

BIOLOGY

NEET & AIIMS

MOCK TEST 3

Example

1. The phase of mitosis in which chromosomes are thickest and shortest is

- A. Metaphase
- B. Prophase
- C. Telophase
- D. Anaphase

Answer: A



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2. Read the following statement and choose the correct option spindle fibres get attached to the kinetochore of the chromosomes during metaphase. At the end of prophase cells do not show golgi complex, endoplasmic reticulum, nucleolus and the nuclear envelope. At anaphase centromere splits but chromatids do not separate. A. A, B & C B. Only B C. Only A D. Only A & B Answer: D

3. Choose the incorrect ones w.r.t. metaphase.

Each chromosome with two sister chromatids.

Best stage to study morphology of chromosomes.

Spindle fibres are attached to kinetochore.

Each chromatid attaches to two spindle fibres

from either poles.

Dissolution of kinetochore.

A. A & D Only

B. B, D & E Only

C. D & F Only

D. A, D & F Only

Answer: C



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4. Which of the following is not a significance of mitosis?

A. Maintenance of cell size

- B. Repair of damaged body parts
- C. Replacement of skin cells, epidermal cells

by the new cells

D. Introduction of variations

Answer: D



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5. If karyokinesis is not followed by $\frac{i}{-}$, it will lead to formation of $\frac{ii}{-}$ in coconut.

- A. Cytokinesis, Multicellular organism
- B. M-phase, Syncytium
- C. Cytokinesis, Liquid endosperm
- D. M-phase, Syncytium

Answer: C



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6. Kinetochores of a chromosome are

- A. Disc shaped proteinaceous structure present at the centromere
- B. Present near secondary constriction
- C. Distributed all over the length of the chromosomes
- D. Beaded string like structures

Answer: A



7. Nuclear envelope assembles around the chromosome clusters at

A. Late anaphase

B. Telophase

C. Early prophase

D. Late metaphase

Answer: B



8. How many tetrads are visible in human meiocyte?

A. 46

B. 23

C. 46 pairs

D. 23 pairs

Answer: B



- 9. Diakinesis is marked by
 - A. Fromation of chiasmata
 - B. Terminalisation of chiasmata
 - C. Crossing over
 - D. Nuclear membrane persist

Answer: B



10. DNA content in a meiocyte at G_2 phase is 40 pg. What would be the DNA content after meiosis-II in the daughter cells?

- A. 20 pg
- B. 5 pg
- C. 10 pg
- D. 15 pg

Answer: C



11. Read the following statements and select the correct option stating which ones are true(T) and which ones are false (F)

in metaphase I spindle fibre attaches to homologus chromosome white in metaphase II attaches to chromatids.

Chromosome completely decondenese in telophase I.

Blvalent is fromed at leptotene stage level become clearly visible in zygotene stage

Diakinesis represents transition to metaphase

I.

A. T-F-F-T

B. T-T-F-F

C. T-F-T-T

D. F-T-F-T

Answer: A



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12. Zygotene is characterized by

Pairing of homologous chromosomes

Appearance of synaptonemal complex

Formation of bivalents

Formation of chiasmata

A. (A), (B) & (D) Only

B. (B), C & (D) only

C. All except C

D. All except (D)

Answer: D



13. Splitting of centromere of each chomosome which was holding sister chromatids together, occurs at

- A. Anaphase-I
- B. Anaphase-II
- C. Telophase-I
- D. Telophase-II

Answer: B



14. In oocytes of some vertebrates, diplotene lasts for months or years. It is called

- A. Leptotene stage
- B. Dictyotene stage
- C. Zygotene stage Pachytene stage

D.

Answer: B



15.	Recom	bination	nodule	is seen	in stage
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- A. Zygotene
- B. Pachytene
- C. Diakinesis
- D. Leptotene

Answer: B



16. Interkinesis differs from interphase in absence of

- A. DNA replication
- B. Histone protein synthesis
- C. Centriole duplication
- D. Both (1) & (2)

Answer: D



17. Calculate the total number of meiotic division required to produce 56 pollen grains.

- A. 55
- B. 14
- C. 28
- D. 52

Answer: B



18. Chiasmata or X-shaped structures become visible during

- A. Diplotene stage
- B. Zygotene stage
- C. Pachytene stage
- D. Leptotene stage

Answer: A



- 19. A bivalent of prophase I represent
 - A. One centromere with two chromatids
 - B. Two centromeres with two chromatids
 - C. Two centromere with four chromatids
 - D. Four centromere with four chromatids

Answer: C



20. A short live phase between meiosis II and II is

- A. Diakinesis
- **B.** Interkinesis
- C. Cytokinesis
- D. Interphase

Answer: B



21. Which of the following is not a significance of meiosis ?

A. Frormation of gametes

B. Increases genetic variability

C. Reduction of chromosome number of

D. Replaces old dead and worn out cells

Answer: D



22. Substitution of a purine base with a pyrimidine base or vice versa is called

- A. Transition
- **B.** Transversion
- C. Deletion
- D. Addition

Answer: B



23. Mutation that occurs due to addition of a part of chromosome so that gene(s) is/are represented twice,is called

- A. Addition
- B. Insertion
- C. Duplication
- D. Transition

Answer: C



24. In case of chronic myetogenous lukemia, which one of the following is called "Philadelphia chromosome"?

- A. Chromosome 22
- B. Chromosome 21
- C. Chromosome 9
- D. Chromosome 5

Answer: A



25. In paracentric inversion

- A. Centrosome is involved
- B. Centrosome is splitted into two halves
- C. Inverted segment does not carry centromere

D.

Answer: C



26. Select correct option w.r.t. trisomy aneuploidy

- A. Down's syndrome
- B. Klinefeller's syndrome
- C. turner's syndrome
- D. All except (3)

Answer: D



27. Who is considered as "father of actinobiology"?

A. H.J. Muller

B. C. Auerbach

C. T.H. Morgan

D. G.J. Mendel

Answer: A



- A. Xanthine
- B. Hypoxathine
- C. Acridines
- D. Base analogous

Answer: B



29. Select the incorrect state w.r.t. mutagens (a) 5 mythyl cytosine and 5 hydroxymethyl cytosine are natural base analogues (b) 5bromouracil is a structural analogueof thymine © 2-aminopurine is an artificial base analogue of guanine (d) Nitrous acid deaminates adenine to hypoxanthine which is complementary to thymine. (e) Guanine is coverted to xanthine by Nitrous acid which pairs with cytosine

A. (b), (d), & (e)

B. © & (d)

C. (a), (d), & (e)

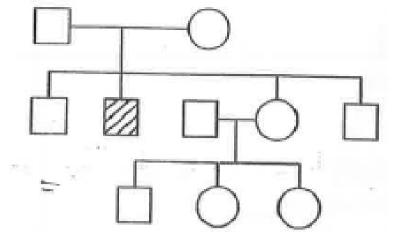
D. all expect (e)

Answer: B



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30. Study the given chart and select the correct option w.r.t. genetic disorders.

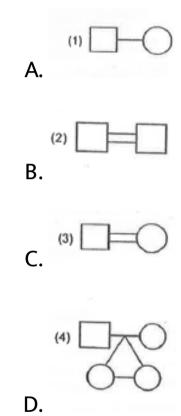


- A. Autosomal recessive
- B. Autosomal dominant
- C. Allosomal dominant
- D. Holandric gene

Answer: A



31. Consaguineous mating is denoted by



Answer: C



32. Select odd one out w.r.t. autosomal recessive trait.

A. Cystic fibrosis

B. PKU

C. Sickle cell anaemia

D. Colour blindness

Answer: D



33. Christmas disease is caused due to absence of

- A. Plasma thromboplastin
- B. Plasma thromboplastin anticedent
- C. Anti-haemoglobin
- D. Rh-antigen

Answer: A



34. Haemophilia is transmitted from normal carrier female to male progeny because it is

- A. X-linked dominant trait
- B. X-linked recessive trait
- C. A recessive autosomal trait
- D. Y-linked dominant trait

Answer: B



35. Select correct statement w.r.t. thalassemia. (a) It is a recessive autosomal genetic defect. (b) Alpha thalassemia is connected to the deletion of 16p(short arm) chromosome. (c) Beta thalassemia is caused due to mutations in the HBB gene on chromosome 11. (d) About 30% of adult haemoglobin is made up of alpha and delta chains. (e) In beta thalassemia, excess B-chains form unstable tetramers which have abnormal oxygen dissociation curve.

A. (b), (c) & (d)

B. (a), (b) & (e)

C. All except (b) & (e)

D. All except (d) & (e)

Answer: D



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36. In phenylketonuria, the amino acid (i) is not converted into (ii). Select the correct option to fill in the blanks (i) & (ii)

A. (i) Ketone, (ii) Urea

- B. (i) Phenylalanine, (ii) Urea
- C. (i) Phenoxy acetic acid, (ii) Ketone
- D. (i) Phenylalanine, (ii) Tyrosine

Answer: D



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37. Cytoplasmic male steritiy in maize is due to defective

A. Chloroplasts

- B. Mitochondria
- C. Allosomes
- D. Lysosomes

Answer: B



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38. Which of the following characters is/are not related to Down's syndrome?

A. Short stature and small round head

- B. Furrowed tongue and partially open mouth
- C. Big and wrinkled tongue
- D. Gynaecomastia

Answer: D



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39. Which one is 6-membered single-ring structure with N at 1st and 3rd position?

- A. Cytosine
- B. Thymine
- C. Adenine
- D. Both (1) & (2)

Answer: D



- **40.** Two nucleotides are linked through
 - A. Glycosidic linkage

- B. Phosphodiester linkage
- C. H-bond
- D. Peptide linkage

Answer: B



- **41.** Chargaff's rule is applicable to:
 - A. Single stranded DNA
 - B. Double stranded DNA

C. Single stranded RNA

D. All except (3)

Answer: B



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42. Vertical rise per bp of B-DNA is

 $\mathsf{A.}\,3.3A$

 $\mathsf{B.}\ 3.8A$

 $\mathsf{C.}\ 3.4A$

D. 2.56A

Answer: C



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43. Central dogma of molecular biology was proposed by

A. F. Crick

B. H. Temin

C. D. Baltimore

D. M. Wilkins

Answer: A



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44. If the distance between two consecutive base pairs is 0.34 nm then the length of DNA for a human diploid cell is

A.
$$6.6 imes 10^9 m$$

B. $6.6 imes10^9 bpx0.34m$

 $\mathsf{C}.\,2.2 metres$

D.
$$6.6 imes 10^{-9} m$$

Answer: C



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45. The number of base pairs in E.coli is

A. $6.6 imes 10^9$

B. $4.6 imes 10^6$

 $\text{C.}~0.34\times10^6$

D. $1.36 imes 10^9$

Answer: B



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46. Purine nucleosides have

A. 5-3 phosphodiester bond

B. 1-9 glycosidic linkage

C. 1-1' glycosidic linkage

D. H-bonds

Answer: B



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- 47. Cytidine is a
 - A. Nucleoside
 - B. Nucleotide
 - C. Dicyclic Nitrogen base
 - D. Monocyclic nitrogen base

Answer: A

48. The packaged structure of DNA in prokaryotes is called as

A. Nucleosome

B. Nucleoid

C. Chromatin

D. Nucleolemma

Answer: B



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49. Reverse transcriptase can synthesise

A. DNA \rightarrow DNA

B. DNA → RNA

C. RNA → Protein

D. RNA → DNA

Answer: D



- **50.** In prokaryotes, DNA is found in cytoplasm in which is maintained by
 - A. Scattered, Acidic protein
 - B. Super coiled stage, Polyamines
 - C. Non-scattered stage, Histone
 - D. Coiled stage, Acidic protein

Answer: B



51. DNA was extracted from E.coli. The proportion of cytosine was found to be 30%, then what will be the amount of adenine?

- A. 0.6
- B. 0.7
- C. 0.2
- D. 0.4

Answer: C



52. Nu-body has two copies of each

D. All except (2)

Answer: D



53. About ____ bp of DNA is wrapped over nu-

body to complete about ___turns.

- A. `200,3/4'
- B. 200, $1\frac{3}{4}$
- c. 80, $\frac{1}{2}$
- D. 80, $3\frac{1}{2}$

Answer: B



54. The diameter of a solenoid of chromatin is

A. 2nm

B.30nm

 $\mathsf{C}.\,700nm$

D. 1400nm

Answer: B



55. Who identified the biochemical nature of transforming substance?

A. Oswald Avery and Colin Macleod

B. Maclyn McCarty

C. F. Griffith

D. Both (1) and (2)

Answer: D



charecteristic of genetic material

56. Select incorrect statement w.r.t.

A. It should chemically and strucrally be stable

B. It should be able to generate its replica

C. It should provide the scope of rapid

mutation for evolution

D. It should be able to express itself

Answer: C



57. RNA is labile and easily degradable and unstable due to

A. Presence of free 2' OH

B. Presence of uracil

C. Presence of single stranded binding proteins

D. All except (3)

Answer: D

- **58.** _____ was the first genetic material
 - A. DNA
 - B. RNA
 - C. Nucleoid
 - D. Prochoromosome

Answer: B



59. A dense solution of CsCl,on centrifugation forms density bands of a solution of

- A. Lower density at the bottom
- B. Lower density at the top
- C. Higher density at the top
- D. Medium density at extreme bottom

Answer: B



C O		1.	. •	•	1			•	•
bU.	DNA	repli	cation	ın	eukar	votic	organ	ısms	IS
	, .					,	J. D		. –

- A. Semi-discontinuous with single ori
- B. Semi-conservation and semi-
- C. Semi-conservation with single ori

discontinuous

D. Conservation and bidirectional

Answer: B



61. _____ proved semi-conservation mode of chromosome replication in _____

- A. Cairms, Bacteriophage
- B. Cairms,Faba beans
- C. Taylor et.all, Vicia faba
- D. Taylor, E.coli

Answer: C



62. The whole genome of Escherichia coli have

____ bp which is replication within____

minutes6

- A. $6.6x10^6$, 20
- B. $4.6x10^9$, 33
- $\mathsf{C.}\,4.6x10^6,\,38$
- D. $6.6x10^9, 40$

Answer: C



63. Number of ori (origin of replication) in E.coli and Zea mays are ____ and ____ respectively

- A. 10 and 1000
- B. One and several thousands
- C. 10^5 and 10^{15}
- D. One and two

Answer: B



64. Unwinding of double helix DNA is brought

about by ____, which is ____ dependent

A. Topoisomerase, ATP

B. Helicase, ADP

C. Helicase, ATP

D. Topoisomerase, GTP

Answer: C



65. In E.coli and Zea	mays are _	and									
respectively.											
1 DNA Polymerase											

- B. Primase
- C. Topoisomerase
- D. Helicase

Answer: C



66. Konberg enzyme adds ____ nucleoides per minute during polymerase activity

- A. 50
- B. 2000
- C. 1000
- D. 500

Answer: C



67. The correct order of different RNAs w.r.t.

their lengths is

A. mRNA gt tRNA gt rRNA

B. mRNA gt rRNA gt tRNA

C. tRNA gt rRNA gt mRNA

D. tRNA gt mRNA gt rRNA

Answer: B



68. The expressed sequences in processed RNA are called

- A. HnRNA
- **B. Snurps**
- C. Sense strands
- D. Exons

Answer: D



69. A transcription unit is defined by three regions in DNA as

A. Promoter, terminator and inducer

B. Promoter, structural gene and terminator

C. Inducer, Structural gene and Operator

D. Promoter, Operator and Structural gene

Answer: B



70. In transcription unit, the promoter sequence is located

A. Towards 5' end upstream of the structural gene

B. Towards 5' end downstream of the structural gene

C. Towards 3' end upstream of the structural gene

D. Towards 3' end downstream of the coding strand

Answer: A



- **71.** The Terminator in transcription unit is located at
 - A. 3' end downstream of the coding strand
 - B. 5' end downstream of the coding strand
 - C. 5' end upstream of the coding strand
 - D. 3' end upstream of the coding strand

Answer: A



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72. Selected the correct option

- A. Genes are located on DNA and protein
- B. Gene is the functional unit of inheritance
- C. A segment of DNA coding for a polypeptide is called a cistron

D. Both (2) and (3)

Answer: D



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73. Which is mismatched?

- A. RNA Polymerase I 18S rRNA synthesis
- B. RNA Polymerase II HnRNA synthesis
- C. RNA Polymerase III ScRNA synthesis
- D. RNA Polymerase II 5.8S rRNA synthesis

Answer: D



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74. _____ play structural and catalytic role during translation.

A. tRNAs

B. rRNAs

C. mRNAs

D. DNA Polymerase

Answer: B



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75. Small neclear RNA is transcribed by

A. RNA Polymerase I

B. RNA Polymerase III

C. RNA Polymerase II

D. Both (1) and (3)

Answer: B



76. In eukaryotes, RNA Polymerase III transcribes

A. tRNA

B. 18S rRNA

C. 5S rRNA

D. Both (1) and (3)

Answer: D



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77. In capping, _____ is added to 5' end of

A. Unusual nucleotide, rRNA

B. Methyl guanosine triphosphate, hnRNA

C. Guanosine monophosphate, hnRNA

D. Unusual nucleotide, tRNA

Answer: B



78. In tailing, about _____ adenylate residues are added at 3' -end in a template independent manner on hnRNA

A.
$$1000 - 2000$$

$$B.10 - 15$$

$$\mathsf{C.}\ 200-300$$

$${\rm D.\,3000-3500}$$

Answer: C



79. During RNA splicing, which one of the following is removed?

A. Primary transcripts

B. Exons

C. Introns

D. Both (2) and (3)

Answer: C



80. Which one of the following factors is not a part of prokaryotic RNA Polymerase?

- A. beeta
- B. alpha
- C. sigma
- D. rho

Answer: D



81. Who coined the term 'genetic code'?

A. H.G. Khorana

B. Marshall Warren Nirenberg

C. George Gamow

D. Shine Dalgarno

Answer: C



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82. Which genetic codon has dual functions?

A. UUU

B. AUG

C. UGG

D. Both (1) and (3)

Answer: B



- **83.** Select the incorrect option w.r.t. salient features of genetic code.
 - A. One codon overlaps the next codon
 - B. The code is nearly universal
 - C. The codon is read in mRNA in a contiguous fashion
 - D. The codon is triplet

Answer: A



84. Select the ambiguous codon

A. GUG

B. AUG

C. UUU

D. AAG

Answer: A



85. DHU loop in tRNA is referred as

- A. Aminocyl synthesis binding loop
- B. Ribosomal binding loop
- C. Anticodon loop
- D. Both (2) and (3)

Answer: A



86. For prokaryotic, select the incorrect option w.r.t. recognition sequence present at the promoter region for binding of RNA Polymerase.

- A. Pribnow box
- B. Hogness box
- C. CAAT box
- D. All except (1)

Answer: D



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87. Select odd one w.r.t. rRNA found in eukaryotes.

A. 18 S

B. 5 S

C. 16 S

D. 5.8 S

Answer: C



88. Statement A: All tRNA molecules have a guanine residue at its 5' terminal end. Statement B: There are several tRNAs for stop codons.

A. Statement A is correct and Statement B is incorrect

B. Both the statement A and statement B are incorrect

C. Both the statement A and statement B are correct

D. Statement A is incorrect and Statement

B is correct

Answer: A



89. Out of 64 codons, how many of them code for stop signal?

- **A.** 3
- B. 2
- C. 5
- D. 4

Answer: A



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90. Which of the following mulations prove(s) that codon is a triplet and it is read in a contiguous manner?

- A. Frame shit insertion mulation
- B. Frame- shit deletion mulation
- C. Substitution mulation
- D. Both (1) and (2)

Answer: D



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91. The genetic code is

A. Specific, unambiguous and degenerate

- B. Ambiguous, specific and degenerate
- C. Triplet, universal and non-degenerate
- D. Universal, ambiguous and nondegenerate

Answer: A



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92. Which of the following structure of adapter molecule looks like a clover leaf?

- A. Secondary
- B. Tertiary
- C. Primary
- D. Quaternary

Answer: A



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93. The Following statements describe some of the steps of translation ,br (a)For chain elongation, the presence of catalyst enhances

the rate of peptide bond formation.br (b) The process of translation of mRNA to protein begins when both the subunits of ribosome encounter and associate with mRNA.br (c) During chain elongation, the ribosomes moves from codon to codon along the mRNA. The correct statements are

A. (a) and (b)

B. (b) and (c)

C. (a) and (c)

D. (a). (b) and (c)

Answer: C



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94. UTRs in mRNA are

- A. Required for efficient translation process
- B. Present al 5'end belore start codon
- C. Present at 3'end before stop codon
- D. Both (1) and (2)

Answer: D

95. Read the following statements ,(a). A péptide bond is formed between COOH group of 1st amino acid and NH, group of 2nd amino acid. Br (b)-Ribosome is the cellular factory responsible for synthesising proteins. Br (c) -Activation of amino acids accurs in the presence of ATP.Which of the given statements are correct wrl. translation?

A. a and b only

- B. b and c only
- C. a and c only
- D. a, b and c

Answer: D



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96. In eukaryotes, the first level of regulation of gene expressionis

A. Transcription

- **B.** Translation
- C. Transport of mRNA from nucleus to the cytoplasm
- D. Regulation of splicing

Answer: A



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97. A polycistronic structural gene of lac operon is regulated by

- A. A common promoter and operator genes
- B. Promotor gene only
- C. A common promoter and regulatory genes
- D. Regulatory gene only

Answer: C



98. Which of the following genes provides attachment site for RNA polymerase?

- A. Structural gene
- B. Promoter gene
- C. Regulator gene
- D. Operator gene

Answer: B



99. The structural gene that codes for transacetylase enzyme which can transfer acetyl group to β -galactoside is

- A. lac z
- B. lac a
- C. i-gene
- D. lac y

Answer: B



100. Regulation of lac operon by repressor is called

- A. Negative regulation
- B. Positive regulation
- C. Neutral regulation
- D. Both (2) and (3)

Answer: A



101. Number of structural genes in tryptophan operon is

- **A.** 3
- B. 4
- C. 5
- D. 6

Answer: C



102. The predominant-site for control of gene expression in prokaryotes is

A. Regulated through autocatalytic function of gene

B. Regulated at translation level

C. Controlled by Snurps activity

D. Control of the rate of transcriptional initiation

Answer: D



103. Number of base pairs in human chromosomes

- A. $3x10^8$
- B. $3x10^9$
- C. $6x10^9$
- D. $6x10^6$

Answer: B



104. The number of genes found in chromosome 1 and Y-chromosome fo human being are_and _ respectively.

- A. 3000 and 3200
- B. 2968 and 231
- C. 3200 and 2500
- D. 1300 and 1800

Answer: B



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105. What percentage of human genome codes for proteins?

A.
$$>5\,\%$$

B. 5-10%

C. gt 2%

D. lt 2%

Answer: D



106. Which of the following DNA segments have 1-6 bp length?

- A. Dystrophin
- B. STRs
- C. Minisatellites
- D. Both (1) & (3)

Answer: B



107. Select the incorrect statement(s) w.r.t regulator gene of lac operon, br (a)-It is a constitutive gene . Br (b)- It is always functional. Br C-It codes for repressor protein. Br (d)- It increases permeability of the cell for β -galactosidase.

- A. (A), (B) only
- B. (B). (C) only
- C. (C), (D) only
- D. (D) only

Answer: D



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108. All of the following form the basis of DNA fingerprinting, except

- A. Degree of polymorphism
- **B. VNTR**
- C. Minisatellite
- D. ESTs

Answer: D



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109. Which of the following techniques is used for separation of DNA fragments during DNA fingerprinting?

- A. PCR
- B. Autoradiography
- C. Electrophoresis
- D. Microarray

Answer: C



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110. Which of the following methods is involved in identifying all genes that are expressed as RNA?

- A. ESTs
- B. Sequence annotation
- C. Gel electrophoresis
- D. RFLP

Answer: A



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111. The process of bringing a species under human management is called

- A. Domestication
- B. Green revolution
- C. Food management
- D. Both (2) & (3)

Answer: A



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112. Classical plant breeding involves

A. Hybridization of pure lines followed by artificial selection

- B. Artificial selection only
- C. Hybridization only

D. Artificial selection followed by

hybridization

Answer: A



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113. Which of the following materials are not

included in germplasm of any crop species?

A. Cultivated improved varieties

B. Lines produced by plant breeders

- C. Wild species related to the crop species
- D. Mutant varieties containing recessive genes

Answer: D



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114. Select the correct option w.r.t. amino acids commonly deficient in cereals and legumes.



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115. What is the backbone of any breeding programme?

A. Evaluation and selection of parents

B. Cross hybridisation among the selected parents

C. Selection and testing of superior recombinants

D. Genetic variability

Answer: D

116. is the variety of sugarcane was originally grown in north india.

A. Saccharum officinarum

B. Saccharum barberi

C. Saccharum spontaneum

D. Saccharum ravennae

Answer: B



117. Himgiri and Pusa Sadabahar are resistant to i and ii respectively.

A. (1) Leaf curl, (ii) white rusi

B. (i) White rust, (ii) hill burnt

C. (i) Black rot, (ii) bacterial blight

D. (i) Leaf and stripe rust, (ii) chilly mosaic

virus

Answer: D

118. Which of the following factors interact to develop a disease in plants? (a) Environment.(b)Fertilizers.(c)Pathogen genotype.(d)Host genotype.(e)Flower colour of host

- A. a, b & c
- B. a, c & d
- C. b, c & d
- D. c, d & e

Answer: B



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- 119. Brown rust of wheat is caused by
 - A. Ustilago nuda tritici
 - B. Puccinia recondita
 - C. Puccinia striiformis
 - D. Puccinia graminis tritici

Answer: B

120. Colletotrichum falcatum is causative organism of

A. Red stripe of sugarcane

B. Red rot of sugarcane

C. Black rot of crucifers

D. Bacterial blight

Answer: B



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121. Sharbati Sonora' is a:

A. Lerma Rojo-64

B. Sonara-64

C. Pusa Lerma

D. Prabhani Kranti

Answer: B



- **122.** Select the correct option w.r.t. nutrient content in maize which develops resistance to maize stem bofers.
 - A. Low nitrogen and high aspartic acid and sugar
 - B. Low sugar and high aspartic acid and nitrogen
 - C. Low nitrogen, sugar and high aspartic acid

D. High nitrogen, sugar and low aspartic acid

Answer: C



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123. Pusa Sem 2 is a disease resistant crop variety of

A. Rapeseed mustard

B. Okra

- C. Flat bean
- D. Maize

Answer: C



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124. The optimum pH of culture medium used In issue culture should be

- A. 5.2
- B. 5.7

- C. 7.5
- D. 7

Answer: B



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125. In tissue, culture, shoot and root regenerations are generally controlled by

- A. Changing the amount of gibberellin
- B. Auxin-cytokinin balance

- C. Ethylene-ABA balance
- D. The process of subculturing

Answer: B



- 126. Pomato is the result of
 - A. Autopolyploidy
 - B. Genetic mutation
 - C. Protoplast fusion

D. Inter varietal hybridsation

Answer: C



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127. In somatic hybridization, plant cells are treated with pectinase and cellulase to

- A. Remove the nucleus from the cell
- B. Dissolve the cell wall
- C. Fuse the nucleus of two cells

D. Remove the plasma membrane

Answer: B



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128. Which of the following is an outcome of fungal activity?

A. Swiss cheese

B. Toddy

C. Curd

D. Streptomycin

Answer: B



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129. Apical and axillary meristem are free of virus due to (i) concentration of (ii) and rapid rate of cell division. Select the correct option to an in the blanks (i and (ii).

A. (i) Low, (ii) Cytokinins

- B. (i) Low, (ii) Gibberellins
- C. (i) High, (ii) Auxins
- D. (i) High, (ii) Abscisic acid

Answer: C



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130. Which of the following is not an application of plant tissue culture?

- A. Propagation of a large number of plants in very short durations
- B. Changing the ploidy of plant
- C. Płoducing plants which are genetically identical to the parent plant
- D. Recovery of healthy plants from the diseased plants

Answer: B

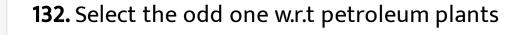


131. Resistance to tongro virus and leaf hopper in rice is developed by

- A. Genetic engineering
- B. Tissue culture
- C. Changing in chromosome number
- D. Cross breeding

Answer: B





- A. Trifolium
- B. Jatropha
- C. Hevea
- D. Euphorbia

Answer: A



133. In single cell protein, care has to be taken to remove

- A. Excess nucleic acids
- B. Fats
- C. Heavy metals
- D. Both (1) & (3)

Answer: D



134. Statins commercialised as blood cholestrol lowering agent are produced by

- A. Yeast Monascus purpureus
- B. Bacterium Monascus purpureus
- C. Fungus Trichoderma polysporum
- D. Bacterium Streptococcus

Answer: A



135. Select the odd one out w.r.t. drinks with high alcohol concentration.

- A. Whisky
- B. Brandy
- C. Rum
- D. Wine

Answer: D



136. Which one of the following is mismatched?

Alcohol	Substrate used
(1) Wine	Fruit juices
(2) Vodka	Potato
(3) Gin	Molasses
(4) Whisky	Fermented cereals



137. Which one of the following is used as an immunosuppressive agent in organ-transplant patients?

- A. Statins
- B. Cyclosporin A
- C. Amylase
- D. Streptokinase

Answer: B



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138. Which of the following enzyme is used as

a "clot buster" for removing clots from the

blood vessels of patient who have undergone myocardial infaction leading to heart attack?

- A. Streptokinase
- B. Pectinase
- C. Protease
- D. Cyclosporin A

Answer: A



139. Fruit juices are clarified by the use of enzymes like

- A. Amylase, Lipase
- B. Lipase, Protease
- C. Pectinase, protease
- D. Zymase, Lipase

Answer: C



140. How many of the following microbial products are produced by bacteria? Citric acid, Butyric acid, Lactic acid, Gluconic acid, Acetic acid

- A. Two
- B. Four
- C. Five
- D. Three

Answer: D



141. Biogas includes all of the following, except

A. CH_4

B. CO_2

 $\mathsf{C}.\,H_2$

D. CO

Answer: D



- **142.** Select the correct statement regarding sewage and its treatment
 - A. Sedimentation is preceded by sequential filtration
 - B. BOD of waste water is inversely proportional to its pollution potential
 - C. Secondary treatment is a physico chemical process

D. Biological treatment is performed on primary effluent

Answer: D



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143. The ministry of environment and forests has initiated 'Ganga Action Plan' in

A. 1980

B. 1985

C. 1945

D. 2001

Answer: B



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144. The technology of biogas production was developed in India due to the efforts of

A. IARI

B. KVIC

C. NBRI

D. All except C

Answer: D



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145. Cattle dung is commonly used for biogas production because (a) Cattle dung is a rich source of methanogens (b) It has large amount of cellulose as cattle are herbivores (c)

It is easily available in large quantities in rural areas

- A. (a) & (b)
- B. (a) & (c)
- C. (b) & (c)
- D. (a) (b) & (c)

Answer: B



146. Dragonflies are useful to get rid of

A. Aphids

B. Mosquitoes

C. Butterflies

D. Cochineal insect caterpillars

Answer: B



147. Which of the following shows symbiotic association with root nodules of Casuarina?

- A. Frankia
- B. Aulosira
- C. Anabaena
- D. Cyanobacteria

Answer: A



- 148. Rotenone is obtained from
 - A. Leaves of Nicotiana
 - B. Roots of Derris elliptica
 - C. Leaves of Chrysanthemum cinerarifolium
 - D. Roots of Rouwolffia serpentina

Answer: B



149. Bacillus thuringiensis is a biocontrol agent introduced to control

- A. Rodents
- **B.** Mosquitoes
- C. Grasshoppers
- D. Butterfly caterpillars

Answer: D



150. Select the incorrect option w.r.t. blue green algae.

A. It adds organic matter to the soil

B. It increases soil fertility

C. It reduces alkalinity of soil

D. It is restricted to terrestrial environment

only

Answer: D



151. Pheromones are chemical messengers that help insect in (a) Communication (b) Sending alarm signals (c) Marking trails (d) Attracting males (e) Killing pests

- A. All except (c) & (e)
- B. All except (b) & (d)
- C. All except (C)
- D. All except (e)

Answer: D



152. Vesicular arbuscular mycorrhizae are

- A. Endomycorrhizae
- B. Ectotrophic mycorrhiza
- C. Ectophytic mycorrhiza
- D. All except (2)

Answer: A



153. Select the correct option w.r.t. biocontrol agent which is effective against several plant pathogens.

- A. Aphid
- B. Trichoderma
- C. Chrysolina beetle
- D. Caterpillar

Answer: B



154. Select odd one w.r.t. insecticide.

A. Rotenone

B. Nicotine

C. Azadiractin

D. Devine

Answer: D



155. In the treatment of sewage, primary treatment is used to remove

- A. Pesticides
- B. DDT and pathogen
- C. Turbidity in waste water
- D. Floating debris and grit

Answer: D



156. Ecology is basically concerned with how many levels of biological organisation?

- A. 4
- B. 5
- C. 6
- D. 3

Answer: A



157. A unit of land with a natural boundary having mosaic of patches and represent different ecosystems is

- A. Biome
- B. Landscape
- C. Biosphere
- D. Community

Answer: B



158. Which of the following biomes have maximum mean annual temperature as well as maximum annual participation?

- A. Coniferous forest
- B. Tropical rain forest
- C. Dessert
- D. Grassland

Answer: B



159. Select incorrect statement w.r.t. main functions of humus

- A. Prevents soil from compaction
- B. Prevents the formation of soil crumbs
- C. Improves aeration of soil
- D. Improves water holding capacity of soil

Answer: B



160. Tropical rain forest are characterised by all of the following, except a. 30-40 m tall trees b. 4-5 strata c. Leaves are long needle like d. Permafrost e. Woody climbers and epiphytes

- A. a, b & e
- B. d & e
- C. e only
- D. c & d

Answer: D



161. Abies, lizards and polar bear can tolerate

(a) Wide range of temperature (b) Only a narrow range of temperature (c) Wide range of salinities

A. (a) & (b)

B. (b) & (c)

C. (b) only

D. (a) & (c)

Answer: C

162. Which one of the following is not major biome of India?

A. Tropical rain forest

B. Deciduous forest

C. Dessert

D. Grassland

Answer: D



163. Mark the incorrect statement.

- A. The levels of thermal tolerance of different species determine to a large extent their geographical distribution
- B. The productivity and distribution of plants is heavily dependent on water
- C. Temperature affects the diurnal and seasonal variations in organisms for

timing their foraging, reproductive and migratory activities

D. For aquatic organisms the chemical composition and pH of water is important

Answer: C



164. The salt concentration (measured as salinity in parts per thousand) is ____ in inland water.

- A. 20-30
- B. Less than 5
- C. 30-35
- D. 35-100

Answer: B



165. What is the most ecologically relevant environment factor?

- A. Light
- B. Water
- C. Soil
- D. Temperature

Answer: D



166. Organisms that can regulate their body temperature and remain constant irrespective of surroundings are called

- A. Homeotherms
- B. Warm blooded animals
- C. Poikilotherms
- D. Both (1) & (2)

Answer: D



167. Megathermic organisms are found in

- A. Tropical zones
- B. Sub-tropical zone
- C. Temperate zone
- D. Arctic zone

Answer: A



168. Which one of the following UV radiations is/are moderately harmful to many organisms?

- A. UV-A
- B. UV-B
- C. UV-C
- D. UV-A and B

Answer: A



169. Which of the following zones of lakes receives diffuse light at or below light compensation point?

- A. Limenetic zone
- B. Euphotic zone
- C. Disphotic zone
- D. Profundal zone

Answer: C



170. Washing down of materials in the soil from upper strata is called

- A. Eluviation
- **B.** Illuviation
- C. Pedogenesis
- D. Weathering

Answer: A



- **171.** Choose the incorrect statement(s) for conformers.
- A. Aquatic animals can change osmotic concentration of body fluids with that of the ambient water osmotic concentration.
- B. Body temperature doesnot change with small fluctuation in environmental temperature.
- C. Cannot maintain a constant internal environment

A. Only B

- B. Only A
- C. Only A and B
- D. A, B and C

Answer: A



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172. Match the following coloumns and select the correct option. a. Hibernation(Coloumn-I) -

- (i) Snails(Couloumn-II) b. Aestivation(Coloumn-
- I) (ii) Many zooplanktons(Coloumn-II) c.

Migration(Coloumn-I) - (iii) Polar

bears(Coloumn-II) d. Diapause(Coloumn-I) - (iv)

Siberian cranes(Coloumn-II)

A. a(iii), b(iv), c(i), d(ii)

B. a(iii) ,b(i) ,c(iv) ,d(ii)

C. a(i) ,b(iii) ,c(ii) ,d(iv)

D. a(iii) ,b(ii) ,c(iv) ,d(i)

Answer: B



173. At higher altitudes body overcome altitude sickness by increasing

A. Binding capacity of haemoglobin with

O2

B. RBCs production

C. Breathing rate

D. Both (2) and (3)

Answer: D



174. Genetically adapted population is referre	d
as	

- A. Ecotone
- B. Ecoiine
- C. Ecotype
- D. Ecad

Answer: C



- 175. Allen's rule state that
 - A. Mammals from colder climates have larger body size to minimize heat loss
 - B. Fishes growing in polar region have large number of vertebrae to maximize heat loss
 - C. Mammals from colder climates generally
 - have extremities to minimize heat loss
 - D. Birds found in colder geographical zone have broader wings to maximize surface

area

Answer: C



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176. Xerophytes have all of the following characteristics, except

A. Well developed, profusely branched and extensively spread roots

B. Hard and woody stem

- C. Large air spaces and aerenchyma
- D. Thick cuticle on leaf and stem epidermis

Answer: C



- 177. Select the odd one w.r.t. succulent
 - A. Asparagus
 - B. Euphorbia
 - C. Cassia

D. Opuntia

Answer: C



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178. Which of the following techniques cannot be used to determine the genetic defect of an embryo?

A. Ultrasound

B. CVS

C. PUBS

D. Amniocentesis

Answer: A



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179. Which of the following cannot be regarded as characteristic of ideal contraceptive?

A. User friendly

- B. No side effect
- C. irreversible
- D. Effective against pregnancy

Answer: C



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180. From the following contraceptive methods. How many methods prevent the

Fernshield, Condorn, Cyclofern, Lippes loop Saheli, Norplant, LNG-20

- **A.** 1
- B. 4
- C. 2
- D. 8

Answer: C



181. Which of the following contraceptive method has least failure rate?

A. Barier method

B. Implanted contraceptive

C. Oral contraceptive

D. IUDs

Answer: B



182. Which of the following is correct match?

A. Tubectomy Inhibits gametogenesis

B. Cu-7 Prevents ovulation

C. POP Inhibits LH production

D. Saheli Inhibits FSH production

Answer: C



183. Which of the following contraceptive contains synthetic progesterone only and is placed subdermally?

- A. Saheli
- B. Cyclofem
- C. Mala D
- D. Implanon

Answer: D



184. MTP is comparatively safe upto of pregnancy. Select the option which fills the blank correctly.

- A. 12 weeks
- B. 20 weeks
- C. 30 weeks
- D. 22 weeks

Answer: A



185. Which of the following contains an antiprogesterone preparation and used as emergency contraception?

- A. Mifepristone
- B. Triquilar
- C. LNG-20
- D. Cyclofem

Answer: A



186. Which of the following is a correct statement w.r.t. contraceptive methods?

A. In conventional vasectomy, usually transabdominal surgery is done, in which fallopian tube is cut and cut eneds are tied

B. Tubectomy inhibitas fertilisation by blocking formation of ova in ovary

C. In coitus interruptus, coupls avoid from coitus from day 10 to 17 of the menstural cycle

D. Surgical intervention blocks gamete transport and thereby prevents conception

Answer: D



187. Which of the following contraceptives do not alter any hormone level in our body?

- A. Mala D
- B. POP
- C. Norplant
- D. Multiload-375

Answer: D





Match the column I with column II

a. Diaphragm (i) Multiphasic oral pill
b. Triquilar (ii) Injectable contraceptive

c. Mala L (iii) Barrier method

d. Mesigna (iv) Monophasic oral pill

Choose

the correct option.

A. a(iv), b(iii), c(i), d(ii)

B. a(iv), b(i), c(iii), d(ii)

C. a(iii), b(i), c(iv), d(ii)

D. a(ii), b(i), c(iv), d(iii)

Answer: C

189. Which of the following is correct?

A. Mala D is taken once in a week from the begining

B. Saheli is taken once in a week from the beginning

C. Vault caps are disposable devices inserted into female reproductive tract to cover cervix

D. Surgical methods are highly effective but their reversibility is very poor

Answer: D



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190. Consider the following methods. a)

Vaccum aspiration b) Tubectomy c) Infusion of

Saline solution d) Depo-provera injection e)

RISUG f) Intake of RU-486 which of the above

methods can be used to perform induce abortion?

A. a,e and c

B. b,d and e

C. a, c and f

D. e,c and f

Answer: C



191. Which of the following STD is/ are completely curable if detected early and treated properly? a) Hepatitis-B b) Genital Herpes c) HIV d) Chlamydiasis e) Gonorrhea f) Syphilis

A. only (d)

B. (a), (b) and (d) only

C. (d), (e) and (f) only

D. (a), (b), (c), (d), (e) & (f)

Answer: C

192. Choose the incorrect statement w.r.t. Chlamydiasis.

A. It is a viral disease

B. Pathogen cannot reproduce outside the body cell

C. It can cause sterility in both male and female

D. It can be treated with tetracycline

Answer: A



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193. Clap

- A. Is a STD
- B. Caused by virus Neisseria gonorrhoeae
- C. Currently ceftriaxone is the antibiotic

that most effectively attacks the

pathogen of this disease

D. Both (1) and (3)

Answer: D



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194. Painless open sore called chancre is the characteristic feature of

- A. Genital herpes
- B. Chancroid
- C. Genital wart

D. Syphilis

Answer: D



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195. Choose the incorrect match . Column I (disease) Column II (pathogen)

- A. Genital Herpes- HSV-2
- B. Genital warts HPV

C. Trichomoniasis- Non flagellated

protozoan

D. Syphilis-Treponema

Answer: C



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196. In ZIFT

A. Fertilisation take place outside the body

- B. Embryo upto 8 blastomeres is usually transferred into uterus
- C. Embryo less then 8 blastomeres is usually transferred into uterus
- D. Both (1) and (2)

Answer: D



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197. Artificial insemination is used when

- A. Fallopian tube is blocked in female
- B. Penis erection dysfunction of male
- C. Female does not produce mature ovum
- D. All of these

Answer: B



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198. Big bang theory explains

A. Origin of earth

- B. Origin of universe
- C. Origin of ocean
- D. Origin of first life

Answer: B



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199. Who gave the definite proof of life arising feom pre-existing life?

A. Redi

- B. Spallanzani
- C. Pasteur
- D. Cuvier

Answer: C



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200. Theory of Biogenesis explains

- A. origin of first life
- B. Life arising from pre-existing lifw

- C. Life camera from outer space
- D. Creation of Ife by super natural power

Answer: B



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201. Theory of spontaneous generation explains

A. Life came from outer space

B. Sponteneous generation of living

organisms from pre-existing life on earth

C. Sponteneous generation of living organisms from living matter outside earth

D. Sponteneous generation of living organisms from non living matter on earth

Answer: D



202. Theory of special creation was given by

- A. Cuvier
- B. Redi
- C. Father Suarez
- D. Arrhenius

Answer: C



203. According to Big-Bang theory universe is very old and its origin took place almost

- A. 10 billion years ago
- B. 20 billion years ago
- C. 30 billion years ago
- D. 40 billion years ago

Answer: B



204. Which of the following is correct reagrding initial gaseous mixture used and final products which were obtained during Miller's experiment?

A. Methane, ammonia, hydrogen cyanide

(Gaseous Mixture) Adenine, glycine

asperic acid (Final products)

B. Methane, hydrogen gas, Carbon dioxide

(Gaseous mixture) Hydrogen cyanide,

adenine, glycine (Final products)

C. Methane, hydrogen gas, ammonia, water vapour (Gaseous mixture) Alanine, glycine aspartic acid (Final products)

D. Ammonia, hydrogen gas, water,hydrogen cyanide (Gaseous mixture)Adenine, urea glycine (Final products)

Answer: C



205. Which of the following living organisms originated first onprimitive earth?

- A. Aerobic heterophs
- B. Aerobic autotrophs
- C. Anaerobic heterotrophs
- D. Anaerobic autotrophs

Answer: C



206. Evolution of various forms of life is known

as

- A. Chemography
- B. Biogeny
- C. Both (1) and (2)
- D. Cognogeny

Answer: D



207. Whichof the following is incorrect w.r.t.

Controlled apparatus of Miller and Urey experiment?

- A. 800°
- B. Electric sparks of 75,000 volt
- C. $CH_4: NH_3: H_2 = 2:2:1$
- D. Devoid of energy source

Answer: C



208. Which of the following cannot be conidered as avian character of Archaeopteryx?

- A. Presence of feathers on body
- B. Forelimbs modified into wings
- C. Modification of jaws into break
- D. Presence of teeth in beak

Answer: D



209. The first form of life possibly originated on earth about

- A. 3 billion years ago
- B. 4 billion years ago
- C. 2000 million years ago
- D. 4.5 billion years ago

Answer: B



210. Which of the following period is known as age of amphibians?

- A. Ordovician
- B. Devonian
- C. Carboniferous
- D. Cambrian

Answer: C



211. Which of the following is a correct match between period ans its associated event?

A. Permian (Period) Age of inverterbrates (Event)

B. Cambrian (Period) Age of vertebrates (Event)

C. Triassic (Period) Radiation of mammals (

Event)

D. Devonian (Period) Age of fishes (Event)

Answer: D



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212. Coprolite is

A. Fossilized faeces

B. Fossilized pollen grain

C. Fossilized bone

D. Plant fossil

Answer: A

213. Fossils are most frequently formed in

- A. Igneous rock
- B. Sedimentay rock
- C. Metamorphic rock
- D. Both (2) and (3)

Answer: B



214. Match the coloumn Hyracotherium

(Column- I) Oligocene epoch (Column- II)

Pliohippus (Column- I) Pleistocene epoch

(Column- II) Equus (Column- I) Eocene epoch

(Column- II) Miohippus (Column- I) Pliocene

epoch (Column- II) Choose the correct option

A. a(i), b(ii), c(iv), d(iii)

B. a(i), b(iv), c(ii), d(iii)

C. a(iii), b(iv), c(ii), d(i)

D. a(iii), b(ii), c(iv), d(i)

Answer: C



- **215.** Life cannot originate from inorganic materials at present because of
 - A. High pollution
 - B. High atmospheric temerature
 - C. Oxidising environmnet
 - D. Absence of raw materials

Answer: C



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216. Consider the following characteristics (a) 120 cm high at shoulders (b) Forelimb and hindlimb had one compelete finger and toe and two hidden splints (c) evolved from Mercychippus (d) Teeth adapted for eating grass which of the following ancestral horse is best described by the above mentioned chraracteristics?

- A. Pilohiphhus
- B. Mesohippus
- C. Hyracotherium
- D. Callipus

Answer: A



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217. Coacervates were

- A. Membrane bound sphares containing proteinoids
- B. Colloidal aggregrates of carbohydrate and proteins
- C. Colloidal aggregrate of carbohydrates only
- D. Both (1) and (2)

Answer: B



218.	Biogenetic	law	as	given	by	Haeckel	states
that							

- A. Haeckel
- B. Spencer
- C. Darwin
- D. Mayer

Answer: A



219. Coelacanth is considered a connecting link

between

A. Amphibians and reptiles

B. Fish and amphibians

C. Chordate and non-chordate

D. Birds and mammals

Answer: B



220. Birbal Sahni Institute of Palaeobotany is situated in :

- A. Allahabad
- B. Himachal Pradesh
- C. Lucknow
- D. Meerut

Answer: C



221. Which of the following show restricted distribution?

- A. Elephants
- B. Pouched mammals
- C. Alligators
- D. Lung fishes

Answer: B



222. Sudden reappearance of certain ancestral chracters which had either disappeared or were reduced is known as

- A. Adaptive radiation
- B. Atavism
- C. Convergent evolution
- D. Phylogeny

Answer: B



223. Which of the following is true w.r.t homologous structures?

A. They show similarity in anatomy

B. They have similar function

C. They are the result of convergent evolution

D. They are the result of parallel evolution

Answer: A



224. The similarity in anatomy of forelimbs of different organisms like man, chhetah, whale and bat explains

- A. Common ancestry
- B. Convergent evolution
- C. Parallel evolution
- D. Adaptive radiation

Answer: A



225. The process of evolution of different species in a given geographical area starting from a point and literally radiating to other areas of geography (habitats) is called

- A. Divergent evolution
- B. Adaptive radiation
- C. Convergent evolution
- D. Punctuated equilibrium

Answer: B

226. The structures in different oragnisms which ae not similar anatomically though they perform similar functions are called

- A. Homologous organs
- B. Analogous organs
- C. Vestigeal organs
- D. Connecting organs

Answer: B

227. Analogous structures are the result of

- A. Adaptive radiation
- B. Parallel evolution
- C. Convergent evolution
- D. Both (2) and (3)

Answer: D



228. Which of the following is not an example vestigeal organ humans?

- A. Muscles of external ear
- B. Nictitating membrane of eye
- C. Appendix of caecum
- D. Second molar teeth

Answer: D



229. Which of the following is an example of analogous organ?

- A. Flippers of penguins and dolphin
- B. Fins of shark and whale
- C. Eye of octopus and of mammal
- D. All of these

Answer: D



230. Koala and Bandicoot show

- A. Adaptive radiation
- B. Convergent evolution
- C. Parallel evolution
- D. Both (2) and (3)

Answer: A



231. Which of the following evidences help us to find systematic position of animals like Sacculina and Herdmania?

- A. Morphological and anatomical evidences
- B. Palaentological evidences
- C. Embrylogical evidences
- D. Geographical evidences

Answer: C



232. Thorn of Bougainvillea and tentrils of Cucurbita represent all of the follwing expect

- A. Hoology
- B. Divergent evolution
- C. Convergent evolution
- D. Common ancestry

Answer: C



233. The concept of "Biological species " was proposed by :

A. Davis and Heywood(1963)

B. Mayr(1942)

C. Simpson(1961)

D. Professor A.D. Bradshaw

Answer: B



234. Which of the following can produce fertile hybrids in captivity?

- A. Panthera leo and Panthera tigris
- B. Mallard and the Pintail Duck
- C. Polar bear and Alaskan brown bear
- D. All of these

Answer: D



235. Which of the following is the basic unit of classification?

A. Individual

B. Population

C. Species

D. genus

Answer: C



236. If two species have different flowering time, this is known as

- A. Ecological isolation
- B. Temporal isolation
- C. Behavioural isolation
- D. Gametic isolation

Answer: B



237. Correct the match

- A. Devonian Seed fem
- B. Triassic Cycads, conifers, fems
- C. Carboniferous Reptiles
- D. Silurian Dicotyledons

Answer: C



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238. Choose the correct sequence of evolution of plants

A. Rhynia to Psilophyton to

Progymnosperm to Seed fem

B. Rhynia to Psilophyton to Seed fem to

Progymnosperm

C. Progymnosperm to Rhynia to

Psilophyton to seed fem

D. Progymnosperm to Psilophyton to

Rhynia to Seed fem

Answer: A



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239. Choose the correct statement

A. Invertebrates evolved about $700 \ \mathrm{mya}$

B. Jawless fishes probably evolved about

 $500~\mathrm{mya}$

C. The lobe fin fishes like Coelacanth are thought to have evolved into the first amphibians

D. First eukaryotic probably evolved one billion year ago

Answer: C



240. Which is considered as the common ancestor of apes and man?

- A. Shivapithecus
- B. Homo habilis
- C. Australopithecus
- D. Dryopithecus

Answer: D



241. Which of the following human ancestor started the use of fire?

- A. First Ape-man
- B. Handy man
- C. Java ape man
- D. Neanderthal man

Answer: C



242. Choose the correct statement w.r.t.

Australopithecus africanus

A. It had a height of about 1.5 meters

B. Quadrapedal locomotion

C. Only vegetarian food habit

D. Raymond Dart (1924) discovered to the

fossil from pliocene rocks near Tuang in

Heidelberg, Germany

Answer: A



243. Which of the following was first human like ancestor?

A. Australopithecus afarensis

B. Homo erectus

C. Homo habilis

D. Homo sapiens

Answer: C



244. Read the following (a) Discovered by L.S.B.

Leaky (b) Probably did not eat meet (c) Was

capable of making tool (d) Started community

life in caves The above features are of

A. Homo habilis

B. Australopithecus

C. Sinanthropus pekinesis

D. Homo sapiens

Answer: A

245. Choose the incorrect match

- A. Peking man W.C. Pei
- B. Neanderthal man C. Fuhlrott
- C. Java ape man Eugene Dubois
- D. Cro-magnon man Mary Leaky

Answer: D



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246. Cro-magnon man emerged about

- A. 34000 years ago in Pleistocene epoch
- B. 25000 years ago in Pleistocene epoch
- $\mathsf{C.}\ 1500$ years ago in Pleistocene epoch
- D. 34000 years ago in Holocene epoch

Answer: D



247. Origin of human started in

- A. Asia
- **B. South America**
- C. Africa
- D. India

Answer: C



248. Lock jaw is a characteristic feature of which of the following disease?

- A. Tetanus
- B. Leprosy
- C. Cholera
- D. Bubonic plague

Answer: A



249. Which of the following disease is not caused by RNA virus?

- A. Measles
- B. Dengue
- C. Poliomyelitis
- D. Chicken pox

Answer: D



250. Assertion: Chicken pox is a mild disease however it leaves scars and marks.

Reason: Chicken pox results in rashes which appear first on face and spread on stomach and chest later.

A. both assertion and reason are true and reason is correct for assertion

B. both assertion and reason are true and

reason is not correct for assertion

C. assertion is true but reason is false

D. both assertion and reason are false

Answer: D



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251. Which of the following is an incorrect match between virus, genome and its mode of transmission?

A. Hepatitis A virus — ss RNA — Fecal-oral route

B. Hepatitis B virus — ds RNA — Sexual contact

C. Polio virus — ss RNA — Fecal-oral route

D. Paramyxovirus — ss RNA — Saliva of infected person

Answer: B



252. Which of the following is not a viral disease?

- A. Chikungunya
- B. Hepatitis-B
- C. Mumps
- D. Hansen's Disease

Answer: D



- **253.** Which of the following is correct statement?
 - A. Mumps is a bacterial infection which causes swelling in parotid glands
 - B. Widal test is used for confirmation of infection by Salmonella typhi
 - C. Koch's disease is mainly caused by toxin tuberculin which is released by Yersinia pestis

D. Polio is caused by ds RNA virus which infect the CNS

Answer: B



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254. In which of the following infection occur in alveoli of the lungs?

A. Rhinitis

B. Pneumonia

- C. Common cold
- D. Both (2) and (3)

Answer: B



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255. Which of the following is not included in symptoms of tuberculosis?

- A. Sputum containing blood
- B. Excessive fatigue

- C. Night sweating and rapid pulse
- D. Appearance of red patches on skin which turn black and ultimately leads to death

Answer: D



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256. Among the following diseases
Poliomyelitis, Chikungunya, Hansen's disease,
cholera, Mumps, Hepatitis A. How many of the
above, mentioned disease is caused by virus?

- A. 6
- B. 3
- C. 4
- D. 2

Answer: C



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257. Which of the following is a non-infectious disease?

- A. AIDS
- **B.** Tuberculosis
- C. Cancer
- D. Typhoid

Answer: C



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258. Find the Incorrect match between disease and its vector.

A. Disease -Bubonic plague ,Vector-

Xenopsylla

- B. Disease- Dengue , Vector-Anopheles
- C. Disease-Chikungunya, Vector- Aedes
- D. Disease-Filariasis ,Vector- Culex

Answer: B



259. Which of the following organism affect the lymphatic vessels in human and is spread by bite of female Culex mosquito?

- A. Ascaris
- B. Microsporum
- C. Yersinia pestis
- D. malaria

Answer: B



260. Which of the following organism cause athlete's fool?

- A. Tinea cruris
- B. Tinea barbae
- C. Tinea pedis
- D. Both (1) & (3)

Answer: C



261. Appearance of dry, scaly lesions on skin, which are accompanied by itching occur in which of the following disease?

- A. Measles
- B. Chicken pox
- C. Ringworm
- D. Small pox

Answer: C



262. Choose the correct wrt. Plasmodium

- A. Multicellular organism
- B. A prokaryote
- C. Causes malaria in human
- D. Monogenetic parasite

Answer: C



263. Infective stage of Plasmodium for human is

- A. Merozoite
- B. Sporozoite
- C. Microgamelocyte
- D. Sporocyst

Answer: B



264. Infective stage of Plasmodium after entering in human blood first migrate to

- A. Kidney
- B. Heart
- C. Liver
- D. R.B.C.

Answer: C



265. Exflagellation in life cycle of Plasmodium occurs in

- A. Human R.B.C.
- B. Liver cells of human
- C. Gut of mosquito
- D. Haemocoelom of mosquito

Answer: C



266. Fusion of male and female gamele in

Plasmodium occur in

A. Gut of mosquito

B. Coelom of mosquilo

C. R.B.C. of human

D. Liver cell of human

Answer: A



267. Choose the correct option wrt. Amoebic dysentry

A. It is caused by a multicellular protozoan, parasite,Entamoeba

B. Entamoeba is present in small intestine of human

C. Housefly acts as mechanical carriers

D. Reserve food material of E.histolytica is starch and glycogen

Answer: C



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268. Which of the following is not a part of second line of defense in human?

- A. Neutrophils
- B. Macrophages
- C. NK Cells
- D. B-lymphocytes

Answer: D



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269. Which of the following does not have any role in inflammation?

- A. Melanin
- B. Histamine
- C. Mast cell
- D. Macrophage

Answer: A



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270. Which of the following have CD-4 receptor?

- A. B-lymphocyte
- B. T-helper cell
- C. Macrophage
- D. Both (2) and (3)



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271. Predominant early antibody that first activates in primary immune response is

A. IgG

B. IgA

C. IgD

D. IgM



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272. Physiological bamiers of innate immunity includes

- A. Skin
- B. Saliva in mouth
- C. PMNL cell
- D. Interferons

Answer: B



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273. Which of the following is not an antigen presenting cell?

- A. B-cell
- B. Macrophage
- C. Dendritic cell
- D. T-cell



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274. Which of the following is a pathogenic form of Entamoeba histolytica?

- A. Quadrinucleate cyst
- B. Binucleate cyst
- C. Minute form
- D. Magna form



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275. Which of the following is not a part of innate immunity?

- A. T-cell
- B. Macrophage
- C. HCl in stomach
- D. Skin

Answer: A



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276. Which of the following is not a part of cell mediated immunity?

- A. B- cell
- B. Basophils
- C. Cytotoxic-T-cell
- D. Both (1) and (2)



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277. During an allergic reaction, histamine is released into blood by

- A. Eosinophils
- B. Basophils
- C. $I_g E$
- D. Neutrophils

Answer: B



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278. Maturation and differentiation of T-cells occurs in

- A. Bone marrow
- B. Thyroid
- C. Thymus
- D. Secondary lymphoid organs

Answer: C



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279. Which of the following is a primary lymphoid organ?

- A. Spleen
- **B. MALT**
- C. Thymus
- D. Thyroid

Answer: C



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280. In humans, MHC proteins are encoded by genes present on

- A. Chromosome 5
- B. Chromosome 6
- C. Chromosome 7
- D. Chromosome 9

Answer: B



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281. Which of the following is not a first generation vaccines?

- A. BCG
- B. OPV
- C. Cholera vaccine
- D. Hepatitis B vaccine



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282. Which of the following antibodies are mediator of an allergic response?

A.
$$I_q A$$

B.
$$I_gD$$

C.
$$I_g M$$

D.
$$I_g E$$



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283. Bursa of Fabricius

- A. Is equivalent to bone marrow of human
- B. Is primary lymphoid organ of aves
- C. Is associated with proliferation of lymphocytes
- D. Both (1) and (2)



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284. Which of the following is termed as 'grave yard' of RBCs ?

- A. Thymus
- B. Spleen
- C. Pancreas
- D. Bone marrow

Answer: B



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285. MALT constitutes about_____ percent of the lymphoid tissue in human body

- A. 0.1
- B. 0.2
- C. 0.3
- D. 0.5



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286. Colostrum secreted by mother during initial days of lactation has abundant antibodies

A. $I_g G$

B. $I_g A$

C. $I_g E$

D. I_gD

Answer: B



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287. The lymphoid organ that undergoes reduction in size with ageing is

- A. Lymph nodes
- B. Thymus
- C. Spleen
- D. Tonsils

Answer: B



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288. Which of the following is an autoimmune disease?

- A. Rheumatoid arthritis
- B. Asthma
- C. Diphtheria
- D. SCID

Answer: A



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289. Antitetanus serum (ATS) provides

- A. Naturally acquired passive immunity
- B. Artificially acquired active immunity
- C. Artificially acquired passive immunity
- D. Naturally acquired active immunity

Answer: C

290. When the same antigen or pathogen enters for a second time in human body, the resultant secondary immune response is stronger than primary immune response due to

- A. T_c cells only
- B. T-helper cells only
- C. Memory cells (B and T cells)

D. Plasma cells only

Answer: C



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291. HIV is not spread by

- A. Sexual contact with infected persons
- B. By transfusion of contaminated blood and blood products

C. Infected mother to her child through placenta

D. Sharing bedsheets, towels and combs with infected person

Answer: D



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292. Outer envelope of HIV consists of

A. RNA coat

B. Phospholipid bilayer studded with glycoproteins CCR5 and CXCR4

C. Phospholipid bilayer studded with glycoproteins Gp120 and Gp41

D. P_{24} protein coat

Answer: C



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293. Choose the incorrect statement w.r.t. HIV

- A. It belongs to the flavivirus family
- B. It carries two copies of dsRNA
- C. It is an enveloped virus
- D. The genome of HIV encodes for reverse transcriptase

Answer: A



294. Which of the following statement regarding entry of HIV into target cell is/are correct?

A. The initial binding event occurs between viral Gp120 and CD, molecules.

B. It belongs to genus Flavivirus.

C. Viral entry proceeds through fusion of viral envelop with the target cell membrane .

D. Only reverse transcriptase gain entry inside the target cell

A. A and B

B. B and C

C. C and D

D. A and C

Answer: D



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295. Which of the following is not true w.r.t.

HIV?

A. Reverse transcription results in production of a double stranded DNA copy of the viral genome

B. ELISA is used as a confirmatory test to determine if a person is infected with HIV.

C. It is a retrovirus

D. It belongs to genus Lentivirus.

Answer: B



296. Gp 120 of HIV interacts with target cell through

A. CD_8 receptor

B. CD_4 receptor

C. $G_{p_{41}}$

D. Both (2) & (3)

Answer: B



297. In which of the following preformed antibodies are directly injected into the body

- A. Colostrum
- B. ATS
- C. DPT vaccine
- D. All of these

Answer: B



298. Which of the following is responsible for causing "Toxoplasmosis' as an opportunistic infection in individuals suffering from AIDS?

- A. Bacteria
- B. Virus
- C. Fungi
- D. Protozoa

Answer: D



299. Study of cancer is called

- A. Serology
- B. Oncology
- C. Histology
- D. Carcinology

Answer: B



300. Property shown by a normal cell when compared to a cancerous cells is

- A. Neoplasma formation
- B. High telomerase activity
- C. Uncontrolled cell division
- D. Contact inhibition

Answer: D



301. Carcinomas are

- A. Malignant growth of cartilage
- B. Benign growth of adipose tissue
- C. Malignant growth of epithelial lining
- D. Malignant growth of bone marrow

Answer: C



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302. Cadmium oxide causes cancer of

- A. Skin
- B. Bone marrow
- C. Liver
- D. Prostate gland



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303. Proto-oncogenes are

- A. Normai genes which control cell growth and differentiation
- B. Mutated genes which cause cancer
- C. Viral genes which cause cancer
- D. Genes which cause metastasis under normal conditions

Answer: A



304. The diagnosis of cancer can be performed by using techniques such as

- A. Biopsy
- B. MRI
- C. Computed tomography
- D. All of these

Answer: D



305. Vinblastin and vincristin inhibit growth of cancer cells by

- A. Inducing contact inhibition
- B. Arresting cell division through inhibition of spindle formation
- C. Suppression of oncogenes
- D. Activating protooncogenes

Answer: B



306. I^{131} is used for the treatment of

- A. Skin cancer
- B. Lung cancer
- C. Thyroid cancer
- D. Bone tumors

Answer: C



307. Which amongst the following are the commonly abused depressant drugs?

- A. Coca alkaloids
- B. Opioids
- C. Cannabinoids
- D. All of these

Answer: B



308. Specific opioid receptors are present in

- A. ANS only
- B. Gastrointestinal tract only
- C. CNS and gastrointestinal tract
- D. Damaged or injured organs

Answer: C



309. How many statements about cannabinoids is/are correct from the given statements? (i) Natural cannabinoids are obtained from the inflorescence of Erythroxylum coca, br (ii) Marijuana, Hashish, Charas and Ganja are obtained from flower tops, leaves and the resin of Papaver somniferum, br (iii) Cannabinoids are generally taken by inhalation and oral ingestion, br (iv) Cannabinoids have no effect on cardiovascular system of body

- A. One
- B. Two
- C. Three
- D. Four

Answer: A



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310. Which of the following drug acts as a stimulant of CNS?

- A. Heroin
- B. Morphine
- C. Cocaine
- D. Marijuana

Answer: C



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311. Select the mismatch.

A. Smack - Depressant and slows down

body functions

B. Hashish - Affects the cardiovascular system of the body

C. Atropa belladonna - Hallucinogenic properties

D. Cocaine - Lower doses produce hallucinations

Answer: D



312. Which of the following drugs cannot be used as medicine to help patients cope up with illness like insomnia?

- A. Barbiturates
- B. Benzodiazepines
- C. Amphetamines
- D. Both (1) & (2)

Answer: C



313. Find the odd one out w.r.t effects of drugs

- A. Smack
- B. Heroin
- C. Crack
- D. Morphine

Answer: C



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314. Select correct option among the given statements regarding true and false. (a) Nicotine reduces the concentration of haembound oxygen, br (b) Nicotine raises blood pressure and increases heart rate, br (c) Smoking is associated with increased incidence of cancers, br (d) Smoking causes oxygen deficiency only in the lungs.

A. (a)T, (b)T, (c)T, (d)T

B. (a) T, (b) F, (c) T, (d) F

C. (a) F, (b) F, (c) T, (d) T

D. (a) T, (b) T, (c) T, (d) F

Answer: D



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315. Which of the following is incorrect with regards to addiction and dependence on drugs and alcohol?

A. Addiction is psychological attachment to certain drugs and alcohol

- B. With repeated use of drugs, the tolerance level of the receptors present in our body decreases.
- C. Undue peer pressure to perform beyond his/her threshold can be a reason for addiction
- D. Withdrawal syndrome is manifested when regular dose of drugs/alcohol is abruptly discontinued.

Answer: B

316. Choose the incorrectly matched pair

A. Immediate adverse effects of drugs and-

Vandalism and violence alcohol abuse

B. Excessive doses of drugs - Coma and

Death

C. Combination of drugs like barbiturales

with alcohol - Hallucination

D. Chronic use of drugs and alcohol

Damages nervous system and liver

Answer: C



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317. The side-effects of excessive use of anabolic steroids is/are

A. Enlargement of clitoris in females

B. Increased size of testicles in males

- C. Breast enlargement in females
- D. Reduced aggression in both male and female

Answer: A



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318. Sportspersons misuse narcotic analgesics anabolic steroids and certain hormones. What is the correct reason for it?

- A. These compounds increase muscle strength
- B. Promote aggressiveness
- C. Increase athletic performance
- D. All of these

Answer: D



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319. Cocaine has a potent stimulating action on the central nervous system and it produces

- A. Euphoria and increased energy levels
- B. Analgesic action
- C. Sedative action
- D. Sleep

Answer: A



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320. What is the cause of low farm productivity per unit in India?

A. conventional practices of animal breeding and care

B. No or less use of new technologies of animal farming

C. less than 30% of world's livestock population is in India

D. both (1) and (2) are correct

Answer: D

321. The word poultry is generally used to refer to the meat of

- A. fowl (chicken) and sheep
- B. fowl, ducks and goat
- C. foul, duck, Turkey, geese and peacock only
- D. fowl, duck, Turkey, geese and some other

birds

Answer: D



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322. Which of the following is incorrect for good Diary farm management?

A. selection of good breeds having high yielding potential

B. cattle should be fed with sufficient roughage, concentrates and water

C. maintenance of good hygiene for both

Dairy animals and their handlers

D. Record Keeping and regular visit by a veterinary doctors is not necessary

Answer: D



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323. Which of the following is a viral disease of poultry Birds?

- A. Coccidiosis
- B. Spirochaetosis
- C. new castle's disease
- D. Encephalomalacia

Answer: C



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324. Which of the following statement is correct for inbreeding?

A. mating of closely latest individual within the same breed having common ancestors for 4-6 generations

B. breeding of unrelated animals or animals having no common ancestors for 4-6 generations

C. inbreeding increases productivity

D. inbreeding decreases homozygosity

Answer: A



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325. On the basis of given statement, select the option which only correct statements. i) outcrossing often helps to overcome inbreeding depression ii) MOET involves enhancing ovulation by injecting oxytocin iii) many new animal breeds have been developed by cross-breading iv) hisadale is a new breed of goat developed in Punjab by crossing Bikaneri rams and Merino ewes

A. (i) and (iii)

- B. (i), (ii), (iii) and (iv)
- C. (i), (ii) and (iii)
- D. (ii) and (iv)

Answer: A



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326. Hybrid species can be produced by

- A. by interspecific hybridization
- B. inbreeding

- C. outcrossing
- D. both (1) & (2)

Answer: A



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327. Which of the following is a true match?

- A. sahiwal-buffalo
- B. murrah-cow
- C. leghom-fowl

D. jafrabadi-sheep

Answer: C



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328. Sunandini is a cross breed of a cow which was developed by crossing

- A. Sahiwal with brown Swiss
- B. local breeds of Kerala with Jersey

C. Tharpakar with Holstein Friesian

(Holstein-Friesian)

D. Holstein Friesian with sahiwal cow

Answer: B



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329. Select incorrect pair w. r. t. animals and methods of breeding by which they were developed.

- A. Karan Swiss Cross breeding
- B. Hisardale- cross breeding
- C. Mule cross breeding
- D. Hinny Interspecific hybridization

Answer: C



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330. Which of the following diseases is not related with cattle?

- A. Anthrax
- B. Mastilis
- C. Pullorum
- D. Rinderpest

Answer: C



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331. Match colum I and II and select the correct match



A. a(i), b(ii), c(iii), d(iv)

B. a(iii), b(iv), c(i), d(ii)

C. a(iv), b(iii), c(ii), d(i)

D. a(iii), b(iv), c(ii), d(i)

Answer: D



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332. Pashmina is a fine and soft wool obtained from

A. sheep

B. goat

C. both sheep and goat

D. rabbit

Answer: B



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333. Study the four statements given below and answer the question which follow them. I) Inbreeding is necessary if we want to develop a pureline in animals II) inbreeding exposes harmful recessive genes that are eliminated by selection III) continuous inbreeding usually reduces fertility and productivity IV) inbreeding depression can be overcome by outcrossing How many of the above statements are correct?

A. Two

- B. Three
- C. Four
- D. One

Answer: C



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334. Select the option in which given three parameters are not correctly matched Animals Breed Product

- A. cow Sahiwal milk
- B. rabbit lohi Pashmina
- C. sheep Nali carpet wool
- D. Broilers Plymouth rock Meat

Answer: B



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335. Which of the following option is not important for successful bee-keeping?

A. selection of suitable location for keeping the beehives

B. knowledge of the nature and habits of bees

C. catching of drones only and their hiving for starting Epiculture

D. catching and hiving of swarms

Answer: B



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336. Choose the incorrect match

- A. fishery- catching, processing and selling of fish
- B. aquaculture- production of useful aquatic plant and animal
- C. Pisiculture- production of fishes
- D. Isinglass- Obtained from fins of perch,
 Indian Salmon, Catfish

Answer: C

337. Which is wrong combination of disease and its casual organism in context of silkworm?

- A. Pebrine Nosema bombycis
- B. Muscardine Spicaria
- C. Muscardine Botrytis
- D. Flacherie Nuclear polyhedral virus

Answer: D

338. From statement given below, how many statements are correct? (i) Bees perform round dance when distance of food source from the hive is less than 75m (ii) Tail wagging dance is performed by bees if food source is placed more than 75m away from the hive (iii)Nuptial flight is flight of drones and queen for copulation (iv) Bees wax is secreated by abdominal wax gland of both drones and queen

- A. Two
- B. Three
- C. Four
- D. One

Answer: D



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339. Statement-I : Rohu, Calbasu, Catla, Magur

are edible fresh water fishes. Statement-II:

Hilsa, Eel, Salmon, Sardine Promphret are edible marine fishes.

A. Both Statement-I and II are incorrect

B. Statement-I in correct and II are incorrect

C. Both Statement-I and II are correct

D. Statement-I in incorrect and II is correct

Answer: B



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340. Which of the following is called molecular scissors in context of biotechnology?

- A. DNA ligase
- B. Restriction exonucleases
- C. DNA polymerase
- D. Restriction endonucleases

Answer: D



341. Which of the following two core techniques enabled birth of modern biotechnology? (a) Genetic engineering (b) Electrophoresis (c) Maintenance of sterile ambience in chemical engineering processes (d) Development of competent hosts

A. (a) and (b)

B. (a) and (c)

C. (b) and (d)

D. (b) and (c)

Answer: B



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342. A scientist performed studies on a couple of restriction enzymes of E.coli bacterium that produced DNA with sticky ends. This scientist was

- A. Herbert Boyer
- B. Stanley Cohen
- C. Boyer and Cohen

D. Chain and Florey

Answer: A



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343. Who develop a method of removing plasmids from the cell and then reinserting them in other cells?

A. Herbert Boyer and Cohen

B. Alexander Fleming

- C. Stanley Cohen
- D. Herbert Boyer

Answer: C



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344. What is recombinant DNA?

- A. DNA in which RNA is integrated
- B. DNA which is obtained by transcription

of RNA

- C. DNA which is inserted into a newly reconstructed cell
- D. DNA which contains alien genes i.e. genes from more than one source organism

Answer: D



345. If a piece of DNA in transferred into alien organism, what will happen?

A. Most likely this piece of DNA will multiply itself on its own and is transferred into progeny cells of the organism

B. Most likely this piece of DNA will not be able to multiply itself in the progeny cells of the organism

C. It multiplies when gets integrated into the genome of the recipient at ori but is not transferred into progeny cells of the organism

D. It will multiply itself after some food is added in the alien cell

Answer: B



- **346.** Choose the correct statement.
 - A. Restriction enzymes are hydrolytic enzymes
 - B. Restriction enzymes promote virus infection in bacteria cells
 - C. DNA ligase can be obtained from all prokaryotes
 - D. Only one restriction enzymes can be isolated from one eukaryotic organism

Answer: A



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347. Which of the following is not a tool of recombinant DNA technology?

- A. Restriction enzymes
- B. Cloning vectors
- C. Competent host
- D. Recombinant proteins

Answer: D

end



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348. Choose incorrect match amongst restriction enzymes listed in column I and type of ends produced in column II

- A. Column I EcoR I and Column II Sticky
 end
- B. Column I Hind III and Column II Sticky

C. Column I - Sma I and Column II - Blunt
end

D. Column I - Bam HI and Column II - Flush
end

Answer: D



349. Read the following statements and choose the option with incorrect statements.

(a) Restriction enzymes are obtained from

prokaryotes. (b) Restriction endonucleases cut DNA strands by breaking hydrogen bonds at specific points. (c) More than 230 restriction enzymes have been isolated from more than 900 strains of bacteria. (d) Each restriction enzyme recognizes a specific palindromic nucleotide sequence in DNA.

A. (a) and (b)

B. (b) and (c)

C. (c) and (d)

D. (a) and (d)

Answer: B



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350. Which of the following is incorrect?

- A. Both bacteriophages and plasmids can be used as cloning vectors
- B. Bacteriophages have high copy numbers of their genome within bacterial cell

- C. Cloning vectors must have an Ori and

 MCS region
- D. A good cloning vector definitely contains more than one recognition site for the restriction enzyme to be used

Answer: D



351. Read the following five statements in context of a plasmid. (a) Its DNA is always double stranded. (b) Its DNA is naked and without histone proteins. (c) Its DNA can replicate independent of genomic DNA. (d) Both exons and introns are present in plasmid DNA. (e) Plasmid DNA can be either linear or circular. Which of the above given statements are incorrect?

A. (a) and (e)

B. (c) and (e)

C. (a), (b) and (c)

D. (d) and (e)

Answer: D



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352. If you can ligate foreign DNA at the BamHI site in the vector pBR322, which of the following will occur?

- A. The recombinant plasmid will lose the ability to confer ampicillin resistance to the host bacteria
- B. Bacteria containing recombinant pBR322

 are unable to grow in tetracycline

 containing medium
- C. Bacteria with recombinant plasmid will lose resistance to both tetracycline and ampicillin

D. Recombinant bacteria grow in tetracycline containing medium but are unable to grow in ampicillin rich medium

Answer: B



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353. Choose the mismatched pair from given options.

A. Insertional inactivation - betagalactosidase

B. YAC vector - Yeast artificial chromosome

C. BAC vector - Largest bacteriophage vector

D. Ti plasmid - Agrobacterium tumefaciens

Answer: C



354. Which of the following can prove useful as a vector in both a prokaryote and eukaryote?

- A. YEp
- B. Cosmid
- C. Adenovirus
- D. Retrovirus

Answer: A



355. Match column I with II and choose the correct option from given code

	Column-I		Column-II
a.	BamHI	(i)	rop site
b.	Pst I	(ii)	Tet ^R
C.	Pvu II	(iii)	Amp^R
d.	LacZ	(iv)	β -galactosidase

A. a(i), b(ii), c(iii), d(iv)

B. a(ii), b(i), c(iii), d(iv)

C. a(ii), b(iii), c(iv), d(i)

D. a(ii), b(iii), c(i), d(iv)

Answer: D

