts of the plants.

iii)Etylene-

Ans-Ethylene stimulates ripening of fruits such as tomatoes, lemon,oranges etc. It increases the rate of respiration.It enhances abcission and senescence of leaves, fruit and flower.

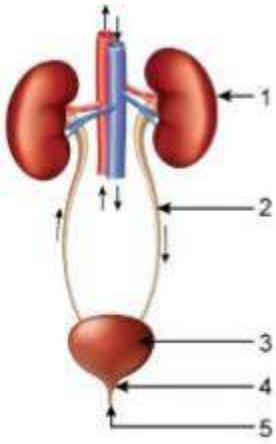
Iv)Urethra-

Ans-It is the membranous tube through which urine is emptied from bladder to the exterior. The urethral spincter keep the urethra closed anspopen only at the time of urination.

v) Plasma-

Ans- Plasma is the liquid component of blood which is slight yellow in colour. It helps in the transport ans uniform distribution of heat all over the body. It provides immunity. It maintainsPh of the blood.It helps In blood clotting,defence mechanism and osmotic balance.

50) Given diagram is a structure of Excretory system. Study the diagram and answer the following question.



i) What structure is shown in the diagram.

Ans- The structure shown is excretory System in human

ii)Name the fluid that comes to part-2. Name the main nitrogenous waste present in it.

Ans- The liquid that comes to part-2 is Glomerulus Filterate.

iv) Label the part 1-4.

Ans- part 1.Kidney

2.Ureter

3.Urinary Bladder

4.Sphincter muscle

What are the three steps of Urine Formation.

Ans- The three steps of urine formation are ultrafilteration or Glomerular Filteration. Selective Reabsorption and Tubular Secretion

51)A homozygous axial flower(A)of Pea plant aredominant over the terminal flower(a). answer the following question.

i) Mention the phenotype and Genotype of the F 1 generation if a plant bearing pure axial flower is crossed with a plant bearing pure terminal flowers.

Ans- If a plantbearing pure axial flower(AA) is crossed with a plant bearing pured terminal flower (aa), the phenotype of flower of F1 generation will be axial flower while the genotype will be Aa

ii)Draw a Punnett square to show the gametes and offspring when both the parent plant are heterozygous for axial flowers.

Ans-

Aa xAa Parents

gametes

		A	a
A		AA	Aa
a		Aa	aa

Phenotypic ratio- 3(Axial) : 1(Terminal)

Genotypic Ratio - 1(AA) :2(Aa) : 1(aa)

iii)State Mendel's Law of dominance.

Ans- Law of Dominance states that when two alternative forms of a trait or character are present in an organism, only one factor expresses itself in F1 generation. This factor is called dominant factor, while the other factor which remains hidden is called recessive character .

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