

# **BIOLOGY**

# BOOKS - NAVBODH BIOLOGY (HINGLISH)

# **MULTIPLE CHOICE QUESTIONS**

**Genetic Basis Of Inheritance** 

**1.** The genotype of dominant parent is determined by crossing it with the recessive

parent. This cross is known as .......

A. back cross

B. out cross

C. test cross

D. reciprocal cross

## **Answer: C**



**2.** If a heterozygous tall plant is crossed with a homozygous dwarf plant, the proportion of dwarf progeny will be ...... per cent.

A. 100

B. 75

C. 50

D. 25

## **Answer: C**



3. Inheritance of AB blood group is due to .......

A. Incomplete dominance

B. polyploidy

C. polygeny

D. codominance

**Answer: D** 



**4.** Which of the following is an example of multiple alleles?

A. Height in pea plant

B. Hair colour in cattle

C. Petal colour in four o'clock plant

D. Wing size in Drosophila

## **Answer: D**



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**5.** Which one of the following is true pleiotropic gene?

A. 
$$Hb^A$$

B. 
$$Hb^S$$

$$\mathsf{C}.\,Hb^D$$

D. 
$$Hb^P$$

## **Answer: B**



**6.** In a cross between red kernelled and white kernelled varieties of wheat showing polygenic inheritance, the phenotypic ratio in  $F_2$  generation will be .......

A. 1:6:15:20:15:6:1

B.1:4:6:4:1

C. 1: 2: 1

D. 2:1

**Answer: B** 



7. Skin colour in humans is an example of

A. intragenic interaction

B. interallelic interaction

C. quantitative inheritance

D. pleiotropy

**Answer: C** 



**8.** A cross used to verify the unknown genotype of  $F_1$  hybrid is a ...... cross.

- A. test
- B. back
- C. dihybrid
- D. monohybrid

**Answer: A** 



**9.** Appearance of new combinations in  $F_2$  generation in a dihybrid cross proves the law of .....

A. dominance

B. segregation

C. independent assortment

D. purity of gamete

## **Answer: C**



**10.** The phenotypic ratio of incomplete dominance is ............

- A. 2:1
- B. 1:2:1
- C. 1:1:1
- D. 1:1:2

**Answer: B** 



11. The genotype of human blood group 'O' will

be ...............

- A.  $I^AI^A$
- B.  $I^AI^B$
- C. ii
- D.  $I^A$  i

**Answer: C** 



12. Genotype of human blood group B is ..........

A.  $I^{Ai}$ 

B.  $I^{Bi}$ 

 $\mathsf{C}.\,I^AI^A$ 

D. ii

## **Answer: B**



**13.** The phenotypic ratio of incomplete dominance is ...........

- A. 1:1
- B. 3:1
- C. 1: 2: 1
- D. 9:3:3:1

## **Answer: C**



A. red

B. white

C. pink

D. purple

## **Answer: C**



**15.** For demonstrating the law of independent assortment, one should carry out ........

- A. back cross
- B. test cross
- C. dihybrid cross
- D. monohybrid cross

#### **Answer: C**



# Gene Its Nature Expression And Regulation

**1.** The change in the virulence of Diplococcus is called ..............

A. transduction

B. transcription

C. translation

D. transformation

**Answer: D** 



2. In prokaryotes, ...... DNA is present.

A. linear

B. single stranded

C. circular

D. large

**Answer: C** 



**3.** What is the replication of DNA in prokaryotic cells called ?

- A. Alpha replication
- B. Beta replication
- C. Theta replication
- D. Gamma replication

## **Answer: C**



4. c-DNA means......

A. coiled DNA

B. cytoplasmic DNA

C. complementary DNA

D. circular DNA

## **Answer: C**



**5.** A 340 Å long segment of DNA molecules has 20 thymine nitrogenous bases, what will be the number of guanine nitrogen b ases in the same segment

- A. 10
- B. 40
- C. 80
- D. 160

## **Answer: C**



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**6.** The deflection of pitch angle between two successive steps (rungs) of DNA is

A.  $72^{\circ}$ 

B.  $54^{\circ}$ 

 $\mathsf{C.\,36}^\circ$ 

D.  $18^{\circ}$ 

## **Answer: C**



**7.** Which of the following technique was used by Wilkins and Franklin for the study of DNA structure?

A. Electrophoresis

B. Chromatography

C. X-ray crystallography

D. Microscopy

## **Answer: C**



**8.** If the codon of a m-RNA is AUG what should be its anticodon on t-RNA?

A. UAG

B. UAC

C. GUA

D. AUC

**Answer: B** 



า ?

A. UAG

B. UAC

C. AUG

D. UCA

**Answer: A** 



**10.** The number of purines in a segment of DNA molecule is 68. What will be the number of pyrimidines in this segment?

- A. 34
- B. 43
- C. 68
- D. 86

## **Answer: C**



11. The number of adenine molecules in a given DNA segment is 25 and the number of cytosine molecules is 45, the total number of nucleotides in the segment is ............

- A. 70
- B. 140
- C. 90
- D. 50

## **Answer: B**



12. Nucleoside is a nucleotide without ........

A. sugar

B. nitrogen base

C. hydrogen bond

D. phosphate group

**Answer: D** 



**13.** In an octamer of the nucleosome core DNA consists of \_\_\_\_ base pairs.

- A. 46
- B. 146
- C. 246
- D. 346

**Answer: B** 



**14.** Which of the following is transcriptionally active protein?

A. Heterochromatin

B. Euchromatin

C. NHC

D. Histone

**Answer: B** 



**15.** Name the process bby which all the three types of non-genetic RNAs are produced on DNA template.

- A. Translation
- B. Transcription
- C. Termination
- D. Replication

**Answer: B** 



**16.** As the base sequence present on one strand of DNA decides the base sequence of other strand, this strand is considered as

- A. Descending strand
- B. Leading strand
- C. Lagging strand
- D. Complimentary strand

## **Answer: D**



# **Biotechnology Process And Application**

**1.** Which of the following enzymes is not a tool for rDNA technology?

A. Endonucleases

B. Polymerases

C. Lipases

D. Ligases

Answer: C

2. Name the process by which the phenotypically significant mutations are created and cell's genome size is altered.

- A. Transposition
- B. Transduction
- C. Transformation
- D. Transfection

Answer: A

**3.** What is the process of introducing vector into the target bacterial cell known as ?

A. Transposition

B. Transduction

C. Transformation

D. Transfection

**Answer: C** 



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**4.** What is the synonymous word for transposons?

A. Jumping genes

B. Flying genes

C. Sticky genes

D. Plasmids

Answer: A



**5.** The common form of transposons in humans is known as .........

A. blue sequence

B. ss sequence

C. ds RNA

D. Alu sequence

**Answer: D** 



**6.** The enzyme affecting the shelf life of Flavr savr tomato is ..........

A. galactosidase

B. transacetylase

C. permease

D. polygalactouranase

**Answer: D** 



7. In nomenclature of REN (Restriction

Endonuclease) Hind III, III stands for ..............

A. genus name

B. species name

C. order of discovery

D. strain of the organism

### **Answer: C**



**8.** The biological scissors is .........

A. restriction endonuclease

B. gyrase

C. DNA ligase

D. helicase

**Answer: A** 



**9.** The .....enzyme is used to cut DNA at specific point.

A. DNA polymerase

B. Alkaline phosphatase

C. restriction endonuclease

D. DNA ligase

#### **Answer: C**



**10.** Transfer of genetic material into a bacterial cell through a viral vector is known as ............

- A. transformation
- B. transduction
- C. transfection
- D. translation

**Answer: B** 



**11.** ...... Enzymes are used as biological scissors in r-DNA technology.

- A. Restriction endonucleases
- B. DNA ligases
- C. DNA polymerases
- D. Reverse transcriptases

**Answer: A** 



**12.** What is the correct sequence of the stages in bacteriophage lytic cycle ?

A. Attachment, Penetration, Lysis,

Multiplication

B. Attachment, Penetration, Multiplication,

Lysis

C. Lysis, Penetration, Multiplication,

Attachment

D. Attachment, Lysis, Multiplication,

Penetration

#### **Answer: B**



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- 13. Cry' genes are present in .....
  - A. Agrobacterium tumifaciens
  - B. Bacillus thuringiensis
  - C. Rhizobium species
  - D. Escherichia coli

#### **Answer: B**

**14.** The biological scissors of DNA are ............

A. ligases

B. polymerases

C. endonucleases

D. transcriptases

**Answer: C** 



**15.** \_\_\_\_ is a soil bacterium which causes crown gall tumours in dicotyledonous plants.

- A. Agrobacterium tumifaciens
- B. Bacillus thuringiensis
- C. Haemophillus influenzae
- D. Escherichia coli

#### **Answer: A**



**16.** The process of packing DNA in the heads of virus particles during virion assembly takes place in ........ Minutes.

**A.** 5

B. 10

C. 15

D. 20

#### **Answer: C**



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### **Enhancement In Food Production**

A. rice

B. wheat

C. jowar

D. bajra

**Answer: B** 



2. Taichung Native-1 is a variety of rice from .........

A. China

B. Korea

C. Malaysia

D. Taiwan

**Answer: D** 



**3.** Vijaya, padma, kanti and Jayanti are high yielding varieties of \_\_\_\_

A. rice

B. wheat

C. jowar

D. bajra

**Answer: A** 



<b>4.</b> CO-421 and CO-419 are improved varieties of
Developed at Coimbatore.

A. wheat

B. rice

C. sugar cane

D. jowar

### **Answer: C**



5. A wheat variety resistant to hill bunt discas	se
is	

- A. Pusa Shubhra
- B. Himgiri
- C. Pusa gaurav
- D. Pusa swarnim

**Answer: B** 



6. In Brassica (rapeseed, mustard) ......

Variety is resistant to Aphids.

- A. Pusa A-4
- B. Pusa gaurav
- C. Pusa sawni
- D. Pusa shubra

**Answer: B** 



**7.** IARI has developed ..... enriched beans and garden peas.

A. vitamin A

B. calcium

C. protein

D. vitamin C

#### **Answer: C**



8.	The	secondary	metabolite	anthocyanin	is
ob	taine	ed from			

- A. Mentha piperata
- B. Daucus carota
- C. Nicotiana tabacum
- D. Datura stramoncum

### **Answer: B**



9. Wheat variety, Atlas-66 is improved for ......

•

A. high proteins

B. high carbohydrates

C. high fats

D. high vitamins

**Answer: A** 



**10.** Microbe ...... Grown on large scale as a source of single cell protein.

- A. Spirulina
- B. Erwinia
- C. Bollworm
- D. Methanobacillus.

**Answer: A** 



**11.** \_\_\_\_ is an example of G.M. crop developed for its nutritional value by using soil bacterium Erwinia.

- A. IR 8
- B. Taichang Native I
- C. Vijaya
- D. Golden rice

#### **Answer: D**



## 12. Pusa Shubra is a variety of

- A. cauliflower
- B. chilli
- C. wheat
- D. cabbage

#### **Answer: A**



- 13. Tropane' is obtained from ......
  - A. Daucus carota
  - B. Catharanthus roseus
  - C. Datura stramoneum
  - D. Mentha piperata

#### **Answer: C**



14.	Brown	rust	of	wheat	is	caused	by	•••••
-----	-------	------	----	-------	----	--------	----	-------

- A. viruses
- B. bacteria
- C. fungi
- D. aphids

### **Answer: C**



15. ..... Of wheat is a fungal disease.

A. Tobacco mosaic

B. Brown rust

C. Red rot

D. Black rot

**Answer: B** 



<b>1.</b> The	microorganism	used	in	the	production
of ace	tic acid is				

- A. Aspergillus niger
- B. Rhizopus arrihizus
- C. Neurospora gossypi
- D. Acetobacter aceti

#### **Answer: D**



**2.** For obtaining ......... Acid the microbe Aspergillus niger is used during the fermentation process.

A. citric

B. fumaric

C. acetic

D. malic

**Answer: A** 



3.	Fungal	hyphae	penetrate	the	cortical	cells
an	d form	vesicles a	and arbusc	les c	alled	

A. CAM

B. VAM

C. BGA

D. PAR

**Answer: B** 



**4.** ..... Is the microbial source for the enzyme lipase.

- A. Sclerotinia
- B. Saccharomyces cerevisiae
- C. Rhizopus spp
- D. Trichoderma

### **Answer: C**



**5.** The ectomycorrhiza form ........ On the root surface.

A. root tuber

B. mantle

C. root hair

D. vesicles

**Answer: B** 



**6.** Which of the following bacterial pathogen is not used as herbicide?

- A. Pseudomonas
- B. Xanthomonas
- C. Agrobacterium
- D. Azotobacter

**Answer: D** 



**7.** Dead and dried cell mass of microbes having nutritive value is also known as ......

A. BGA (Blue Green Algae)

B. SCP (Single Cell Protein)

C. STP ( Sewage Treatment Plant )

D. VAM (Vesicular Arbuscular Mycorrhizae)

**Answer: B** 



- 8. Erythromycin is obtained from ........
  - A. Penicillium chrysogenum
  - B. Streptomyces griseous
  - C. Giberella fujikuroi
  - D. Streptomyces erythreus

Answer: D



**9.** During Biogas production acetic acid is transformed into the final product by the enzymes of

A. Clostridium

B. Pseudomonas

C. Penicillium

D. Methanobacillus

**Answer: D** 



**10.** Which one of the following is NOT a mycoherbicide

- A. Phytophthora palmivora
- B. Xanthomonas spp
- C. Alternaria crassa
- D. Fusarium spp

**Answer: B** 



11.	Trichoderma	konigi	is	а	source	of	•••••
Enzyme.							

- A. invertase
- B. lipase
- C. pectinase
- D. cellulase

### **Answer: D**



<b>12.</b> Alcoholic fermentation	is brought about by
•••••••	

- A. Lactobacillus
- B. Saccharomyces
- C. Trichoderma
- D. Streptomyces

**Answer: B** 



**13.** Which of the following is not a fat soluble vitamin?

A. Vitamin A

B. Vitamin B

C. Vitamin D

D. Vitamin K

**Answer: B** 



14.	The	antibiotic	chloromycetin	is	obtained
froi	m				

- A. Sclerotiana libertine
- B. Aspergillus niger
- C. Streptomyces griseus
- D. Streptomyces venezuelae

**Answer: D** 



**15.** Which of the following is white button mushroom?

A. Agaricus bisporus

B. Pleurotus florida

C. Volvoriella volvacea

D. Candida species

**Answer: A** 



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16.	The	microbi	al source	Of VI	negar i	ς
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- A. Aspergillus niger
- B. Rhizopus arrihizus
- C. Acetobacter aceti
- D. Streptomyces venezuelae

#### **Answer: C**



<b>17.</b> Nosema	locustae is	•••••	pathogen.

A. bacteria

B. fungal

C. protozoan

D. viral

## **Answer: C**



18.	Edible	fruiting	bodies	are	produced	by		
••••••								

- A. Yeast
- B. Rhizopus
- C. Nostoc
- D. Agaricus

**Answer: D** 



# **Photosynthesis**

**1.** In chlorophyll molecule, the porphyrin ring has metal atom ......... In the center.

A. Mn

B. Zn

C. Fe

D. Mg

#### **Answer: D**



**2.** From the visible spectrum of light, which component is reflected by the green leaves ?

A. Blue

B. Red

C. Green

D. Orange

**Answer: C** 



**3.** Which of the following is not a chemoautotroph?

A. Nitrosomonas

B. Thiobacillus

C. Ferrobacillus

D. Chlorobium

**Answer: D** 



**4.** Chl a and Chl b have same structure except
Chl a has ........ Group while Chl b has .......
group.

A. 
$$Ch_4CH_3$$

B. 
$$CH_3$$
, CHO

C. CHO, 
$$CH_3$$

D. 
$$CH_3$$
,  $CH_2$ 

#### **Answer: B**



**5.** ....... Is the only pigment that can absorb and convert light energy into chemical energy.

- A. Chlorophyll-a
- B. Chlorophyll-b
- C. Chlorophyll-c
- D. Chlorophyll-d

#### **Answer: A**



**6.** Chlorophyll-a molecule cannot remain in ionized state for more than ...... seconds.

A. 
$$10^{-5}$$

$$B.10^{-4}$$

$$c. 10^{-9}$$

$$D. 10^{-8}$$

#### **Answer: C**



**7.** The reduced ........... Transfers the deenergized electrons to the reaction centre of PS I.

A. plastoquinone

B. plastocyanin

C. coenzyme quinone

D. cytochrome

#### **Answer: B**



**8.** ATP and  $NADPH_2$  possess the assimilatory power for the reduction of  $CO_2$  to ........... During the dark reaction of photosynthesis.

- A. glucose
- B. sucrose
- C. fructose
- D. maltose

#### **Answer: A**



**9.** For the reduction of NADP to  $NADPH_2$  ................ Are required along with the electrons that come from ferredoxin.

- A. photons
- B. mutons
- C. cistrons
- D. protons

#### **Answer: D**



**10.** During photosynthesis, the process which occurs first is ............

A. photolysis of water

B. ionization of chlorophyll

C. synthesis of ATP

D. synthesis of glucose

**Answer: B** 



- 11. Dark reaction of photosynthesis is ...........
  - A. synthetic process
  - B. independent of light
  - C. both (a) and (b)
  - D. dependent on light

## **Answer: C**



**12.** In  $C_3$  plants the first product of photosynthesis is ..........

- A. RuBP
- B. PGA
- C. OAA
- D. PEPA

**Answer: B** 



A. OAA

B. PGA

C. RuBP

D. DPGA

**Answer: A** 



**14.** In which of the following cells in  $C_4$  pathway, the metabolic  $CO_2$  is fixed ?

- A. Bundle sheath cells
- B. Mesophyll cells
- C. Epidermal cells
- D. Cortical cells

**Answer: A** 



15. In HSK pathway, PEPA and RuBP are ..........

A. hydrogen acceptors

B.  $CO_2$  acceptors

C. enzymes involved

D. 4-carbon compounds

#### Answer: B



- A. Sunflower
- B. Soyabean
- C. Sugar cane
- D. Spinach

#### **Answer: C**



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**17.**  $C_4$  plants are more efficient than  $C_3$  plants because of .............

A. double  $CO_2$  fixation

B. Kranz anatomy

C. presence of OAA

D. presence of pyruvic acid

#### **Answer: A**



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**18.** Which enzyme accepts  $O_2$  during photorespiration process ?

- A. PEP carboxylase
- B. Transaminase
- C. Pyruvic dehydrogenase
- D. RuBisCo

#### **Answer: D**



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**19.** Which of the following is not a photosynthetic pigment?

- A. Carotene
- B. Xanthophyll
- C. Phycobillin
- D. Anthocyanin

#### **Answer: D**



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20. The reaction centre of P. S. II is .......

A. chl-a, 700

- B. chl-a, 680
- C. chl-a, 673
- D. chl-a, 650

#### **Answer: B**



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**21.** Which of the following are found only in cyanobacteria and red algae ?

A. Phycobillins

- B. Xanthophyll
- C. Carotene
- D. Chlorophyll

#### **Answer: A**



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**22.** The action spectrum of chlorophyll shows the highest peak in ...... region.

A. blue

- B. red
- C. yellow
- D. green

#### **Answer: B**



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**23.** Which of the following alga was used in the study of photosynthesis?

A. Diatom

- B. Chlorella
- C. Chlamydomonas
- D. Spirogyra

#### **Answer: B**



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Respiration

**1.** In glycolysis, dehyration occurs during the formation of ..........

- A. 3-PGA
- B. 2-PGA
- C. PEPA
- D. DHAP

# **Answer: C**



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2. The adenosine triphosphate (ATP) gain during glycolysis, connecting link and Krebs' cycle respectively are ..........

- A. 8, 6, 24
- B. 8, 24, 6
- $\mathsf{C.}\ 24,\,8,\,6$
- D. 6, 8, 24

## **Answer: A**



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**3.** Which of the following steps generate ATP without ETS?

A. pyruvate  $\rightarrow$  Acetyl Co-A

B. a-Ketoglutarate  $\rightarrow$  Succinate

C. Iso-citrate  $\rightarrow$  Oxalosuccinate

D. Succinyl Co-A  $\rightarrow$  Succinate

#### **Answer: D**



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**4.** During respiration, pyruvic acid is formed by

Or

The first phase in the breakdown of glucose in animal cell si

A. When oxygen takes part in the process

B. When oxygen does not take part in the process

C. Irrespective of oxygen taking part in the process

D. When mitochondria take part in the process

# Answer: C



# 5. Respiratory Quotient

A. 0.7

B. 1

C. 0.9

D. 0.1

#### **Answer: B**



6.	The	final	electron	acceptor	during	ETS	in
re	spira	tion i	s				

A. hydrogen

B. oxygen

C. FMN

D. ubiquinone

## **Answer: B**



**7.** How much of the energy released during aerobic respiration is approximately conserved in the form of ATP

A. 0.2

B. 0.4

C. 0.6

D. 1

### **Answer: B**



**8.** During anaerobic respiration the conversion of pyruvate into acetaldehyde, along with coenzyme TPP, the cofactor required is

A. 
$$Mg^{+\,+}$$

B. 
$$Mn^{++}$$

C. 
$$Fe^{++}$$

D. 
$$Zn^{++}$$

#### **Answer: D**



**9.** Given below are some reactions and the enzymes involved. Identify the CORRECT pairs.

I

- 1. Fructose 1.6 diphosphate → 2PGAL + DHAP
- 2. Citrate  $\rightarrow$  Cis aconitate
- 3. Succinyl Co.A  $\rightarrow$  succinate
- 4. 2PGA → PEPA

II

- a. Enolase
- b. Thiokinase
- c. Aconitase
- d. Aldolase

### **Answer: A**



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**10.** Pyruvate undergoes oxidative decarboxylation to produce ......

A. 2-PGA

B.  $\alpha$ -ketoglutarate

C. Succinyl-Co-A

D. Acetyl Co-A

**Answer: D** 



11. R.Q for proteins is about .....

A. 0.7

B. 0.8

C. 0.9

D. 1.0

#### **Answer: C**



<b>12.</b> The	enzymes	required	for	synthesis	of ATP
are loc	ated on	••••			

- A. oxysomes
- B. cristae
- C. matrix
- D. ribosomes

## **Answer: A**



**13.** Mitochondria are regarded as semiautonomous organelles, due to the presence of \_\_\_\_

- A. cristae
- B. RNA
- C. DNA
- D.  $F_1$  particles

### **Answer: C**



- A. acetyl Co-A
- B. 3-PGA
- C. 2-PGA
- D. gulcose-6-phosphate

### **Answer: A**



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

- A. Krebs cycle
- B. Glycolysis
- C. Fermentation
- D. Terminal oxidation

### **Answer: B**



**16.** The phase of respiration in which free mole-cular oxygen is used is called ........

- A. TCA cycle
- B. glycolysis
- C. both (a) and (b)
- D. fermentation

#### **Answer: A**



# Reproduction In Plants

**1.** The most effective method of vegetative propagation in Cynodon is by the production of ............

A. stolon

B. sucker

C. runner

D. offset

Answer: C

**2.** The endosperm cells in an angiospermic plant has 18 chromosomes, the number of chromosomes in its root cells will be ..........

A. 12

B. 6

C. 18

D. 24

Answer: A

**3.** The types of pollination exhibited by Vallisneria and Zea mays respectively are ........

A. anemophily and hydrophily

B. entomophily and hydrophily

C. hydrophily and anemophily

D. hydrophily and entomophily

Answer: C



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**4.** The ovule is attached to the placenta by a stalk called ...........

A. integument

B. funicle

C. synergid

D. antipodal cells

**Answer: B** 



**5.** The secondary nucleus is formed by the fusion of .......

A. two polar nuclei

B. three nuclei

C. two synergids

D. two antipodal cells

**Answer: A** 



**6.** To produce 500 pollen grains, how many microspore mother cells are required?

- A. 500
- B. 125
- C. 250
- D. 1000

**Answer: B** 



**7.** The minimum number of meiotic divisions required to produce 120 viable seeds in pea plant is ........

A. 150

B. 60

C. 120

D. 90

#### **Answer: A**



**8.** How many meiotic divisions are required for the formation of 100 seeds ?

- A. 25
- B. 50
- C. 100
- D. 125

**Answer: D** 



**9.** For the formation of 50 seeds, how many minimum meiotic divisions are necessary?

A. 25

B. 50

C. 75

D. 63

**Answer: D** 



**10.** In bisexual flowers, maturation of gynoecium before androecium is known as

A. protandry

B. protogyny

C. gynandry

D. dicliny

#### **Answer: B**



11. Considering the mode of asexual reproduction, match the Column I with Column II and select the correct option:

I	II
a. Yeast	i. fragmentation
b. Penicillium	ii. zoospores
c. Filamentous algae	iii. budding
d. Chlamydomonas	iv. conidia

A. a-iii, b-iv, c-i, d-ii

B. a-ii, b-iii, c-i, d-iv

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

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

### **Answer: A**



# **Watch Video Solution**

**12.** In angiosperms during development of embryo, the suspensor cell develops from

- A. oospore
- B. integument
- C. endosperm
- D. cotyledon

### **Answer: A**



## Watch Video Solution

**13.** If there are 1280 microspores in a tetralocular anther. How many microspore mother cells will be there in its each pollen chamber

A. 80

B. 160

C. 240

D. 1280

### **Answer: A**



**Watch Video Solution** 

14. A versatile anther is an adaptation for ..........

Type of pollination.

A. anemophilous

B. entomophilous

C. hydrophilous

D. ornithophilous

**Answer: A** 



Watch Video Solution

**15.** If the number of chromosomes in as endosperm cell is 27, what will be the chromosome number in the definitive nucleus ?

A. 9

B. 18

C. 27

D. 36

## **Answer: B**



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**16.** Anemophilous pollination is mainly observed in

A. Salvia

C. Bougainvillea
D. Butea
Answer: A
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<b>17.</b> Vegetative propagation takes place with the help of leaves in Plant.
A. Kalanchoe

B. Jasmine

- B. Oxalis
- C. Cynodon
- D. Dahlia

#### **Answer: A**



- **18.** Endosperm of angiosperm is
  - A. haploid
  - B. diploid

- C. triploid
- D. tetraploid

## **Answer: C**



- **19.** A group of three cells situated at the base of the embryo sac are called ...... cell.
  - A. tube
  - B. generative

- C. synergid
- D. antipodal

### **Answer: D**



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20. The female gametophyte in angiosperms is

a ...... Nucleated structure.

- **A.** 3
- B. 4

C. 5

D. 8

### **Answer: D**



**Watch Video Solution** 

**21.** When more than 2 male gametes are produced in a pollen tube, it is called

A. syngamy

B. siphonogamy

- C. mesogamy
- D. polygamy

## **Answer: B**



**Watch Video Solution** 

**22.** ...... Is formed in angiosperms by triple fusion.

- A. Testa
- B. Integument

- C. Endosperm
- D. Suspensor

## **Answer: C**



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# 23. Embryo sac is

- A. microgametophyte
- B. microsporangium
- C. megagametophyte

D. megasporangium

### **Answer: C**



**Watch Video Solution** 

**24.** During double fertilization second male gamete fuses with .........

A. antipodal cell

B. egg cell

C. secondary nucleus

D. synergids

**Answer: C** 



**Watch Video Solution** 

## Organisms And Environment I

**1.** Which term was given by Grinnel to describe the functional role of the organisms?

A. Habitat

- B. Niche
- C. Ecosystem
- D. Factors



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**2.** Position of organisms in the environmental gradients is known as ...........

A. habitat niche

- B. trophic niche
- C. hypervolume niche
- D. stable niche

#### **Answer: C**



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**3.** Which out of the following is a microconsumer?

A. Actinomycetes

C. Amoeba		
D. Human cell		
Answer: A		
View Text Solution		
<b>4.</b> Spatial pattern determined by the height of		
plants is called		
A. zonation		

B. Virus

- B. stratification
- C. speciation
- D. succession



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**5.** The rate of increase of biomass is called

A. gross primary productivity

- B. net primary productivity
- C. secondary productivity
- D. pyramid of biomass



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**6.** The pyramid of ...... In sea is always inverted.

A. biomass

- B. energy
- C. numbers
- D. species

#### **Answer: A**



- 7. The major reservoir of carbon on Earth is:
  - A. Animal bodies
  - B. Fruits

- C. Oceans
- D. Coal mines

## **Answer: C**



- **8.** Now-a-days use of DDT as insecticide is banned because
  - A. bioaccumulation
  - B. biomagnification

- C. uselessness
- D. toxicity



- **9.** The permanent removal of forests and woodlands is called ............
  - A. reforestation
  - B. afforestation

C. deforestation

D. agroforestry

**Answer: C** 



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A. ecological succession

- B. eutrophication
- C. guano deposits
- D. greenhouse effect



**View Text Solution** 

- 11. Guano deposits are rich in ..........
  - A. sulphur
  - B. phosphorus

C. calcium

D. magnesium

**Answer: B** 



**Watch Video Solution** 

**12.** The pattern of ecosystem in which density and distribution of species vary along a horizontal gradient is ..........

A. zonation

- B. stratification
- C. ecological niche
- D. speciation

#### **Answer: A**



**Watch Video Solution** 

**13.** The overgrowth of algae due to phosphate can take up oxygen in water and kill other aquatic life. This is called ............

- A. biodegradation
- B. biomagnification
- C. BOD
- D. entrophication

#### **Answer: D**



**Watch Video Solution** 

14. An international treaty known as Montreal

Protocol was signed to control emission of:

A. U	/ rays
------	--------

B. ozone

C. CFC

D. oxygen

## **Answer: C**



**Watch Video Solution** 

**15.** A fine powder of recycled modified plastic is known as

- A. polyblend
- B. polythene
- C. polyester
- D. polymer

#### **Answer: A**



**Watch Video Solution** 

**16.** Detritivores break down detritus into smaller particles. This process is called

- A. fragmentation
- B. leaching
- C. catabolism
- D. humification

## **Answer: A**



**Watch Video Solution** 

**17.** Ozone depletion is occurring widely in the strato-sphere, it leads to ozone hole caused mainly due to ......

- A. ethylene
- B. methane
- C. CFCs
- D.  $CO_2$

#### **Answer: C**



**Watch Video Solution** 

- A. fragmentation
- B. humification
- C. mineralization
- D. leaching



- **19.** World environment day is
  - A. 21st May

- B. 5th June
- C. 25th September
- D. 13th December



**Watch Video Solution** 

## **20.** ENERGY FLOW

- A. reverse
- B. unidirectional

- C. bidirectional
- D. multidirectional



- **21.** The process of formation of partially decomposed organic matter is called ............
  - A. fragmentation
  - B. leaching

- C. catabolism
- D. humification

**Answer: D** 



**Watch Video Solution** 

**22.** In a food chain, the herbivores are represented by

- A. producers
- B. primary consumers

- C. secondary consumers
- D. decomposers



- 23. The energy enters the ecosystem through
- \_\_\_\_
  - A. consumers
  - B. decomposers

- C. omnivores
- D. producers

#### **Answer: D**



**Watch Video Solution** 

**24.** Which of the following harmful radiation is absorbed by ozone layer of the stratosphere?

- A. X-ray
- B. Visible light

C. ultraviolet rays

D. Gamma rays

**Answer: C** 



**Watch Video Solution** 

**25.** What is the percentage of photosynthetically active radiation (PAR), in the incident solar radiation.

A. 1

B. 0.5

C. 1-5%

D. 2-10%

## **Answer: C**



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# Origin And Evolution Of Life

**1.** Which of the following is not an example of connecting link?

Watch Video Solution	
Answer: D	
D. Biston betularia	
C. Seymouria	
B. Ichthyostega	
A. Archaeopteryx	

2. Common link between apes and man was

A. Dryopothecus

- B. Australopithecus
- C. Homo erectus
- D. Homo neanderthalensis



**Watch Video Solution** 

**3.** Vermiform appendix is an example of ...........

Organ.

A. vestigial

C. sense	
D. analogous	
Answer: A	
Watch Video Solution	
4. Overproduction is the principle of	
A. Lamarkism	
B. Theory of organic evolution	

B. homologous

- C. Panspermia theory
- D. Modern theory of evolution



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- 5. Find the odd one out
  - A. Baboons
  - B. Gibbons
  - C. Macaques

D. Langurs

#### **Answer: B**



**Watch Video Solution** 

**6.** Phenomenon of industrial melanism demonstrates

A. natural selection

B. induced mutations

C. reproductive isolation

D. geographical isolation

**Answer: A** 



**Watch Video Solution** 

7. Wing of bat and that of ...... are homologous to each other.

A. crow

B. butterfly

C. housefly

D. dragonfly

#### **Answer: A**



**Watch Video Solution** 

**8.** Struggle between cow and cow for getting grass is called ..........

A. interspecific struggle

B. environmental struggle

C. struggle against natural calamities

D. intraspecific struggle

**Answer: D** 



**Watch Video Solution** 

**9.** Which is a connecting link between fishes and amphibians

A. Archaeopteryx

B. Seymouria

C. Ichthyostega

D. Dinosaur

#### **Answer: C**



**Watch Video Solution** 

**10.** In geological time scale which period shoowed dominance of reptiles ?

A. Triassic

B. Jurassic

C. Cretaceous

D. Eocene

#### **Answer: B**



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**11.** Which epoch showed mammals at height of evolution ?

A. Eocene

B. Oligocene

C. Miocene

D. Pliocene

### **Answer: C**



**View Text Solution** 

# **12.** Which one is the odd pair?

- A. Fuhlrott Neanderthal man
- B. MacGregor Cro-Magnon man
- C. Davidson Black Sinanthropus
- D. Dubois-Dryopithecus

#### **Answer: D**



# **View Text Solution**

# 13. What is Taung Baby?

- A. Fossilized skull cap of a child of

  Australopithecus
- B. The skeleton of a child from Tanzania
- C. The female fossil of Java man
- D. The young one of Proconsul

### **Answer: A**



# **View Text Solution**

**14.** The origin of life on the earth is known as

A. autobiogenesis

B. abiogenesis

C. protobiogenesis

D. organogenesis

### **Answer: C**



# **View Text Solution**

**15.** Which one of the following is correct chronological order?

A. Cambrain ightarrow Cretaceous ightarrow

Carboniferous

B. Ordovician ightarrow Cretaceous ightarrow

Devonian

C. Permian  $\rightarrow$  Cretaceous  $\rightarrow$  Pliocene

D. Silurian  $\,
ightarrow\,$  Miocene  $\,
ightarrow\,$  Jurassic

### **Answer: C**



**View Text Solution** 

**16.** The most common types of fossils are ......

•

A. moulds

B. casts

C. actual remains

D. models

#### **Answer: C**



**View Text Solution** 

17. Idenrify the type of isolation where thr members of two populations have differnet mating behaviour which prevents interbreeding.

- A. Seasonal isolation
- B. Ethological isolation
- C. Mechanical isolation
- D. Habitat isolation

### **Answer: B**



**View Text Solution** 

**18.** Transfer of gene between populations that differ genetically from one another is called

- A. Gene mutation
- B. Gene flow
- C. Genetic drift
- D. Genetic recombination

### **Answer: B**



**View Text Solution** 

**19.** Which of the following is a landmark in the origin of life?

- A. Formation of oxygen
- B. Formation of carbohydrates
- C. Formation of proteins
- D. Formation of water

### **Answer: C**



**View Text Solution** 

**20.** What are the first form of life on the earth called ?

A. Pre-cells or Protobionts
B. Protoproteins
C. Coacervates
D. Chromophores
Answer: A
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21. Homologous organs always lead to
evolution.

A. convergent	
B. divergent	
C. parallel	
D. radiating	
Answer: B	
View Text Solution	
<b>22.</b> Find the odd one out :	
22.1 ind the odd one odt.	

- B. Nictitating membrane
- C. Coccyx
- D. Sacrum

#### **Answer: D**



- 23. Who was man with ape-brain?
  - A. Pithecanthropus
  - B. Dryopithecus

- C. Australopithecus
- D. Neanderthal man

**Answer: C** 



**View Text Solution** 

## **Chromosomal Basis Of Inheritance**

**1.** Presence of whole sets of chromosomes is

A. aneuploidy

B. ploidy

C. euploidy

D. chromatography

## Answer: C



**Watch Video Solution** 

2. Out of the following combinations which individual will have maximum genetically active DNA?

$$A.44 + XX$$

$$B.44 + XY$$

D. Down's syndrome

### **Answer: A**



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3. A mature woman has ..... Linkage groups.

A. 44

В.	22

C. 46

D. 23

## **Answer: D**



**View Text Solution** 

**4.** The pairing of homologous chromosomes is called .............

A. crossing over

- B. terminalization
- C. synapsis
- D. bivalent

#### **Answer: C**



**View Text Solution** 

**5.** If only one 'X' chromosome is found in a female person , which of the following symptoms she will show?

- A. Epicanthal fold
- B. Webbing of neck.
- C. Small testis and absence of spermatogenesis
- D. Presence of simian crease on the palm

## Answer: B



**6.** If centromere is situated in the middle of the chromosome.

A. metacentric

B. acrocentric

C. submetacentric

D. acrocentric

### **Answer: A**



7. Myopia is an example of ..............

A. complete sex linkage

B. incomplete sex linkage

C. recombination

D. crosssing over

Answer: A



8. Which of the following is an example of ZW-

ZZ type of mechanism of sex determination?

- A. Honeybee
- B. Fish
- C. Bird
- D. Human being

**Answer: C** 



**9.** In which of the following disorders number of chromosomes present is 47 ?

- A. Turner's syndrome
- B. Cushing's sundrome
- C. Acquired immuno-deficiency syndrome
- D. Down's syndrome

#### **Answer: D**



**10.** Which of the following traits is never observed in human females?

- A. Hypertrichosis
- B. Haemophilia
- C. Colour blindness
- D. Myopia

**Answer: A** 



**11.** Which of the following has a normal vision ?

A. XcXc

B. XcY

C. XCxc

D. XcYc

## **Answer: C**



**12.** Down's syndrome is represented by \_\_\_\_

A. n + 1

B.2n + 1

C.3n + 1

D. n - 1

### **Answer: B**



A. stages of cell division

B. height of an individual

C. weight of an individual

D. proteins presenr in it

### **Answer: A**



<b>14.</b> Crossing ov	er occurs at t	he time of

A. diplotene

B. pachytene

C. leptotene

D. zygotene

## **Answer: B**



**15.** Small swellings on the surface of the chromosome are called .........

A. centromeres

B. chromomeres

C. chromonemata

D. telomeres

**Answer: B** 



**16.** Find the mismatch pair :

A. Metacentric - V-shaped

B. Sub-metacentric - L-shaped

C. Acrocentric - J-shaped

D. Telocentric - S-shaped

Answer: D



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Genetic Engineering And Genomics

<b>1.</b> The scientific key to	understand	biology ar	าd
behaviour of human is	······································		

- A. blue print
- B. genome
- C. genetic linkage
- D. DNA probe

#### **Answer: A**



**2.**  $\alpha$ -1 antripsin is used in the treatment of

A. phenylketonuria

B. cystic fibrosis

C. emphysema

D. haemophilia

## **Answer: C**



**3.** Safety of polio vaccine is tested on transgenic ......

A. pigs

B. rabbits

C. fishes

D. mice

**Answer: D** 



**4.** Which of the following is the most appropriate choice as transgenic animal due to its short generation time?

- A. Pigs
- B. Sheep
- C. Mice
- D. Cows

**Answer: C** 



- 5. In gene therapy, DNAase in used to treat.......
  - A. cystic fibrosis
  - B. haemophilia
  - C. pituitary dwarfish
  - D. insulin dependent diabetes

#### **Answer: A**



**6.** The clot formation can be prevented by treatmet with \_\_\_\_ in gene therapy:

A. Dnase

B. Recombinant vaccine

C. TPA

D. TGF-B

**Answer: C** 



7.	The	genetic	marker	used	as	key	factor	in
10	DNA fingerprinting is							

- A. VNTRs
- B. Exons
- C. Introns
- D. DNA probes

### **Answer: A**



8.	Human	blood	${\sf clotting}$	factor	VIII	is	used	to

treat .....

- A. pituitary dwarfism
- B. diabetes mellitus
- C. haemophiliacs
- D. cystic fibrosis

#### **Answer: C**



9.	For	DNA	fingerprinting	radioactive	probe
ob	taine	ed fro	mls	used in Indi	a.

- A. Banded krait
- B. King cobra
- C. Viper
- D. Rat snake

#### **Answer: A**



**10.** In DNA fingerprinting technique, radioactive DNA probe is obtained from ...... of female banded krait snake.

- A. X-chromosome
- B. Y-chromosome
- C. X and Y-chromosome
- D. autosome

#### **Answer: B**



11. When genomic DNA is fragmented and cloned, the screening of the desired gene is done by using ...........

A. Plasmid DNA

B. DNA probes

C. Southern blotting

D. PCR technique

#### **Answer: B**



**12.** Which of the following is useful in the treatment of burns and wound healing?

A. Tissue plasmogen activator

B. Tissue Growth Factor

C. DNAase

D. Bovine Growth Hormone

**Answer: B** 



<b>13.</b> Alec Jeffreys used As genetic marker.						
A. HUMULIN						
B. Radioactive probe						
C. RFLP						
D. VNTR						
Answer: D						
View Text Solution						
<b>14.</b> Humulin is used to treat						

- A. Diabetes mellitus
- B. Diabetes insipidus
- C. Hepatitis
- D. Nephritis

#### **Answer: A**



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**15.** The modification of original genetic makeup is focussed by ......

- A. PCR
- B. DNA fingerprinting
- C. Electrophoresis
- D. Gene therapy

#### **Answer: D**



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**16.** Pituitary dwarfism is treated with gene therapy by ............

- A. Human insulin
- B. Tissue growth factor B
- C. Tissue plasminogen activator
- D. Human growth hormone producer gene

#### **Answer: D**



**View Text Solution** 

**17.** VNTR is ......

A. Variable number of tandem repeats

- B. Various number of tendem repeats.
- C. Vulnerable number of tandem repeats
- D. Variable number of tandem reports

#### **Answer: A**



**View Text Solution** 

18. Variable Number of Tandem Repeats are

...............base pair long

A. 20-30

- B. 20-50
- C. 20-100
- D. 90-100

#### **Answer: C**



**View Text Solution** 

A. one in 300 million

B. one in 200 million

C. one in 100 million

D. one in 10000 million

### **Answer: A**



**View Text Solution** 

# **Human Health And Diseases**

**1.** What are the chemicals secreted by damaged mast cells of connective tissue?

- A. pepsin and renin
- B. Lysozyme and somatotropin
- C. Melanin and coherin
- D. Histamine and prostaglandin

#### **Answer: D**



**View Text Solution** 

**2.** What will be the parents' blood groups if the blood group of a child is AB?

- A. A and O
- B. B and O
- C. AB and O
- D. A and AB

#### **Answer: D**



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**3.** Erythroblastosis foetalis is caused when mother is ......`

- A. Rh +ve
- B. with antibody 'a'
- C. Rh -ve
- D. with antibody 'b'

#### **Answer: C**



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**4.** Releasing ....... Fish is one of the ways to prevent the spread of malaria and filaria.

- A. Promfret
- B. Tilapia
- C. Gambusia
- D. Gold fish

#### **Answer: C**



**Watch Video Solution** 

**5.** Which is the proper sequence in the developmental stages of Plasmodium?

A. Merozoites ightarrow Sporozoites ightarrow

Trophozoites → Schizonts

B. Trophozoites ightarrow Merozoites

Sporozoites  $\rightarrow$  Schizonts

C. Sporozoites ightarrow Merozoites

Trophozoites → Schizonts

D. Schizonts  $\rightarrow$  Merozoites

Sporozoites  $\rightarrow$  Trophozoites

# **Answer: C**



6. Charas, hashish, ganja are obtaied from .........

•

A. Papaver somniferum

B. Erythroxylum coca

C. Atropa belladona

D. Cannabis sativa

**Answer: D** 



- 7. LSD is derived from ..........
  - A. Claviceps purpurea
  - B. Erythroxylum coca
  - C. Rapaver somniferum
  - D. Cannabis Sativa

**Answer: A** 



8.	HAART	is	suggested	for	the	treatment	of
••••	····· ·						

A. malaria

B. cancer

C. high cholesterol level

D. AIDS

**Answer: D** 



**9.** Mucous membrane trapping the microbes acts as a ......

A. physiological barrier

B. physical barrier

C. phagocytic barrier

D. inflammatory barrier

**Answer: B** 



10.	Trichophyton	and	Microsporum	are	the
cau	sative agents o	of	•••		

- A. Dermatophytosis
- B. Typhoid
- C. Filariasis
- D. Leukemia

**Answer: A** 



- **11.** Which of the following pairs are CORRECT?
  - A. Heroin-Stimulant
  - B. Marijuma-Cardiovascular
  - C. Cocaine-Hallucinations
  - D. Morphine-Sedative

**Answer: C** 



**12.** ..... Is the infections stage of Plasmodium.

- A. Tropozoite
- B. Sporozoite
- C. Cryptozoite
- D. Metacercaria

**Answer: B** 



13.	Cocaine	alkaloid	is	obtained	from
pla	nt.				

- A. Marijuana
- B. Papaver somniferum
- C. Cannabis sativa
- D. Coca

#### **Answer: D**



**14.** ...... Is a bacteriolytic enzyme, present in tears and is capable of digesting bacterial cell walls.

- A. Lysozyme
- B. Lysosomes
- C. Lipase
- D. Somatostatin

#### Answer: A



15.	What	is	produced	by	sensitized	helper	T-
cel	ls ?						

- A. Adrenaline
- B. Perforin
- C. Lysozyme
- D. Lymphokine

**Answer: D** 



- **16.** Where is antigen D present?
  - A. On the Rhesus factor
  - B. On the surface of red blood cells
  - C. On the A-antigen
  - D. On the AB-antigen

### **Answer: B**



**17.** Which out of the following is not a type of cancer?

A. Carcinoma

B. Sarcoma

C. Lipoma

D. Adenoma

**Answer: C** 



**18.** ...... Drug is used for patients who have undergone surgery.

- A. Marijuana
- B. Smack
- C. Morphine
- D. Cannabinoids

**Answer: C** 



# **Animal Husbandry**

**1.** Which of the following is the viral disease of the poultry?

A. Ranikhet

B. Favus

C. CRD

D. Coccidiosis

**Answer: A** 



## 2. Find the odd one out:

- A. Aspergillosis
- B. Pullorum
- C. Favus
- D. Thrush

#### **Answer: B**



**3.** In ........ Superior males of one breed are mated with superior females of another breed.

- A. out crossing
- B. cross breeding
- C. out breeding
- D. inbreeding

#### **Answer: B**



A. inbreeding

B. out breeding

C. outcrossing

D. cross breeding

**Answer: A** 



<b>5.</b>	Which	stage	in	the	life	cycle	of	silk	moth
se	cretes s	silk ?							

- A. Caterpillar
- B. Egg
- C. Pupa
- D. Adult

### **Answer: A**



6. ..... Is an exotic breed of cow.

A. Gir

B. Sindhi

C. Sahiwal

D. Jersey

#### **Answer: D**



**7.** Which one of the following is not an Indian breed of poultry?

- A. Chitong
- B. Aseel
- C. Minorea
- D. Brahma

**Answer: C** 



**8.** Which animals are mated by interspecific hybridization to produce a mule?

- A. Zebra and giraffe
- B. Horse and donkey
- C. Cow and horse
- D. Donkey and monkey

## **Answer: B**



A. GH

B. LH

C. FSH

D. ICSH

# **Answer: C**



10. Which one out of the following is the

European honeybee?

- A. Apis dorsata
- B. Apis florea
- C. Apis mellifera
- D. Apis indica

**Answer: C** 



are	•••••	•••		

- A. Nagpuri, Murrah and Surati
- B. Mehsana, Gir and Sindhi
- C. Jersey, Holstein and Nili
- D. Murrah, Sahiwal and Brown Swiss

# **Answer: A**



12. Inbreeding increases ...........

A. homozygosity

B. heterozygosity

C. heterosis

D. hemizygosity

**Answer: A** 



1. Closed circulatory system was discovered by
•••••••••••••••••••••••••••••••••••••••
A. Darwin
B. Mendel
C. Harvey

**Answer: C** 

D. Watson



2. Which mamma	I has nucle	eated RBCs?
----------------	-------------	-------------

- A. Bear
- B. Camel
- C. Yak
- D. Whale

**Answer: B** 



**3.** Which blood cell is formed in Payer's patches?

A. Thrombocyte

B. Erythrocyte

C. Leucocyte

D. Platelets

**Answer: C** 



**4.** In which of the following diseases is there pathological increase in number of WBCs?

- A. Leucopoiesis
- B. Leucopenia
- C. Leucocytosis
- D. Leukemia

**Answer: D** 



5. Which is the correct arrangement of types of WBCs with respect to their number in blood
? (Consider Neutrophil = N, Eosinophil = E, Basophil = B, Monocyte = M and Lymphocyte = L)

A. NLMEB

B. BEMLN

C. NEBLM

D. MEBLN

Answer: A

**6.** What is as oval opening in the interatrial septum of the foetus called ?

A. Fossa ovalis

B. Foramen ovale

C. Ligamentum arteriosum

D. Ductus arteriosus

**Answer: B** 



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- 7. Atrioventricular groove is also called a ...........
  - A. foramen ovale
  - B. ligamentum arteriosum
  - C. coronary sulcus
  - D. ductus arteriosus

#### **Answer: C**



- A. left atrium
- B. right atrium
- C. left ventricle
- D. right ventricle

# **Answer: B**



<b>9.</b>	Normal	activities	of t	the	heart	are	regulat	ed
by	•••••••							

A. brain

B. spinal cord

C. modified cardiac muscles

D. hormones

#### **Answer: C**



<b>10.</b> Which disorder ca	n disappear	with rest ?
------------------------------	-------------	-------------

- A. CAD
- B. Angina pectoris
- C. Hypertension
- D. Heart failure

# **Answer: B**



**11.** Heavines with sever chest pain which may disappear with rest indicates

- A. angina pectoris
- B. atherosclerosis
- C. arteriosclerosis
- D. hyperthyroidism

**Answer: A** 



12. In ECG. 'p' wave represents ...........

A. ventricular repolarization

B. ventricular depolarization

C. atrial depolarization

D. atrial repolarization

# **Answer: C**



A. chordae tendinae

B. interventricular septum

C. papillaey muscle

D. trabeculae carnae

**Answer: D** 



**14.** The auriculo-ventricular valves need to close to prevent the backflow. But the ventricular pumping is so forceful that these valves need additional support to withstand this force. This support is provided by some special tendons. Which are those tendons?

- A. Purkinje fibres
- B. chordae tendineae
- C. Achilles tendons
- D. epicardium

#### **Answer: B**



**15.** Blood is a fluid connective tissue derived from .......

- A. ectoderm
- B. mesoderm
- C. endoderm
- D. epithelium

#### **Answer: B**



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- 16. What is the average life span of RBC?
  - A. About 20 days
  - B. About 60 days
  - C. About 80 days
  - D. About 120 days

#### **Answer: D**

**17.** What is the study of blood vessels called?

A. Hematology

B. Vessel study

C. Angiology

D. Arteriology

**Answer: C** 



**18.** Which substance is released by thrombocytes while initiating blood clotting reactions?

A. Thrombokinase

B. Antithrombin

C. Heparin

D. Thromboplastin

**Answer: D** 



**19.** Which is the correct order in which the protiens participate in clotting of blood?

A. Prothrombinase  $\;
ightarrow\;$  Prothrombin  $\;
ightarrow\;$ 

Thromboplastin  $\rightarrow$  Thrombin

B. Thromboplastin ightarrow Prothrombinase

ightarrow Prothrombin ightarrow Thrombin

C. Prothrombin  $\rightarrow$  Thromboplastin  $\rightarrow$ 

Thrombin  $\rightarrow$  Prothrombinase

D. Thrombin ightarrow Prothrombin

Thrombo-plastin ightarrow Prothrombinase

**Answer: B** 



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**20.** The human heart is situated in a space called .........

A. abdominal cavity

B. mediastinum

C. cranium

D. sacrum

**Answer: B** 



**View Text Solution** 

**21.** What is the meaning of stroke volume?

A. Amount of blood in the body

B. Amount of blood put out of the

ventricles in one minute

C. Amount of blood put out of the ventricles in one beat

D. Pressure of contraction of heart

## **Answer: C**



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**22.** How much amount of blood is put out of the heart during one minute?

A. Equal to cardiac output

- B. Equal to stroke volume
- C. Equal to half of blood volume
- D. Equal to quarter of blood volume

#### **Answer: A**



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**23.** What is the time taken for one cardiac cycle of normal human being?

A. 0.1 second

B. 0.3 second

C. 0.4 second

D. 0.8 second

#### **Answer: C**



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# **Excretion And Osmoregulation**

**1.** Gout, the painful arthritic condition is caused due to excess of ............ Deposition in

joints.				
A. urea				
B. ammonia				
C. guanine				
D. uric acid				
Answer: D				
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**2.** It takes ........ For the entire blood to pass through glomerulus once.

- A. 4 seconds
- B. 4 minutes
- C. 4 hours
- D. 40 minutes

**Answer: B** 



**3.** Breakdown of nucleic acids form ....... In small quantity.

A. ammonia

B. uric acid

C. urea

D. guanine

# **Answer: B**



**4.** Glucose is taken back from glomerular filtrate \_\_\_

A. along with concentration gradient

B. against concentration gradient

C. by simple diffusion

D. by tubular secretion

**Answer: B** 



**5.** The excertory wastes of tadpole larva of frog and adult frog are ............ Respectively.

A. urea and uric acid

B. ammonia and urea

C. urea and ammonia

D. urea and urea

**Answer: B** 



6.	Nep	ohritis	is	also	known	as	•••••	disease.
----	-----	---------	----	------	-------	----	-------	----------

- A. Bright's
- B. Gull's
- C. Grave's
- D. Cushing's

#### **Answer: A**



<b>7.</b> Conversion	of	ammonia	into	uric	acid	occurs
through						

- A. Ornithine cycle
- B. Guanine cycle
- C. Inosinic pathway
- D. Krebs cycle

### **Answer: C**



8. Stones	produced	from	uric	acid	in	people
with meta	bolic disor	ders a	re	••••••		

- A. cystine
- B. struvite
- C. oxalate
- D. phosphate

## **Answer: A**



A. lethal

B. cadaveric

C. genetic

D. non-living

**Answer: B** 



10. Juxta glomerular cells of kidney secrete the
hormone

- A. Angiotensinogen
- B. Angiotensin II
- C. Coherin
- D. Renin

**Answer: D** 



**11.** Urea splitting bacteria are responsible for .....types of stones.

A. calcium oxalate

B. calcium phosphate

C. calcium carbonate

D. struvite

**Answer: D** 



<b>12.</b> Synthesis	of u	ric	acid	from	ammonia	takes
place by	Path	way	<b>/</b> .			

- A. inosinic
- B. ornithine
- C. purine
- D. pyrimidine

### **Answer: A**



13.	Juxtaglomerular	apparatus	is	formed	by
	And				

A. Bowman's capsule, glomerulus

B. PCT, glomerulus

C. DCT, Bowman's capsule

D. DCT, glomerulus

**Answer: D** 



<b>14.</b> Sodium ion concentration is maintained by	/
the hormone	

- A. aldosterone
- B. parathormone
- C. calcitonin
- D. thyroxine

### **Answer: A**



**15.** Glomerular hydrostatic pressure, osmotic pressure of blood and hydrostatic pressure of the glomerular capsule together form ...........

A. effective filtration rate

B. net filtration pressure

C. blood pressure

D. glomerular pressure

### **Answer: A**



**16.** Calcitonin and parathormone together maintain ......ion concentration.

- A. Fe
- B. K
- C. Na
- D. Ca

**Answer: D** 



**17.** Which of the following organs are involved in renin-angiotensin mechanism?

A. Kidney, adrenals, heart, lungs, hypothalamus

B. Kidney, testis, adrenals, brain

C. Stomach, liver, kidneys, hypothalamus

D. Brain, pituitary, kidneys, lungs

### **Answer: A**



<b>18.</b> When the level of urea in blood rises	to
above 0.05%, then this condition is known	as
••••••	

A. Uremia

B. Glucosuria

C. Gout

D. Nephritis

## **Answer: A**



**19.** Which of the animal groups show uricotelism?

A. Snake, rat, terrestrial insect

B. Penguin, reptile, snail

C. Landsnail, bird, lizard

D. Tadpole larva of frog, marine fish, spider

### **Answer: C**



# **Control And Coordination**

**1.** The common feature of occulomotor and pathetic nerve is ............

A. both are sensory nerves

B. both supply to eye muscles

C. both arise from medulla oblongata

D. both innervate face

## Answer: B



**2.** Which of the following is a chemical transmitter in synapse of neurons?

A. Cholesterol

B. ATP

C. Cholinesterase

D. Acetylcholine

**Answer: D** 



3.	Photoreceptor	cells	are	present	in
•••••	••••••				

- A. blind spot
- B. retina
- C. cochlea
- D. cornea

### **Answer: B**



4. Spinal cord and sympathetic ganglion of
autonomous nervous system are connected by
••••••
A. ramus ventralis

B. ramus communicans

C. ramus dorsalis

D. connective

#### **Answer: B**



<b>5.</b> The transparer	nt anterior portion o	of sclera of
eye is called		

- A. iris
- B. lens
- C. Ciliary body
- D. cornea

#### **Answer: D**



6.	ls a	membrane	in	front	of	cornea
<b>U.</b>	13 a	IIICIIIDI alic	111	HOHL	Οı	corrica.

A. Iris

B. Conjunctiva

C. Choroid

D. Lens

### **Answer: B**



**7.** The ......... Are responsible for photopic vision.

A. cones

B. rods

C. lens

D. retina

**Answer: A** 



**8.** ..... receives the sensory impulses like touch, heat, pain, etc.

- A. Cerebrum
- B. Cerebellum
- C. Spinal cord
- D. Cranial nerves

### **Answer: A**



**9.** The ...... Lobe of the cerebral hemisphere is the centre of speech, memory and thinking.

- A. frontal
- B. parietal
- C. temporal
- D. occipital

**Answer: A** 



<b>10.</b> In	the	frontal	lobe	of	cerebral	hemisphere
there	is	······································				

- A. auditory area
- B. Wernicke's area
- C. Broca's area
- D. pituitary

## **Answer: C**



**11.** ...... Are present in the wall of carotid arteries.

- A. Proprioceptors
- **B.** Enteroceptors
- C. Baroreceptors
- D. Photoreceptors

### **Answer: C**



**12.** ..... Is a shock absorber and protects central nervous system from dessication.

- A. Dura mater
- B. Arachnoid membrane
- C. Cerebrospinal fluid
- D. Pia mater

### **Answer: C**



**13.** In human brain the motor area of speech is present in ............

A. frontal lobe

B. parietal lobe

C. temporal lobe

D. occipital lobe

**Answer: A** 



14. Which area in the cerebral cortex is sensory
speech area ?

- A. Broca's area
- B. Wernicke's area
- C. Corpus callosum
- D. Pallium

### **Answer: B**



**15.** ..... Acts as the centre of many reflexes of the body.

- A. Diencephalon
- B. Cerebellum
- C. Cerebrum
- D. Spinal Cord

**Answer: D** 



**16.** How many pairs of sympathetic ganglia are present in man ?

A. 12

B. 21

C. 31

D. 8

**Answer: B** 



17.	Which	of	the	following	İS	the	function	of
oc	ulomoto	or r	erve	e ?				

- A. Smell
- B. Vision
- C. Eyeball movements
- D. Taste

#### **Answer: C**



- **18.** What is the function of vagus nerve?
  - A. Pharyngeal contraction
  - B. Movement of eye
  - C. Rotation of eyeball
  - D. Visceral movements

### Answer: D



19.	The	nervous	band	connecting	two	cerebral
he	misp	heres is .	•••••••			

- A. cerebral peduncle
- B. brain stem
- C. vermis
- D. corpus callosum

### **Answer: D**



20.	What	is	described	as	'windows	of	the
brai	in'?						

- A. Receptors
- **B.** Effectors
- C. Sense organs
- D. Neurons

### **Answer: C**



## **Part B Hormonal Coordination**

A. mentally abnormal

B. mentally normal

C. physically tall

D. retarded

**Answer: B** 



A. STH

B. ADH

C. MSH

D. FSH

**Answer: B** 



3. Which of the following is a true statement?

A.  $T_3$  is more active while  $T_4$  is more potent hormone

B.  $T_3$  and  $T_4$  are both the hormones of testis

C.  $T_3$  and  $T_4$  do not control metabolism

D.  $T_3$  and  $T_4$  are responsible for secondary sexual characters in males

### **Answer: A**

- 4. Which is the odd pair?
  - A. Thyroxine-Goitre
  - B. Insulin-Diabetes mellitus
  - C. ADH-Diabetes insipidus
  - D. ADH-Acromegaly

**Answer: D** 



**5.** Which of the following hormones is responsible for regulating the blood sugar level in the human body?

A. Insulin

B. Growth hormone

C. Oxytocin

D. Vasopressin

#### **Answer: A**



6. ..... Maintains basic metabolic rate.

A. Thyroxine

B. ADH

C. GH

D. Oxytocin

**Answer: A** 



<b>7.</b> A person	suffering	from	diabetes	insipidus
shows				

- A. hyperglycemia
- B. hypoglycemia
- C. polyuria
- D. hypertension

## **Answer: C**



8.	Lowering	of	blood	pressure	is	related	with
tł	ne product	ing	of	••••••			

- A. ADH
- B. ANF
- C. GH
- D. LH



**9.** \_\_\_\_ is a hormone that regulates amount of glucose (sugar) in the blood .

- A. angiotensin
- B. insulin
- C. adrenalin
- D. erythropoietin

**Answer: B** 



**10.** Which of the following glands is both exocrine and endocrine in nature?

- A. Pituitary
- B. Thyroid
- C. Pancreas
- D. Adrenal

**Answer: C** 



11.	Corticotrope	cells	from	adenohypophysis
sec	crete			

A. corticotropins

B. glucocorticoids

C. mineralocorticoids

D. ACTH

**Answer: D** 



12. Hyposecretion of 9	STH causes	In	adults.
------------------------	------------	----	---------

- A. gigantism
- B. dwarfism
- C. Simmond's disease
- D. acromegaly

# **Answer: C**



**13.** Which hormone stimulates the formation of milk in females after childbirth?

- A. Prolactin
- B. Vasopressin
- C. Oxytocin
- D. ADH

**Answer: A** 



**14.** Which hormone stimulates the release of milk from the mammary gland?

- A. Prolactin
- B. Estrogen
- C. Luteinizing Hormone
- D. Oxytocin

**Answer: D** 



15.	Cushing's	syndrome	is	characterised	by
•••••	••••				

- A. excessive growth of adrenal gland
- B. defective thyroid gland
- C. abnormal gonads
- D. reduced pancreatic activity

## **Answer: A**



**16.** Which of the following is not a thyroid hormone?

A.  $T_3$ 

B.  $T_4$ 

C. Calcitonin

D. ADH

**Answer: D** 



17. Where are parathyroid glands located?

A. Above the thymus

B. In front of the thyroid gland

C. Above the pancreas

D. On the back of thyroid gland

**Answer: D** 



**18.** Which lobular gland is present on the dorsal side of the heart?

- A. Thyroid
- B. Parathyroid
- C. Thymus
- D. Adrenal

**Answer: C** 



19. The main mineralocorticoid hormone is						
••••••						
A. cortisol						
B. cortisone						
C. aldosterone						
D. androgen						





# **20.** Which of the following is a catecholamine?

- A. Adrenaline
- B. Testosterone
- C. Estrogen
- D. Insulin

#### **Answer: A**



- A. Renin
- B.  $IP_3$
- C. ANF
- D. GHRF

**Answer: B** 



# **Human Reproduction**

**1.** Which kind of mammals show the development of placenta?

A. Prototheria

B. Metatheria

C. Eutheria

D. Monothemata

**Answer: C** 



**2.** ...... Contribute about  $60\,\%$  of the total volume of the semen.

A. Prostate gland

B. Cowper's glands

C. Seminal vesicles

D. Bartholin's glands

**Answer: C** 



**3.** Which is a homologous gland in female for Cowper's glands in males?

A. Bartholin's gland

B. Bulbourethral gland

C. Prostate gland

D. Mucous gland

**Answer: A** 



**4.** The external layer of connective tissue sheath of human testis is

A. tunica vasculosa

B. tunica vaginalis

C. tunica granulosa

D. tunica albuginea

**Answer: B** 



5.	Which	is	the	outermost	layer	of	human
ΟV	um?						

- A. Corona radiata
- B. Vitelline membrane
- C. Zona pellucida
- D. Epithelial membrane

## **Answer: A**



<b>6.</b> Blastulation starts in the

A. ovaries

B. fallopian tubes

C. uterus

D. vagina

**Answer: C** 



**7.** Normally ovulation occurs on the ........ Day of the menstrual cycle.

- A. 10th
- B. 14th
- C. 18th
- D. 28th

**Answer: B** 



8. Implantation	of embryo	is	completed	within

...... Days after fertilization.

- A. 10
- B. 12
- C. 15
- D. 20

# **Answer: B**



<b>9.</b> Pregnancy in se	econd trimester	is maintained
by		

A. LH (Lutenizing hormone)

B. progesterone

C. estrogen

D. HCG (Human Chorionic Gonadotropin)

**Answer: B** 



**10.** In which of the following haploid cells a whole genome in human being is present?

- A. Sperm
- B. Somatic cell
- C. Mature RBC
- D. Primary spermatocyte

**Answer: A** 



**11.** The trophoblast cells in contact with embryonal knob are called ..........

A. inner mass cells

B. blastomere

C. amniogenic cells

D. cells of Rauber

**Answer: D** 



A. Hydra
B. Spongilla
C. Planaria
D. Human being
Answer: B
Watch Video Solution
13. Human placenta consists of only.

12. Gemmule formation takes place in ......

A. amnion	
-----------	--

B. yolk sac

C. allantois

D. chorion

#### **Answer: D**



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**14.** Abortion in the first trimester of pregnancy may occur due to lack of ......

- A. aldosterone
- B. Testosterone
- C. oestrogen
- D. progesterone

#### **Answer: D**



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**15.** Which of the following is mesodermal in origin?

A. Retina
B. Enamel of teeth
C. Heart
D. Liver
Answer: C  Watch Video Solution
<b>16.</b> Chancres are the primary lesions caused by

- A. Neisseria gonorrhoeae
- B. Treponema pallidum
- C. Plasmodium vivax
- D. Salmonella typhi



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**17.** Select the CORRECT pair of endodermal derivatives.

- A. Adrenal medulla Dermis of skin
- B. Lungs Thyroid gland
- C. Lymphatic vessel Vagina
- D. Retina Tonsil



**View Text Solution** 

**18.** ...... Are a pair of lobulated glands which are present at the base of urinary bladder in males.

- A. Prostate glands
- B. Seminal vesicles
- C. Cowper's glands
- D. Bulbourethral glands



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**19.** Which of the following hormone controls the secondary sexual characteristics in male?

- A. Testosterone
- B. progesterone
- C. Oestrogen
- D. Relaxin



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**20.** Which cells of the testis provide nourishment to the spermatozoa?

- A. Sertoli cells
- B. Interstitial cells
- C. Graafian follicles
- D. Epithelial cells



- 21. What is the function of testis?
  - A. It produces sperms

- B. It produces male hormone testosterone
- C. Both (a) and (b)
- D. It secretes progesterone



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**22.** ............ Refers to the mitotic divisions which the egg undergoes after fertilization.

A. Implantation

- B. Fertilization
- C. Cleavage
- D. Gastrulation



- 23. As a result of first cleavage, ...... Formed.
  - A. one cell is
  - B. two cells are

- C. three cells are
- D. four cells are

# **Answer: B**



- **24.** ..... Twins can be of different sex.
  - A. Fraternal
  - B. Monozygotic
  - C. Identical

D. Siamese

**Answer: A** 



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**25.** Approximately how many eggs are produced by a normal healthy human female up to the age of 25 years if the age of menarche is 12 years .......

A. 169

B. 416

C. 240

D. 100

# **Answer: A**



**View Text Solution** 

# **Organisms And Environment Ii**

1. Adaptations for running are called .......

Adaptations.

- A. cursorial
- B. fossorial
- C. volant
- D. arboreal



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**2.** Which of the following animal shows fossorial adaptations?

- A. Monkey
- B. Bombay duck
- C. Rats
- D. Cockroach



**View Text Solution** 

**3.** In which type of adaptation, forelimbs are modified into wings?

- A. Aquatic adaptation
- B. Volant adaptation
- C. Arboreal adaptation
- D. Cursorial adaption

# **Answer: B**



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**4.** Struggle between cow and cow for getting grass is called ............

- A. interspecific struggle
- B. environmental struggle
- C. struggle against natural calamities
- D. intraspecific struggle



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**5.** Which type of competition has a potential to alter the populations ?

- A. Interspecific competition
- B. Intraspecific competition
- C. Exploitation competition
- D. Apparent competition



**View Text Solution** 

**6.** Parasite stealing food gathered by host is called ...........

- A. epiparasite
- B. hyperparasite
- C. kleptoparasite
- D. social parasite



**View Text Solution** 

**7.** In which device a fine spray of water is used for separation of ammonia and sulphur dioxide?

- A. Scrubber
- B. Diesel engine
- C. Smokers
- D. Electrostatic precipitator



**View Text Solution** 

**8.** During ...... Type of interaction , both organisms are benefited .

- A. mutualism
- B. competition
- C. commensalism
- D. parasitism



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		•
Α.	arser	າເຕ
	··· • • ·	• • •

B. lead

C. mercury

D. selenium

# **Answer: C**



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**10.** A cuckoo laying eggs in the nest of other species of birds is an example of :

- A. adelphoparasitism
- B. brood parasitism
- C. ectoparasitism
- D. hyperparasitism

# **Answer: B**



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**11.** Mutualism is \_\_\_\_\_

A. two organisms are benefitted from each other.

B. one organism is benefitted and other is harmed.

C. both are harmed from each other.

D. an association in which one is parasite and other is host.

#### **Answer: A**



<b>12.</b> The interaction	between	ruminants	and	the
bacteria in intestir	ne is			

- A. predation
- B. parasitism
- C. commensalism
- D. mutualism

**Answer: D** 



- A. kleptoparasitism
- B. adelphoparasitism
- C. hyperparasitism
- D. brood parasitism

**Answer: B** 



14. Find the odd one out:

A. Clouded leopard

B. Musk deer

C. Asiatic Wild Ass

D. Cheetah

**Answer: D** 



15. In Maharashtra, there are ......... National

Parks and ...... Wildlife Sanctuaries.

- A. 80, 441
- B. 60, 241
- C. 20, 111
- D. 5, 11

**Answer: D** 



**16.** Which one out of the following is not a device that controls air pollution?

- A. Catalytic converter
- B. Electrostatic precipitator
- C. Scrubber
- D. Air conditioner

#### **Answer: D**



**17.** Hot spot method of in situ conservation protects .......... Species in its own habitat.

A. vulnerable

B. rave

C. indeterminate

D. endangered

**Answer: D** 



<b>18.</b> Ir	1950s	Minamata	disease	was	caused	by
poisoning.						

- A. lead
- B. arsenic
- C. mercury
- D. cadmium

