



# **BIOLOGY**

## **BOOKS - TRUEMAN'S BIOLOGY**

### **(ENGLISH)**

**(AIPMT(NEET Phase-1)-2016)**

**(Conducted by CBSE on 01-05-2016)**

**(Solved Paper)**

**Mcqs**

1. In a testcross involving  $F_1$  dihybrid flies, more parental-type offspring were produced than the recombinant-type offspring. This indicates:

- A. (a) Both of the characters are controlled by more than-one gene
- B. (b) The two genes are located on two different chromosomes.
- C. (c) Chromosomes failed to separate during meiosis

D. (d) The two genes are linked and present on the same chromosome

**Answer:**



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2. Water soluble pigment present in cell vacuole is

A. Anthocyanins

B. Xanthophylls

C. Chlorophylls

D. Carotenoids

**Answer:**



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**3.** Which of the following pairs of hormones are not antagonistic (having opposite effects) to each other ?

A. Relaxin - Inhibin

B. Parathormone - Calcitonin

C. Insulin - Glucagon

D. Aldosterone -Atrial Natriuretic Factor

**Answer:**



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**4. Mitochondria and chloroplast are**

(a) Semi-autonomous organelles

(b) Formed by division of pre-existing organelles and they contain DNA but lack

protein synthesizing machinery

Which one of the following options is correct

- A. Both (a) and (b) are false
- B. Both (a) and (b) are correct
- C. (b) is true but (a) is false
- D. (a) is true but (b) is false

**Answer:**



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5. Which of the following is not a feature of the plasmids ?

- A. Single- stranded
- B. Independent replication
- C. Circular structure
- D. Transferable

**Answer:**



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6. A plant in your garden avoids photorespiratory losses, has improved water use efficiency shows high rates of photosynthesis at high temperatures and has improved efficiency of nitrogen utilisation. In which of the following physiological groups would you assign this plant

A. Nitrogenfixer

B.  $C_3$

C.  $C_4$

D. CAM



**Answer:**



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7. Emerson's enhancement effect and red drop have been instrumental in the discovery of

A. Oxidative phosphorylation

B. Photophosphorylation and non-cyclic electron transport

C. Two photosystems operating simultaneously

D. Photophosphorylation and cyclic electron transport

**Answer:**



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8. Which type of tissue correctly matches with its location

<b>Tissue</b>	<b>Location</b>
(1) Cuboidal epithelium	Lining of stomach
(2) Smooth muscle	Wall of intestine
(3) Areolar tissue	Tendons
(4) Transitional epithelium	Tip of nose



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9. When does the growth rate of a population following the logistic model equal zero ? The logistic model is given as  $dN/dt = rN(1-N/K)$ :

A. when death rate is greater than birth rate.

B. when  $N/K$  is exactly one

C. when  $N$  nears the carrying capacity of  
the habitat

D. when  $N/K$  equals zero

**Answer:**



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**10.** Which one of the following statements is not true ?

- A. Stored pollen in liquid nitrogen can be used in the crop breeding programmes
- B. Tapetum helps in the dehiscence of anther
- C. Exine of pollen grains is made up of sporopollenin
- D. Pollen grains of many species cause severe allergies

**Answer:**



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11. Which one of the following statements is wrong

A. Phycomycetes are also called algal fungi

B. Cyanobacteria are also called blue-green algae

C. Golden algae are also called desmids

D. Eubacteria are also called false bacteria

**Answer:**





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12. The Avena curvature is used for bioassay of

A. Ethylene

B. ABA

C.  $GA_3$

D. IAA

**Answer:**



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**13.** Which of the following structures is homologous to the wing of a bird?

- A. Flipper of Whale
- B. Dorsal fin of a Shark
- C. Wing of a Moth
- D. Hind limb of Rabbit

**Answer:**



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14. Blood pressure in the pulmonary artery is

- A. less than that in the vena cava
- B. same as that in the aorta
- C. more than that in the carotid
- D. more than that in the pulmonary vein

**Answer:**



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**15.** Fertilization in humans is practically feasible only if

A. the sperms are transported into cervix within 48 hrs of release of ovum in uterus

B. the sperms are transported into vagina just after the release of ovum in fallopian tube

C. the ovum and sperms are transported simultaneously to ampullary - isthmic junction of the fallopian tube

D. the ovum and sperms are transported simultaneously to ampullary - isthmic junction of the cervix

**Answer:**



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**16.** In meiosis crossing over is initiated at

A. Diplotene

B. Pachytene

C. Leptotene

D. Zygotene

**Answer:**



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17. Chrysophytes, Euglenoids, Dinoflaegellates and Slime moulds are included in the kingdom

A. Animalia

B. Monera

C. Protista

D. Fungi

**Answer:**



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**18.** Lack of relaxation between successive stimuli in striated muscle contraction is known as

A. Tonus

B. Spasm

C. Fatigue

D. Tetanus

**Answer:**



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**19.** Identify the correct statement on 'inhibin'.

A. Is produced by nurse cells in testes and

inhibits the secretion of LH

B. Inhibits the secretion of LH, FSH and

Prolactin

C. Is produced by granulosa cells in ovary

and inhibits the secretion of FSH

D. Is produced by granulosa cells in ovary

and inhibits the secretion of LH

**Answer:**



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**20.** Name the chronic respiratory disorder caused mainly by cigarette smoking

A. Respiratory alkalosis

B. Emphysema

C. Asthma

D. Respiratory acidosis



**Answer:**



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**21. Which of the following most appropriately describes haemophilia ?**

- A. Dominant gene disorder
- B. Recessive gene disorder
- C. X -linked recessive gene disorder
- D. Chromosomal disorder

**Answer:**



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**22. Select the correct statement**

A. The leaves of gymnosperms are not well adapted to extremes of climate

B. Gymnosperms are both homosporous and heterosporous

C. Salvinia, Ginkgo and Pinus all are gymnosperms

D. Sequoia is one of the tallest trees

**Answer:**



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**23.** Which of the following is required as inducer(s) for the expression of Lac operon ?

A. Lactose and galactose

B. Glucose

C. Galactose

D. Lactose

**Answer:**



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**24.** A tall true breeding garden pea plant is crossed with a dwarf true breeding garden pea plant. When the  $F_1$  plant were selfed the resulting genotypes were in the ratio of

A. 3 : 1 :: Dwarf: Tall

B. 1 : 2 : 1 : : Tall homozygous : Tall  
heterozygous: Dwarf

C. 1 : 2 : 1 :: Tall heterozygous : Tall  
homozygous : Dwarf

D. 3: 1 :: Tall: Dwarf

**Answer:**



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25. Which part of the tobacco plant is infected by *Meloidogyne incognita*?

A. Root

B. Flower

C. Leaf

D. Stem

**Answer:**



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26. Which of the following is not a characteristic feature during mitosis in somatic cells ?

A. Synapsis

B. Spindle fibres

C. Disappearance of nucleolus

D. Chromosome movement

**Answer:**



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27. Which of the following statements is not true for cancer cells in relation to mutations

A. Mutations inhibit production of telomerase

B. Mutations in proto-oncogenes accelerate the cell cycle

C. Mutations destroy telomerase inhibitor

D. Mutations inactive the cell control

**Answer:**





**28.** One of the major components of cell wall of most fungi is

A. Hemicellulose

B. Chitin

C. Peptidoglycan

D. Cellulose

**Answer:**



29. Cotyledon of maize grain is called

A. scutellum

B. plumule

C. coleorhiza

D. coleoptile

**Answer:**



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30. Which of the following would appear as the pioneer organisms on bare rocks?

A. Green algae

B. Lichens

C. Liverworts

D. Mosses

**Answer:**



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31. Changes in GnRH pulse frequency in females is controlled by circulating levels of:

- A. progesterone and inhibin
- B. estrogen and progesterone
- C. estrogen and inhibin
- D. progesterone only

**Answer:**



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32. Changes in GnRH pulse frequency in females is controlled by circulating levels of:

- A. Attenuated pathogens
- B. Activated pathogens
- C. Harvested antibodies
- D. Gamma globulin

**Answer:**



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**33.** Photosensitive compound in human eye is made up of

A. Transducin and Retinene

B. Guanosine and Retinal

C. Opsin and Retinal

D. none of the above

**Answer:**



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**34.** Specialised epidermal cells surrounding the guard cells are called

- A. Lenticels
- B. Complementary cells
- C. Subsidiary cells
- D. Bulliform cells

**Answer:**



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**35.** Which of the following features is not present in the Phylum Arthropoda?

- A. Jointed appendages
- B. Chitinous exoskeleton
- C. Metameric segmentation
- D. Parapodia

**Answer:**



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**36.** Reduction in pH of blood will

- A. release bicarbonate ions by the liver
- B. reduce the rate of heart beat
- C. reduce the blood supply to the brain
- D. decrease the affinity of hemoglobin with  
oxygen

**Answer:**



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37. Which of the following characteristic features always holds true for the corresponding group of animals

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(1) 3 - chambered heart with one incompletely divided ventricle	Reptilia
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(2) Cartilaginous endoskeleton	Chondrichthyes
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(3) Viviparous	Mammalia
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(4) Possess a mouth with an upper and a lower jaw	Chordata
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A. 3- chambered heart with one

incompletely divided vertriicle Reptilla

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endoskeleton

Chondrichthyes

C. Viviparous Mammalia

D. Posses a mouth with an upper and a

lower jaw Chordata

**Answer:**



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**38.** Match the terms in Column-I with their description in Column-II and choose the correct option

Column-I	Column-II
(a) Dominance	(i) Many genes govern a single character
(b) Codominance	(ii) In a heterozygous organism only one allele expresses itself
(c) Pleiotropy	(iii) In a heterozygous organism both alleles express themselves fully
(d) Polygenic inheritance	(iv) A single gene influences many characters

A. a b c d  
iv iii i ii

B. a b c d  
ii i iv iii

- C.    a    b    c    d  
      ii    iii    iv    i
- D.    a    b    c    d  
      iv    i    ii    iii

**Answer:**



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**39.** A typical fat molecule is made up of

A. Three glycerol and three fatty acid molecules

B. Three glycerol molecules and one fatty acid molecule

C. One glycerol and three fatty acid molecules

D. One glycerol and one fatty acid molecule

**Answer:**



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**40.** Proximal end of the filament of stamen is attached to the

A. Thalamus or petal

B. Anther

C. Connective

D. Placenta

**Answer:**



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41. Which one of the following statements is wrong ?

A. Glycine is a sulphur containing amino acid

B. Sucrose is a disaccharide

C. Cellulose is a polysaccharide

D. Uracil is a pyrimidine

**Answer:**



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**42.** Water vapour comes out from the plant leaf through the stomatal opening. Through the same stomatal opening carbon dioxide diffuses into the plant during photosynthesis. Reason out the above statements using the following options.

A. (a) One process occurs during daytime, and the other at night

B. (b) Both processes cannot happen simultaneously

C. (c) Both processes can happen together because the diffusion coefficient of water and  $CO_2$  is different

D. (d) The above processes happen only during nighttime

**Answer:**



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**43.** A complex of ribosomes attached to a single strand of RNA is known as

A. Okazaki fragment

B. Polysome

C. Polymer

D. Polypeptide

**Answer:**



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44. Which one of the following is a characteristic feature of cropland ecosystem?

- A. Ecological succession
- B. Absence of soil organisms
- C. Least genetic diversity
- D. Absence of weeds

**Answer:**



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45. Which of the following is the most important cause of animals and plants being to extinction ?

A. Co-extinctions

B. Over -exploitation

C. Alien species invasion

D. Habitat loss and fragmentation

**Answer:**



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**46.** In chloroplast, the highest number of protons are found in

- A. (a) Antennae complex
- B. (b) Stroma
- C. (c) Lumen of thylakoids
- D. (d) Inter membrane space

**Answer:**



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47. Which of the following is not required for any of the techniques of DNA fingerprinting available at present ?

- A. DNA-DNA hybridization
- B. Polymerase chain reaction
- C. Zinc finger analysis
- D. Restriction enzymes

**Answer:**



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**48.** The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals include

- A. Eubacteria
- B. Halophiles
- C. Thermoacidophiles
- D. Methanogens

**Answer:**



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49. Which of the following features is not present in *Periplaneta americana*?

A. Metamerically segmented body

B. Schizocoelom as body cavity

C. Indeterminate and radial cleavage during embryonic development

D. Exoskeleton composed of N-acetylglucosamine

**Answer:**





50. A system of rotating crops with legume or grass pasture to improve soil structure and fertility is called

- A. Shifting agriculture
- B. Ley farming
- C. Contour farming
- D. Strip farming

**Answer:**



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51. Which of the following is wrongly matched in the given table

Microbe	Product	Application
(1) <i>Clostridium butylicum</i>	Lipase	removal of oil stains
(2) <i>Trichoderma polysporum</i>	Cyclosporin A	immunosuppressive drug
(3) <i>Monascus purpureus</i>	Statins	lowering of blood cholesterol
(4) <i>Streptococcus</i>	Streptokinase	removal of clot from blood vessel



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52. In mammals, which blood vessel would normally carry largest amount of urea?

A. Hepatic Portal Vein

B. Renal Vein

C. Dorsal Aorta

D. Hepatic Vein

**Answer:**



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**53.** Pick out the correct statements

(A) Haemophilia is a sex-linked recessive disease

(B) Down's syndrome is due to aneuploidy

(C) Phenylketonuria is an autosomal recessive gene disorder

(D) Sickle cell anaemia is a x-linked recessive gene disorder

A. (a), (b) and (c) are correct

B. (a) and (d) are correct

C. (b) and (d) are correct

D. (a), (c) and (d) are correct

**Answer:**



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**54.** Which of the following guards the opening of hepatopancreatic duct into the duodenum?

A. Sphincter of Oddi

B. Semilunar valve

C. Ileocaecal valve

D. Pyloric sphincter

**Answer:**



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**55.** Microtubules are the constituents of

A. Centrosome, Nucleosome and Centrioles

B. Cilia, Flagella and Peroxisomes

C. Spindle fibres, Centrioles and Cilia

## D. Centrioles, Spindle fibres and Chromatin

**Answer:**



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**56.** The coconut water from tender coconut represents

A. Free nuclear endosperm

B. Endocarp

C. Fleshy mesocarp



D. Free nuclear proembryo

**Answer:**



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**57.** Tricarpellary syncarpous gynoecium is found in flowers of

A. Poaceae

B. Liliaceae

C. Solanaceae

D. Fabaceae

**Answer:**



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**58.** Which of the following is not a stem modification

A. Flattened structures of Opuntia

B. Pitcher of Nepenthes

C. Thorns of citrus

D. Tendrils of cucumber

**Answer:**



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**59.** The taq polymerase enzyme is obtained from

A. *Pseudomonas putida*

B. *Thermus aquaticus*

C. *Thiobacillus ferrooxidans*

D. Bacillus subtilis

**Answer:**



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**60.** Stems modified into flat green organs performing the functions of leaves are known as

A. Scales

B. Cladodes

C. Phyllodes

D. Phylloclades

**Answer:**



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**61.** In higher vertebrates, the immune system can distinguish self-cells and non-self. If this property is lost due to genetic abnormality and it attacks self-cells, then it leads to

A. Active immunity

B. Allergic response

C. Graft rejection

D. Auto-immune disease

**Answer:**



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**62.** Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature

A. When written by hand, the names are to be underlined

B. Biological names can be written in any language

C. The first word in a biological name represents the genus name, and the second is a specific epithet

D. The names are written in Latin and are italicised

**Answer:**



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63. In bryophytes and pteridophytes, transport of male gametes requires

- A. Water
- B. Wind
- C. Insects
- D. Birds

**Answer:**





**64.** In context of Amniocentesis, which of the following statement is incorrect?

A. It can be used for detection of Cleft palate

B. It is usually done when a woman is between 14-16 weeks pregnant

C. It is used for prenatal sex determination

D. It can be used for detection of Down syndrome

**Answer:**



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**65.** In the stomach, gastric acid is secreted by the

A. acidic cells

B. gastrin secreting cells

C. parietal cells

D. peptic cells

**Answer:**



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**66.** Spindle fibers attach on to

A. Kinetosome of the chromosome

B. Telomere of the chromosome

C. Kinetochore of the chromosome

D. Centromere of the chromosome

**Answer:**



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**67.** Which is the National Aquatic Animal of India

A. Sea-horse

B. Gangetic shark

C. River dolphin

D. Blue whale

**Answer:**



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**68.** Which one of the following cell organelles is enclosed by a single membrane

A. Nuclei

B. Mitochondria

C. Chloroplasts

## D. Lysosomes

**Answer:**



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**69.** The two polypeptides of human insulin are linked together by

- A. Disulphide bridges
- B. Hydrogen bonds
- C. Phosphodiester bond

## D. Covalentbond

**Answer:**



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**70.** In which of the following, all three are macronutrients

A. Nitrogen, nickel, phosphorus

B. Boron, zinc, manganese

C. Iron, copper, molybdenum

D. Molybdenum, magnesium, manganese

**Answer:**



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**71.** Which of the following statements is wrong for viroids

- A. Their RNA is of high molecular weight
- B. They lack a protein coat
- C. They are smaller than viruses



D. They cause infections

**Answer:**



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**72.** Analogous structures are a result of

- A. Stabilizing selection
- B. Divergent evolution
- C. Convergent evolution
- D. Shared ancestry

**Answer:**



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**73.** Select the incorrect statement

- A. (a) LH triggers secretion of androgens from the Leydig cells
- B. (b) FSH stimulates the sertoli cells which help in spermiogenesis
- C. (c) LH triggers ovulation in ovary

D. (d) LH and FSH decrease gradually during the follicular phase

**Answer:**



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**74.** Which one of the following characteristics is not shared by birds and mammals ?

A. Warmblooded nature

B. Ossified endoskeleton

C. Breathing using lungs

D. Viviparity

**Answer:**



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**75.** Which of the following statements is not correct

A. (a) Some reptiles have also been reported as pollinators in some plant

species

B. (b) Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style

C. (c) Insects that consume pollen or nectar without bringing about pollination are called pollen/ nectar robbers.

D. (d) Pollen germination and pollen tube growth are regulated by chemical

components of pollen interacting with  
those of the pistil

**Answer:**



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**76.** Seed formation without fertilization in  
flowering plants involves the process of

A. (a) Apomixis

B. (b) Sporulation

C. (c) Budding

D. (d) Somatic hybridization

**Answer:**



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**77.** Which of the following approaches does not give the defined action of contraceptive?

A. Vasectomy Prevents spermatogenesis

B. Barrier method prevent fertilization

C. Intra uterine devices Increase

phagocytosis of sperms ,suppress sperm motility and fertilising capacity of sperms

D. Hormonal contraceptives Prevent /retard

entry of sperms , prevent ovulation and fertilisation

**Answer:**



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78. The amino acid tryptophan is the precursor for the synthesis of

- A. Cortisol and Cortisone
- B. Melatonin and Serotonin
- C. Thyroxine and Triiodothyronine
- D. Estrogen and Progesterone

**Answer:**



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**79.** A river with an inflow of domestic sewage rich in organic waste may result in

A. Death of fish due to lack of oxygen

B. Drying of the river very soon due to algal bloom

C. Increased population of aquatic food web organisms

D. An increased production of fish due to biodegradable nutrients

**Answer:**



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**80.** Gause's principle of competitive exclusion states that:

A. Larger organisms exclude smaller ones through competition

B. More abundant species will exclude the less abundant species through competition.

C. Competition for the same resources

excludes species having different food

preferences

D. No two species can occupy the same

niche indefinitely for the same limiting

resources

**Answer:**



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**81.** Asthma may be attributed to

- A. (a) accumulation of fluid in the lungs
- B. (b) bacterial infection of the lungs
- C. (c) allergic reaction of the mast cells in  
the lungs
- D. (d) inflammation of the trachea

**Answer:**



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**82.** The standard petal of a papilionaceous corolla is also called

A. Corona

B. Carina

C. Pappus

D. Vexillum

**Answer:**



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83. Which of the following is a restriction·endo- nuclease

A. RNase

B. Hind II

C. Protease

D. DNase I

**Answer:**



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**84.** It is much easier for a small animal to run uphill than for a large animal, because:

A. The efficiency of muscles in large animals is less than in the small animals

B. It is easier to carry a small body weight

C. Smaller animals have a higher metabolic rate

D. Small animals have a lower  $O_2$  requirement

**Answer:**





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**85.** Following are the statements regarding the origin of life

(A) The earliest organisms that appeared on the earth were non-green and presumably anaerobes

(B) The first autotrophic organisms were the chemoautotrophs that never released oxygen.

Of the above statements which one of the following options is correct

A. Both (a) and (b) are false.

B. (a) is correct but (b) is false.

C. (b) is correct but (a) is false.

D. Both (a) and (b) are correct.

**Answer:**



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**86.** A cell at telophase stage is observed by a student in a plant brought from a field. He tells his teacher that this cell is not like other

cells at telophase stage. There is no formation of cell plate and thus the cell containing more number of chromosomes as compared to other dividing cells. This would result in

- A. Polyteny
- B. Aneuploidy
- C. Polyploidy
- D. Somaclonal variation

**Answer:**



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**87.** Depletion of which gas in the atmosphere can lead to an increased incidence of skin cancers

A. Methane

B. Nitrous oxide

C. Ozone

D. Ammonia

**Answer:**



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**88.** Joint Forest Management Concept was introduced in India during

A. 1990s

B. 1690s

C. 1970s

D. 1980s

**Answer:**



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**89.** Which one of the following is the starter codon ?

A. UAG

B. AUG

C. UGA

D. UAA

**Answer:**



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90. The term ecosystem was coined by

A. E. Warming

B. E.P.Odum

C. A.G. Tansley

D. E. Haeckel

**Answer:**



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