



# BIOLOGY

## BOOKS - NAVBODH BIOLOGY (HINGLISH)

### ANSWER IN ONE SENTENCE

#### Genetic Basis Of Inheritance

1. Who coined the term genetics?



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2. A pea plant pure for yellow seed colour is crossed with a pea plant pure for green seed colour. In  $F_1$  generation all pea plants were with yellow seeds. Which law of Mendel is applicable?



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3. Which law of Mendelian genetics can be considered universal



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4. The law of dominance is not universally applicable.



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5. Genotypic ratio of dihybrid cross is:



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6. How are RBCs changed due to sickle cell anaemia?



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7. Who discovered the inheritance of kernel colour in wheat?



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8. Identify which one of the following is a test cross.

(i)  $Tt \times Tt$  (ii)  $T \times$  (iii)  $Tt \times$



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9. What is codominance?



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**10.** What is a cross called between an individual with unknown genotype for a particular trait with a recessive individual of the same trait?



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**11.** What is a lethal gene?



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**12.** Which inheritance was described by Davenport and Davenport?



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**13.** What are mullatoes?



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**14.** What colouration do roans possess? Why?



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## Gene Its Nature Expression And Regulation

1. Why are DNA strands considered antiparallel?



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2. What are the components of a nucleotide ?



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3. Why is the genetic code considered as commaless?



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4. What is the function of RNA primer during protein synthesis?



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5. What will be the length of eukaryotic DNA segment having 10 pairs of nucleotides?



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6. What is DNA replication in prokaryotes called? Why?



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7. Which pyrimidine is absent in DNA but present in RNA?



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8. What is Chargaff's rule?



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9. What is NHC?



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**10.** Name the enzyme that digests and destroys DNA.



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**11.** What is the bond between sugar and nitrogen base known as? Where is it present ?



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**12.** Which enzyme is responsible for the activation of nucleotides at the time of DNA replication?



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**13.** What is the function of SSBP?



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**14.** What is the function of enzyme helicase at the time of DNA replication?



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**15.** In which direction the polymerization of DNA strands can occur? Which enzyme catalyzes this process?



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**16.** Which enzyme joins the Okazaki fragments?



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**17.** Who proved the semi-conservative nature of DNA replication? What did they use in this experiment?



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**18.** Enlist the histones which form an octamer of nucleosom.



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**19.** What are the components of nucleosome?



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**20.** Solenoid fibre



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21. At which ends do capping and tailing of hnRNA occur respectively?



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22. Which are stop codons and which are initiation condons?



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**23.** Which amino acid is specified by start codon AUG?



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**24.** Name the 21st amino acid.



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**25.** Enlist six important features of genetic code.



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26. What are the enzymes required in the metabolism of lactose?



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27. In an operon what is present in between the promoter and structural genes?



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**28.** Who proposed classical model of Lac operon? What does this model explain?



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**29.** What will be the length of eukaryotic DNA segment having 10 pairs of nucleotides?



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**30.** Which molecule in the DNA strand has three active -OH groups?



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**31.** Name the double ring compounds and single ring compounds in the DNA molecule.



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**32.** Which is the process that removes introns from RNA?



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## Biotechnology Process And Application

**1.** Enlist the wide range of applications that involve biotechnology.



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2. What is genomic library?



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3. What are the molecular scissors?



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4. What is transfection and transformation?



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5. What is transduction?



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6. Which vectors are useful in insects, plants and yeast respectively for biotechnological experiments?



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7. What is 'Alu' sequence?







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8. Name the three steps of PCR technique in proper sequence.



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9. Which are commonly used bacteriophages as cloning vectors?



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10. Which part of the virus is called a ghost?



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11. What are exonucleases and endonucleases?



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12. Name the gene that produced Bt toxin.

What does it produce?



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**13.** Give the meaning of 'Nif' gene?



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**14.** What are sticky ends?



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**15.** Name any one therapeutic product of blood proteins made by using r-DNA technology.



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16. Which is the most widely used vector for producing Bt crops?



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17. What are jumping genes ?



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**18.** Enlist types of DNA library.



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**19.** BACTERIOPHAGE



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**20.** Give an example of the source of thermostable enzyme DNA polymerase.



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**21.** Name the enzyme responsible for delay in ripening of tomato fruits.



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**22.** Give the role of plasmids in bacterial cell.



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**Enhancement In Food Production**

1. what is protoplast fusion ?



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2. Give the scientific name of the bacterium which is cultivated as a source of SCP.



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3. Give application of mutation breeding.



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4. Explain how biofortification as a strategy is used for dealing with deficiencies of micronutrients in the developing world.



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5. Which variety of sugar cane having high sugar content and better yield is cultivated in south Indian?



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6. Which crop diseases are caused by fungi?



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7. what is meant by ' hidden hunger?



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8. Name the commonly occurring deficient micronutrients in staple crops like wheat and rice.



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9. Which variety of wheat has been used as a donor for improving cultivated wheat?



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10. What do you mean by germplasm collection ?



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**11.** What is agar agar?



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**12.** In what way, is the micropropagation technique useful?



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**13.** Why are apical meristems used as explants in tissue culture technique?





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**14.** Name the high yielding semi-dwarf varieties of wheat selected and introduced in India in 1963.



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**15.** The secondary metabolite obtained from *Catharanthus roseus* is



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**16.** Name the Nobel Laureate regarded as the father of Green revolution.

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**17.** Name two better yielding semi-dwarf varieties of rice developed in India.

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**18.** Golden Rice



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19. Which culture medium is commonly used these days?



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20. What is callus?



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1. Name the steps involved in beer production.



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2. Name the microbe that helps in the production of citric acid and vitamin C.



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3. From which microorganism is vinegar obtained?



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4. Name the strain of yeast used in industrial production of wine.



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5. What are heterocysts?





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6. Give the importance of heterocyst in cyanobacteria.



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7. From which microbial source can pectinase be obtained?



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8. Give the microbial source of vitamin  $B_{12}$ .



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9. Name the two Japanese scientists who first isolated gibberellin.



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10. What is the microbial source of the enzyme cellulase?





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**11. (a)** What is biocontrol?



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**12.** What are cyanobacterial biofertilizers?



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**13.** What are flocs used in secondary sewage treatment?



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**14.** Which are the bacteria responsible for converting organic acids into methane?



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**15.** Give the role of VAM related to soil fertility.



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16. What is mycoherbicide?



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17. How  $CO_2$  makes idlies puffy?



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18. Name any two edible mushrooms.



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**19.** Give any example of the non-edible or poisonous mushroom studied by you.



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**20.** Name the aquatic fern commonly used in paddy field as a biofertilizer.



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**21. What is VAM?**



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**22. What is SCP?**



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**23. Biofertilizers.**



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24. Where do endomycorrhizae grow?



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25. Which two algae are grown on large scale as source of good protein?



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**Photosynthesis**



1. Which substance acts as hydrogen acceptor in plants when photolysis of water takes place?



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2. What are cytochromes?



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3. When does cyclic photophosphorylation take place?



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4. How many  $NADPH_2$  and ATP are required for the synthesis of one molecule of glucose?



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5. Why is chlorophyll-a called an essential pigment?



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6. What are chemoautotrophs?



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7. What is plastidome?



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8. Name the specific areas in membranes of thylakoids where photosynthetic pigments are located.



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9. Name the reaction centers of PS I and PS II.



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**10.** Which ions are present in PS II? What role do they play?



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**11.** What is the Hill reaction? How can it be demonstrated?



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**12.** What are the two main types of carotenoids ? Name the two photosynthetic pigments belonging to them.



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**13.** What is chemiosmosis? Who proposed the chemiosmotic hypothesis?



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14. Which is the first  $CO_2$  acceptor in  $C_3$  pathway?



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15. In CAM plants, why is acid concentration increased during night?



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**16.** What role do, calcium, magnesium and chloride ions play in photosynthesis?



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**17.** Who gave the law of limiting factors?



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**18.** Give the summary equation of dark reaction.





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19. Why have arid plants evolved  $C_4$  pathway of photosynthesis?



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20. Which is the ultimate pathway for fixing carbon dioxide ( $CO_2$ ) into glucose?



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21. Which two unicellular algae were used by Ruben and Kamen to confirm that the source of oxygen evolved during photosynthesis was water.



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22. What was used to prove that the source of oxygen evolved during photosynthesis is water?



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**23.** What is fret channel ? What is its function ?



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**24.** Give three examples of chemoautotrophs.



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**25.** What is quantasome?



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**26.** Give the expanded form of C C and LHC.



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**27.** Which ions are present in PS II? What role do they play?



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**28.** Photolysis of water.



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**29.** In CAM plants, why is acid concentration increased during night?



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**30.** Why is chlorophyll-a called an essential pigment?



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# Respiration

1. Name the process which is common to both aerobic and anaerobic respiration.



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2. Where does dehydration occur in glycolysis?



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3. Name the cell organelle in which Krebs' cycle occurs.



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4. How much energy is released when one molecule of ATP is hydrolysed to ADP and  $P_i$ ?



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5. What are oxysomes?



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6. Where are electron carriers of ETS and enzymes required for ATP synthesis located?



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7. What is the fate of pyruvate under aerobic conditions?



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8. Glycolysis is also called EMP pathway.



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9. When carbohydrates are completely oxidized during respiration, what is the RQ and why



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**10.** Name the reactions when,  $\alpha$ -ketogluterate is converted into succinyl Co-A in Krebs cycle.



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**11.** What is fermentation ?



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**12.** Name the process of respiration which does not involve intake of oxygen ( $O_2$ ) and

release of carbon dioxide ( $CO_2$ ).



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**13.** Name the organism and enzyme which bring about alcoholic fermentation of sucrose.



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**14.** What are respiratory substrates? Name the most common respiratory substrate.



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**15.** Name the products of lactic acid fermentation.



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**16.** Which enzyme converts glucose-6-phosphate into fructose-6-phosphate ?



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17. The first stable compound of Krebs cycle is



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18. What is oxidative decarboxylation?



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## Reproduction In Plants

1. What is vegetative propagation?



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2. What is the common method of propagation in Bryophyllum?



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3. What is grafting?



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4. What are stem tubers?



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5. What is ploidy level of endosperm in Angiosperms?



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6. What is an eye of potato?



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7. Name any three plants in which natural vegetative propagation occurs through leaves.



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8. Which is the initial stage of the sporophyte in sexually reproducing plants?



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**9.** Name the initial cells of the male and female gametophytes.



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**10.** State any two subaerial modifications for vegetative propagation.



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**11.** Which characteristics of endosperm help in the dehiscence of the anther?



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**12.** What role does the tapetum play?



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**13.** What is an anatropous ovule?



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**14.** What is funicle? What is hilum?



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**15.** In angiosperms, during vegetative reproduction, propagules are produced. What are the characteristic features of propagules?



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**16.** What is chalaza?



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**17.** Give one example each of dicot endospermic seed and nonendospermic seed.



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**18.** Which flowers are called ornithophilous?



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**19.** Which plants produce needle like pollen grains?



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**20.** What is dichogamy?



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**21.** Formation of primary endosperm nucleus is called triple fusion. Give reason.



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**22.** What are slips produced by tuberous roots during vegetative reproduction?



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**23.** Enlist any two floral adaptations in *Salvia*.



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**24.** Which buds sprout under favourable conditions in sweet potato to produce leafy shoot?



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**25.** What is stock?



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**26.** At which stage, the pollen grains are liberated in the most angiosperms?



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**27.** Name the nuclei taking part in triple fusion.



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**28.** What is egg apparatus?



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**29.** What is meant by dispersal of seeds?



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## Organisms And Environment I

**1.** What is polyblend?



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2. Which organisms are macroconsumers?



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3. Name the important steps in the process of decomposition.



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4. Enlist the important ecological services.



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5. What are seral stages?



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6. Which organisms are known as pioneers?



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7. What is global warming?



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8. Which green house gas is mainly responsible for global warming?



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9. Which ozone is called a bad ozone?



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10. What is ozone hole and where it is seen ?



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**11.** Name the simplest of nutrient cycles operating in an ecosystem.



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**12.** Which award is given by the Government of India for showing the courage and dedication in protecting wildlife?



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**13.** Mention any two ecological services for the benefit of mankind.



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**14.** What is the role of decomposers in an ecosystem?



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15. What is habitat ?



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16. What is meant by ecological succession?



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17. Which organisms are commonly called decomposers?



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## Origin And Evolution Of Life

1. Hugo de Vries was working with plant *O. lamarkiana*. He was responsible for proposing which theory of evolutionary processes?



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2. What is protobiogenesis?



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3. Name the ancestor of human which is described as a man with ape brain.



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4. What is meant by coacervate?



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5. What is considered as a landmark in the origin of life?



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6. While touring Galapagos islands, Charles Darwin came across some birds which exhibited variation in beaks due to variation in feeding habits. Which birds were these?



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7. What are panspermia?



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8. Name the connecting link between amphibians and reptiles.



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9. What is the other name for genetic drift?



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**10.** Urey and Miller's spark discharge apparatus was designed to provide experimental support for whose theory of evolution?



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**11.** Modern man is placed in the order Primates of class Mammalia. Which family is he included in?



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**12.** Which stage in human evolution lies between *Propliopithecus* and *Ramapithecus*?



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**13.** Burial of dead with due rites is considered to be an important step in human evolution. Which human was first to perform these ceremonies?



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**14.** Which period is known for origin of amphibians?



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**15.** Which epoch showed rise of the first primates?



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**16.** Name the connecting link between reptiles and birds.



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**17.** Name the two classes to which Archaeopteryx acts as connecting link.



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**18.** What is Ichthyostegia?



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**19.** Mention any one skeletal difference between ape and man.



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**20.** Who discovered fossils of Cro-Magnon at first and from where?



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21. What is meant by the term organic evolution ?



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22. Define organic evolution.



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23. What is Darwinism?



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**24.** When did life come into existence?



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**25.** What is the modern concept regarding the origin of life?



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**26.** What was the kind of atmosphere on the primitive earth?



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**27.** Who are the forerunners of life on the earth? Who suggested this idea?



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**28.** When did the earth originate?



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**29.** Name the scientists who experimentally proved the theory of chemical evolution.



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**30.** What are protoproteins?



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**31.** What are protobionts?



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**32.** What are the three types of struggle for existence?



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**33.** What is gene frequency?



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**34.** What is a gene flow?



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**35.** Who called birds as glorified reptiles?



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**36.** Analogous organs lead to which type of evolution?



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**37.** Which bone is remnant of tail in human beings ?



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**38.** Which period is dominant for Amphibia?



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**39.** Name the epoch when mammals were at the height of evolution.



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**40.** Name the era when birds began to origin.



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**41.** Define adaptive radiation.



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**42.** Name the four types of chromosomal aberrations.



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**43.** Which insect displayed industrial melanism?



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**44.** Who reported industrial melanism and in which organism?



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**45.** Give the examples of post-mating isolating mechanisms.



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**46.** What are fossil mould and fossil cast?



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## Chromosomal Basis Of Inheritance

1. What are homologous chromosomes?



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2. What is the difference between centromere and telomere?



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3. Which part of the chromosome is called nucleolar organizer?



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4. Mention different types of chromosomes according to the position of centromere.



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5. Why do sex-linked traits appear more in males than in females?



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6. Explain the terms homogametic and heterogametic.



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7. What is heterogametes?



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8. Define the term heterogametes.



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9. What happens if the gene for production of factor VIII and IX becomes recessive?



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10. Name the disorders caused due to incomplete sex linkage.

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11. Give any two names of X-linked diseases.

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12. Give genotype of Turner's syndrome.

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**13.** State any two symptoms of Down's syndrome.



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**14.** Give the pair of sex chromosomes in male and female birds.



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**15.** Which type of chromosomal disorder shows monosomy?



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**16.** Give two examples of chromosomal disorders showing trisomy.



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**17.** What is the cause of Thalassemia?



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**18.** When do chromosomes appear short and thick? Why?



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**19.** When are the chromosomes seen in the form of chromatin network?



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20. What is satellite in the chromosome?



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21. Name any two disorders caused due to autosomal genetic mutations in human.



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22. Name any two sex chromosomal abnormalities.





[View Text Solution](#)

23. Why are secondary constrictions called nucleolar organizers?



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24. Which theory was put forth by Sutton and Boveri?



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25. What is meant by euploidy?



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26. What is the difference between centromere and telomere?



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27. What does sex ratio indicate?



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**28.** What is PNDT Act of 1996?



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**29.** What are variations?



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**30.** What is the genetic difference between total colour blindness and red-green colour blindness?



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**31.** What are holandric genes? Give one example of the same.



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**32.** Which clotting factors are deficient in bleeder's disease or haemophilia?



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**33.** Why is Y chromosome genetically less active?



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## Genetic Engineering And Genomics

**1.** Give the name of the process involved in DNA fragmentation.



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2. Name the hormone purified from dog's pancreas by Banting and Best.



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3. What does abbreviation HGP stand for?



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4. What is the probability of having similar sets are VNTRs in any two individuals?



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5. Though we inherit parental genes, we differ a lot from our parents, justify the statement in one sentence.

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6. On which technique DNA fingerprinting is based?

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7. Identify the word which is so called for the unique genetic makeup of every individual.



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8. Suggest the word (for the process) when DNA sample is subjected to restriction endonuclease.



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9. Name the two types of maps generated by HGP.



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10. Write down the full form of RFLP.



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11. Which is a key factor in DNA profiling?



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**12.** Name the radioactive probe used in India for DNA fingerprinting.



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**13.** Mention the first vaccine developed against any human diseases.



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**14.** What is the blueprint of humanity ?



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**15.** (dsDNA) is split into (ssDNA) by alkaline chemicals. Identify the steps involved in this technique.



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**16.** What is the use of tissue plasminogen activator?



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**17.** Which material is used for isolation of DNA in fingerprinting technique ?



**Watch Video Solution**

**18.** Which growth hormone is used to enhance dairy productivity?



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**19.** Give the use of bovine growth hormone.



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**20.** Write benefits of transgenic animals.



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**21. Adjuvant.**



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**22. What is vaccine**



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**23. Which paper is used for Southern blotting?**



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## 24. Genomics



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25. Which chromosome was used by Dr. Lalji Singh for obtaining radioactive DNA probe?



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**26.** Who produced the first vaccine and against which diseases was it produced?



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**27.** Which was the first transgenic cow? What was her speciality?



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**28.** Restriction digestion.



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**29.** Which organism is used in the production of insulin?



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**30.** What is VNTR? Who isolated them?



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**31.** Define the term genome. And Who gave the term genome?



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**32.** What is the actual number of genes found by HGP in the human genome?



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**33.** What is diabetes mellitus?



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## Human Health And Diseases

1. What are the notable marks of oral cancer?



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2. How antibodies are transferred in natural acquired passive immunity?



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3. What is schizont?



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4. Answer the following questions only in 'one sentence each :

Name the type of T-lymphocyte which secretes perforins ?



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5. Give any 'two' modes of transmission of amoebiasis.



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6. What are the meanings of arthralgia and hepatomegaly?



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7. What is the meaning of HAART?



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8. What are epitope and paratope?



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9. Where does Plasmodium reproduce asexually and where does it reproduce sexually?



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**10.** Name the worms that cause lymphatic filariasis.



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**11.** Which are the most common genera of dermatophytes that cause fungal infections?



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**12.** What are ascaricides? Give examples of the same.



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**13.** What is adenoma?



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**14.** Name the term for the transmission of HIV from pregnant mother to foetus.



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**15.** What are the factors that maintain good health?



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**16.** Name the bacteriolytic enzyme present in the tears.



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**17.** By which process are T cells and B cells produced?



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**18.** Which cells secrete perforin and what is its function?



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**19.** Name the cell that produces lymphokines.





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20. Name the scientists who discovered AB blood group.



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21. Which antigen is present in the RH + ve person?



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**22.** Why male mosquito does not spread malaria?



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**23.** Name the process in which a tumour successfully spreads to the other parts of the body, grows and destroys healthy tissues.



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**24.** What is serology?



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**25.** What are the different types of genetically determined blood group systems?



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**26.** How is heroin or smack obtained?



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27. What does inflorescence of Cannabis sativa yield?



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28. Which drug interferes with neurotransmitter dopamine?



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29. Which plant yields LSD?



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**30.** Name the emotional part of the brain.



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**31.** Which are the drugs that are commonly abused?



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**32.** Name the sexually transmitted disease caused by *Treponema pallidum*.



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## Animal Husbandry

**1.** Enlist the components of silage and what is supplementary food for silage?



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2. Name the Indian field crops which have increased productivity due to honeybees.



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3. What is the major achievement of animal breeding?



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4. Name the viral diseases in poultry animals.





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5. On the basis of origin write the various poultry breeds used in poultry.



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6. Enlist parasitic diseases of poultry.



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7. What is the main aim of farm management?



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8. Name the breeds of cow that are used for dairy in India.



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9. Give the scientific names of silkworm and lac insect.



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10. Name the type of animal breeding carried out to produce a mule.



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11. Give two varieties of silk which are considered as of inferior quality.



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**12.** Mention any 'two' methods used to prevent spoilage of fish.



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**13.** What is the common name of *Apis mellifera*?



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**14.** Visit of a veterinary doctor to a dairy farm is mandatory. Give reasons.



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**15.** Which is a protozoan diseases of poultry?



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**16.** Name the viral diseases in poultry animals.



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17. Which is a new breed of sheep developed in Punjab and to which varieties do its parents belong?



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18. Which hormone is used in MOET technology? Why?



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**19.** Which are domesticated species of honeybees?



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**20.** Give the scientific names of rock bee and little bee.



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**21.** Why are prawns and lobsters considered as important fishery resources?



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**22.** Name the three types of silk obtained from silkworm.



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**23.** Name the six breeds of buffalo in India.



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24. What are the milk products obtained through the dairy practices?



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25. Name the products other than milk products obtained by dairy farming.



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**26.** What is a breed?



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**27.** Which is the best layer and which are the best broiler varieties of poultry?



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**28.** What are the uses of lac?



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**29.** What are the various products obtained by bee keeping?



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**Circulation**

**1.** What is diapause?



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2. Name the cells which produce thrombocytes.



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3. What is cardiac cycle?



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4. Name the connection between the pulmonary trunk and systemic aorta. What does it represent?





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5. What is foramen ovale and how is it related to fossa ovalis?



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6. Name the valve between left atrium and left ventricle and give its significance.



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7. Why pulse rate is higher in children than adults?



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8. Why does left ventricle possess thicker wall than the right ventricle?



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9. What is the difference between chordae tendinae and columnae carnae?



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10. Which disorder is commonly called silent killer?



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**11.** Who discovered the technique of ECG?

What is he called?



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**12.** What is sinus arrhythmia?



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**13.** What is the difference between stroke volume and cardiac output?



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**14.** Name the neurotransmitters that decrease and increase the heart rate in human beings respectively.



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**15.** What is angina pectoris?



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**16.** Raju was suffering from following symptoms, heaviness in the chest, also in the region of neck, lower jaw, left arm and left shoulder. What does this indicate?



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**17.** What is the difference between tachycardia and bradycardia?



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**18.** What are the effects of excessive hypertension?



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**19.** In this electrocardiogram which wave represents ventricular diastole.



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20. Mention the role of pacemaker in human heart.



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21. What is circulatory system?



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22. What is haematology?



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**23.** What is double circulation?



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**24.** What is pH of blood?



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**25.** How much blood is present in the human body and what percentage of body weight

does it form?



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26. What is the percentage of plasma in the blood and how much water does it contain?



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27. What is the average life span of RBCs?



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**28.** What is normal RBC count and total WBC count?



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**29.** What is erythropoiesis?



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**30.** What is increase in the RBC number called?



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**31.** Name the process of formation of white blood cells.



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**32.** What is leucopenia and erythrocytopenia?



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**33.** What is the difference between anaemia and leukaemia?



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**34.** Which WBC is called scavenger? Why?



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**35.** Name the space in which human heart is located.



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**36.** Name the layers of peritoneum that surrounds the heart sequentially from outside to inside.



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**37.** What are the three layers of heart wall?



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**38.** Which are upward deflections in electrocardiogram?



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**39.** Why QRS complex is a downward deflection?



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**40.** What is heart attack called in medical terminology?



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**41.** Electrocardiograph / ECG



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**42.** What is arterial blood pressure?



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**43.** Name the instrument used to measure blood pressure.



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**44.** When is a person described as having hypertension?



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**45.** What are the effects of excessive hypertension?



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**46.** What is Sinus arrhythmias ?



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**Excretion And Osmoregulation**

1. What is ornithine cycle? Where does it occur?



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2. What happens during inosinic pathway?



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3. Answer in sentence each :

Why aquatic animals can afford to be

ammonotelic,



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4. How is the duct of Bellini formed?



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5. What is Pygmalion corpuscle?



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6. What is glucosuria?



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7. What is uremia?



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8. What causes diabetes insipidus? Mention two important symptoms of the same.



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9. Which hormone like substances are secreted from kidney?



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10. What is cadaveric transplantation?



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11. What is the synonym for Bright's disease?



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**12.** What is gout ?



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**13.** What is renal fascia?



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**14.** Name the enzyme secreted by JG apparatus  
and write its function.



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**15.** Name smooth muscles of urinary bladder.



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**16.** Which bile pigments are produced by the breakdown of haemoglobin ?



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**17.** How does skin take part in excretion?



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**18.** Which organ in the body maintains hydrogen ion concentration in all vertebrates?



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**19.** In aquatic invertebrates, how much water is required to eliminate 1 gram of ammonia?



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20. What is guanotelism?



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21. Name some guanotelic animals.



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22. What is formed by the breakdown of purine and pyrimidine in the human body?



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23. Why are kidneys called retroperitoneal?



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24. What is the capacity of urinary bladder?



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**25.** What are columns of Bertini?



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**26.** Where are podocytes located?



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**27.** Which substances are pumped out of PCT?



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**28.** How many nephrons are present in each kidney and that is the length and diameter of each?



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**29.** What are the three types of AKI (Acute Renal Injury)?



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**30.** What is the meaning of ureterolithiasis?



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**31.** What is the meaning of nephrolithiasis?



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**32.** By which process ammonia is converted into urea in liver ?



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## Control And Coordination

1. Enlist meanings of human brain.



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2. Give names of ear ossicles.



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3. Where is general motor area located? What is the function of this area?



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4. What is the function of Broca's area?



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5. Which regions/cells secrete cerebrospinal fluid?





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6. What is foramen of Monro?



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7. Cerebral cortex and cerebral medulla are the parts of cerebrum. Name the cells which helps in conduction of impulses through these parts.



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8. Autonomic Nervous System is semi-independent in function. Justify.



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9. Both cerebral hemispheres are interconnected by corpus callosum. Why?



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**10.** Name the part of the brain completely covered by cerebral hemispheres.

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**11.** What is the function of Habencular commissure?

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**12.** What are the parts of the brain stem?



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13. Which cranial nerve is called a dentist nerve?



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14. Give names of cranial nerve numbers  $VI^{th}$  and  $VII^{th}$ .



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15. Give examples of unconditional reflexes.



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16. Vagus nerve is mixed nerve. Justify.



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17. In an accident ascending tract of spinal cord of a person was damaged. Which activity will be hampered?





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**18.** Give the function of arbor vitae.



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**19.** Which areas are present in the post central gyrus?



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**20.** Which areas are located on temporal lobe?



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**21.** What is the main function of occipital lobe?



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**22.** What is neuroendocrine system?



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**23.** Which embryonic germ layer gives to central nervous system?



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**24.** What is the quantity of cerebrospinal fluid in adult human beings?



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**25.** What kind of nervous system is seen in Hydra, earth-worm and cockroach?



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**26.** How many neurons are present in the brain?



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**27.** Which part of the brain forms 80-85% of the brain?



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**28.** Which sense is poorly developed in human beings and what is the reason for this?



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**29.** Name the largest commissure present in human brain.



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**30.** Where are lateral ventricles situated and what is its roof called?



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31. Name the three sulci present on the cerebral hemispheres.



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## Hormonal Coordination

1. What is the difference between Lorain dwarf and Frohlic dwarf?



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2. What is the main difference between diabetes mellitus and diabetes insipidus?



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3. Which cells secrete coherin? What is the function of coherin?



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4. Name the disorder caused by the under secretion of thyroxine in children.



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5. Name the hormones that regulate the calcium balance.



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6. Name the dual exocrine as well as endocrine gland. Which hormones does it secrete?



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7. Which hormone is secreted by heart when blood pressure increases?



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8. Name different regions of Adrenal cortex.



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9. Name two hormones secreted by Adrenal medulla.



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10. Which cells of pancreas secrete hormones?



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**11.** Where is pituitary gland located ?



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**12.** How is Simmond's disease caused?



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**13.** How is Addison's disease caused?



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**14.** How is Cushing's disease caused?



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**15.** Which hormone is tested for confirming pregnancy?



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**16.** Name the hormones secreted by corpus luteum.



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**17.** What are the functional disorders of thyroid gland?



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**18.** Name the four peptide hormones secreted by endocrine cells of alimentary canal.



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**19.** What is the difference between Gull's disease (Myxoedema) and Grave's disease?



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**20.** What is the cause of diabetes insipidus?  
What is the symptom of it?



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21. A person is showing symptoms like increased BMR, heart rate, blood pressure and deposition of fats in eyes sockets . Name the disease he is suffering from .



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## Human Reproduction

1. Which muscles form the wall of the scrotum?



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2. Name the fibromuscular band that connects the testis to the wall of scrotum.



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3. Cryptorchidism is



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4. Name the substance present in the semen which causes contractions of female reproductive tract at the time of fertilization?



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5. Mention any 'two' functions of uterus?



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6. What is the function of acrosome ?



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7. How is pregnancy detected by testing urine?



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8. Why is zona pellucida retained around the egg till it reaches uterus?



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9. A mother of one year old daughter wanted to space her second child. Her doctor suggested CuT. Explain its contraceptive actions.



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10. What is the full form of IVF ?



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**11.** What does 'IUCD' indicate ?



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**12.** Mention the function of

(a) Zona pellusida



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**13.** What will happen if Zona Pellucida gets damaged accidentally?



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**14.** Write the function of each of the following

:

(a) Seminal vesicle

(b) Scutellum

(c) Acrosome of human sperm.



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**15.** The entrance to oviduct of a lady is blocked, she wants child. Which method will help her?



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**16.** How many primary spermatocytes and oocytes are required for formation of 100 spermatozoa and ova?



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17. When caesarean section/process is essential?



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18. What is the role of birth control pills?



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19. Which hormonal secretion is inhibited by birth control pill?



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20. Mention the names of any two IUCD.



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21. What is the duration of pregnancy in human female?



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**22.** What is the significance of implantation?



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**23.** What is agamogeny?



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**24.** What is gemmule? How is gemmule formed?



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**25.** What is the function of Sertoli cells?



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**26.** What is the function of interstitial cells of Leydig?



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27. Name the two postero-lateral tissues present in the penis.



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28. What is lactation?



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29. What is colostrum?



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**30.** From which germinal layer the nervous system is derived?



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**31.** What is the beginning of the menstrual cycle called?



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**32.** Which part of female genitalia are respectively homologous to scrotum and penis in males?



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**33.** Name the gland in females which is homologous to Cowper's gland. Mention its function.



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**34.** Which glands are modified to form breasts?



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**35.** Where is milk stored in the breasts?



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**36.** Name the ligaments that keep uterus in place.





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**37.** Which stage is called mature Graafian follicle?



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**38.** Name the three layers of the uterus.



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**39.** What are the dimensions of fully formed human placenta?

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**40.** Give the functions of scrotum .

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**Organisms And Environment Ii**

1. Why are only left ovary and oviduct present in birds?



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2. Who gave the competitive exclusion principle? What does it state?



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3. What will happen if predator population becomes more efficient?



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4. State the interaction in two leopards running to catch a deer as their food.



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5. Introduction of an exotic breed destroyed a lawn. What may be the name of possible species?



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6. What is the effect of tobacco smoke on respiratory tubules in man?



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7. State the cause of Minamata disease.



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8. What are cursorial and fossorial adaptations?



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9. Major source of air pollution is



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**10. What is Red Data Book ?**



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**11. Name the gas which caused the Bhopal gas tragedy in 1984.**



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**12.** Which method of conservation of biodiversity includes hot spot method?



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**13.** What is PUC certificate mandatory for all vehicles?



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**14.** Give any two examples of commensalism.



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**15.** Give any two examples of endangered species.



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**16.** Longer toes and long prehensile tail indicate which adaptation ?



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**17.** State the formula to calculate Natality.



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**18.** What is the role of NEERI?



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**19.** What is smog? Who coined this term?



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20. Which is the place having highest sulphur dioxide pollution in Mumbai?



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21. Which city has highest concentration of suspended particulate matter in the air?



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22. Which city has the highest concentration of carbon monoxide pollution?



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23. Which is the most polluted river of India?



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24. What is population?



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**25.** What is the effect of selenium on human body?



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**26.** What is the effect of cadmium on human body?



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**27.** What is the effect of arsenic on human body?



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**28.** Give one point of distinction between population and community.



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**29.** What are cursorial and fossorial adaptations?



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**30.** Which animals show longer loop of Henle?

Why?



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**31.** Name any two volant adaptations.



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**32.** What are the main factors that decide the density of a population?



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**33.** What is the difference between emigration and immigration?



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**34.** What is age structure?



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**35.** What is the main cause of extinction of species due to human activities?



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**36.** Give two examples of vulnerable mammal species.





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**37.** Give two examples of animals belonging to rare species.



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