Test Booklet Code

AA

No. ……..……

Mock Test NEET/Premedical

This Test Booklet contain …. pages.

Do not open this Test Booklet until you are asked to do so.

Important Instructions:

1. The Answer Sheet is inside this Test Booklet. When you are directed to open the test Booklet, take out the Answer Sheet and fill in the particulars on **Side-1** and **Side-2** carefully with **Blue/Black Ballpoint** pen only.
2. The test is of **3 hours** duration and Test Booklet contains **180** questions. Each question carries **4 marks**. For each incorrect response, one mark will be deducted from the total score. The maximum marks are **720**.
3. Use **Blue/Black Ballpoint Pen only** for writing particulars on this page/marking responses.
4. Rough work is to be done on the space provided for this purpose in the test booklet only.
5. One completion of the test, the candidate must hand over the Answer Sheet to the invigilator before leaving the Room/Hall. *The candidates are allowed to take away Test Booklet only with them.*
6. The CODE for this test Booklet is AA. Make sure that the CODE printed on Side-2 of the Answer Sheet is the same as that on this test Booklet. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Test Booklet and the Answer Sheet.
7. The candidate should ensure that the Answer Sheet is not folded. Do not make any stray make on the Answer Sheet. Do not write you Roll No. anywhere else except in the specified space in the Test Booklet/Answer Sheet.
8. Use of white fluid for correction is not permissible on the Answer Sheet.
9. Each candidate must show on demand his/her Admit Card to the Invigilator.
10. No candidate, without special permission of the Superintendent or Invigilator, would leave his/her seat.
11. The candidates should not leave the Examination Hall without handing over their Answer Sheet to the Invigilator on duty and sign the Attendance Sheet twice. **Cases where a candidate has not signed the Attendance Sheet second time will be deemed not to have handed over the Answer Sheet and dealt with as an unfair means case.**
12. Use of Electronic/Manual Calculator is prohibited.
13. The Candidates are governed by all Rules and Regulations of the board with regard to their conduct in the Examination Hall. All case of unfair means will be dealt with as per Rules and Regulations of the Board.
14. No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.
15. The candidates will write the correct Test booklet code as given in the Test Booklet/Answer Sheet in the Attendance Sheet.

NOTE: *It's the mock test as per previous year paper; sometimes NEET changes the test paper pattern and marking scheme too.*

PAPER CONSISTS

Physics: 45, Chemistry: 45 and Biology: 90 Questions each

Name of the Candidate (in Capital letters): _____

Roll Number : In figures _____

: In words _____

Centre of Examination (in Capital letters): _____

Candidate's Signature: _____ Invigilator's Signature: _____

Facsimile Signature Stamp of Centre superintendent: _____

Mock Test-1

1. The two polypeptides of human insulin are linked together by:
a. Hydrogen bonds **b.** Phosphodiester bond
c. Covalent bond **d.** Disulphide bridges

2. Select **incorrect** statement w.r.t. the following group or organisms and their characteristics.
a. Chrysophyte – Includes diatoms and desmids, Planktonic organism
b. Dinoflagellate – Mostly marine and photosynthetic, cell wall has stiff cellulosic plate on outer surface
c. Euglenoids – Majority of them are fresh water, cell wall is absent
d. Slime mould – Saprophytic motile spores with true walls

3. The coconut water from tender coconut represents:
a. Endocarp **b.** Fleshy mesocarp
c. Free nuclear proembryo **d.** Free nuclear endosperm

4. Select **incorrect** option w.r.t. viral disease in both plant and animal.

Plant disease		**Animal disease**
a. Leaf rolling	—	Mumps
b. Yellowing	—	Herpes
c. Vein clearing	—	Influenza
d. Damping off	—	Diphtheria

5. Gametophyte of bryophyte is:
a. Green and vascular
b. Independent, multicellular
c. Dependent on sporophyte
d. Foliose in nature

6. Which of the following features is not present in the phylum – Arthropoda?
a. Chitinous exoskeleton **b.** Metameric segmentation
c. Parapodia **d.** Jointed appendages

7. Select **incorrect** option w.r.t. given diagram.

a. Heterosporous
b. Aquatic fern
c. Belongs to class Pteropsida
d. Gametophytic main plant body

8. The leaf of Pinus is
a. Needle shaped **b.** Compound leaf
c. Having veinlets **d.** Non-cutinised

9. Which of the following most appropriately describes haemophilia?
a. Recessive gene disorder
b. X-linked recessive gene disorder
c. Chromosomal disorder
d. Dominant gene disorder

10. Select **correct** option w.r.t. Rhizphora
(a) Grows in swampy area
(b) Pneumatophores are present of respiration
(c) Is halophyte
(d) Shows *in situ* germination of seed
a. All are correct
b. All are correct except (d)
c. All are correct except (a) and (d)
d. All are correct except (a), (c) and (d)

11. Stirred-tank bioreactors have been designed for:
a. availability of oxygen throughout the process
b. ensuring anaerobic conditions in the culture
c. purification of product
d. addition of preservatives to the product

12. Name the chronic respiratory disorder caused mainly by cigarette smoking:
a. Emphysema **b.** Asthma
c. Respiratory acidosis **d.** Respiratory alkalosis

13. Which of the following is not a component of downstream processing?
a. Preservation **b.** Expression
c. Separation **d.** Purification

14. Which of the following restriction enzymes produces blunt ends?
a. *Xho* I **b.** *Hind* III
c. *Sal* I **d.** *Eco* RV

15. Mitochondria and chloroplast are:
(a) semi-autonomous organelles.
(b) formed by division of pre-existing organelles and they contain DNA but lack protein synthesising machinery
Which one of the following options is **correct**?
a. Both (a) and (b) are correct
b. (b) is true but (a) is false
c. (a) is true but (b) is false
d. Both (a) and (b) are false

16. How many hot spots of biodiversity in the world have been identified till date by Norman Myers?
a. 34 **b.** 43 **c.** 17 **d.** 25

17. The primary producers of the deep-sea hydrothermal vent ecosystem are:
a. Blue-green algae **b.** Coral reefs
c. Green algae **d.** Chemosynthetic bacteria

18. Which of the following is **correct** for r-selected species?
a. Small number of progeny with small size
b. Small number of progeny with large size
c. Large number of progeny with small size
d. Large number of progeny with large size

19. Photosensitive compound in human eye is made up of:
a. Guanosine and Retinol
b. Opsin and Retinal
c. Opsin and Retinol
d. Transduction and Retinene

20. Which of the following is correctly matched?
a. *Parthenium hysterophorus* – Threat to biodiversity
b. Stratification – Population
c. Aerenchyma – Opuntia
d. Age pyramid – Biome

21. Red list contains data or information on:
a. threatened species
b. marine vertebrates only
c. all economically important plants
d. plants whose products are in international trade

22. Which one of the following is wrong for fungi?
a. They are heterotrophic
b. They are both unicellular and multicellular
c. They are eukaryotic
d. All fungi possess a purely cellulosic cell wall

23. Which of the following is required as inducer(s) for the expression of Lac operon?
a. glucose **b.** galactose
c. lactose **d.** lactose and galactose

24. Select the **wrong** statement:
a. Diatoms are chief producers in the oceans
b. Diatoms are microscopic and float passively in water
c. The walls of diatoms are easily destructible
d. 'Diatomaceous earth' is formed by the cell walls of diatoms.

25. The label of a herbarium sheet does not carry information on:
a. local names **b.** height of the plant
c. date of collection **d.** name of collector

26. Microtubules are the constituents of:
a. Cilia, Flagella and Peroxisomes
b. Spindle fibres, Centrioles and Cilia
c. Centrioles, Spindle fibres and Chromatin
d. Centrosome, Nucleosome and Centrioles

27. Which one of the following statements is **wrong**?
a. Agar-agar is obtained from *Gelidium* and *Gracilaria*
b. *Laminaria* and *Sargassum* are used as food
c. Algae increase the level of dissolved oxygen in the immediate environment
d. Algin is obtained from red algae, and carrageenan from brown algae.

28. The term 'polyadelphous' is related to
a. Corolla **b.** Calyx
c. Gynoecium **d.** Androecium

29. How many plants among *Indigofera*, *Sesbania*, *Salvia*, *Allium*, *Aloe*, mustard, groundnut, radish, gram and turnip have stamens with different lengths in their flowers?
a. Five **b.** Six **c.** Three **d.** Four

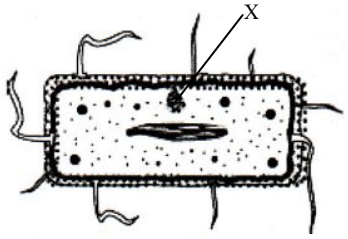
30. Asthma may be attributed to:
a. bacterial infection of the lungs
b. allergic reaction of the mast cells in the lungs
c. inflammation of the trachea
d. accumulation of fluid in the lungs

31. Free-central placentation is found in:
a. Brassica **b.** Citrus **c.** Dianthus **d.** Argemone

32. Cortex is the region found between:
a. Endodermis and pith
b. Endodermis and vascular bundle
c. Epidermis and stele
d. Pericycle and endodermis

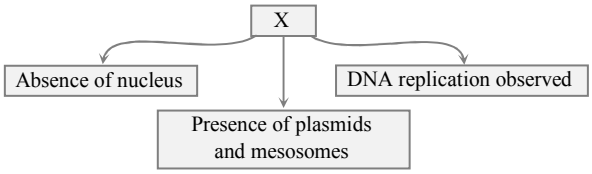
33. The Avena curvature is used for bioassay of:
a. ABA **b.** GA_3 **c.** IAA **d.** Ethylene

34. Some bacterial cells were fixed for microscopic observation. A certain labelled structure X was observed on most occasions at the cell membrane.



In the given illustration, label X represents
a. nucleoid **b.** plasmids **c.** ribosomes **d.** mesosome

35. Which organism is most appropriately represented by X?



a. Bacterium **b.** Animal **c.** Plant **d.** Virus

36. The genetic material in prokaryotes is not organised into a nucleus. It lies without a well defined boundary in the cytoplasm. The genetic material inside a bacterial cell is present as a

a. nucleus **b.** nucleoid
c. nucleolus **d.** nucleosome

37. One of the reasons for variations in organisms is the crossover of genetic material during meiosis. The crossing over in meiosis occurs during

a. prophase I **b.** anaphase I
c. prophase II **d.** anaphase II

38. Centromere is the constricted region of the chromosome where the two sister chromatids are joined to each other in meiosis, the sister chromatids separate from the centrometre during

a. anaphase I **b.** anaphase II
c. metaphase I **d.** metaphase II

39. Best material for the study of mitosis is

a. Root tip **b.** Primary gametocyte
c. Spore mother cell **d.** Zygote

40. Select the **incorrect** statement:

a. FSH stimulates the sertoli cells which help in spermiogenesis.
b. LH triggers ovulation in ovary
c. LH and FSH decrease gradually during the follicular phase.
d. LH triggers secretion of androgens from the Leydig cells.

41. Chromosomes are very thin, fine, thread-like structures and their morphology can be studied when they are highly condensed. In which cell cycle stage are suitable condensed chromosomes found so that their morphology can be studied?

a. Prophase **b.** Metaphase
c. Interphase **d.** Telophase

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

a. Independent replication **b.** Circular structure
c. Transferable **d.** Single-stranded

43. The main feature of the cell cycle is the equal division of genetic material between two daughter cells. In the cell cycle, the separation of sister chromatids begins during the

a. Metaphase **b.** Interphase
c. Anaphase **d.** Prophase

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

a. Allergic response **b.** Graft rejection
c. Auto-immune disease **d.** Active immunity

45. Which one of the following statements in not correct?

a. In potato, banana and ginger, the plantlets arise from the intermodes present in the modified stem.
b. Water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes.
c. Offspring produced by the asexual reproduction are called clone
d. Microscopic, motile asexual reproductive structures are called zoospores.

46. The part of nephron involved in active reabsorption of sodium is:

a. Bowman's capsule
b. Descending limb of Henle's loop
c. Distal convoluted tubule
d. Proximal convoluted tubule

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

Column I	Column II
(A) Dominance	**1.** Many genes govern a single character
(B) Codominance	**2.** In a heterozygous organism only one allele expresses itself
(C) Pleiotropy	**3.** In a heterozygous organism both alleles express themselves fully
(D) Polygenic	**4.** A single gene influences many characters inheritance

a. A-3, B-1, C-4, D-3 **b.** A-2, B-3, C-4, D-1
c. A-4, B-1, C-3, D-3 **d.** A-4, B-3, C-1, D-2

48. Which of the flowing is **incorrect** regarding vasectomy?

a. Vasa deferentia is cut and tied
b. Irreversible sterility
c. No sperm occurs in seminal fluid
d. No sperm occurs in epididymis

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

a.	Barrier methods	Prevent fertilization
b.	Intra uterine devices	Increase phagocytosis of sperms, suppress sperm motility and fertilising capacity of sperms
c.	Hormonal contraceptives	Prevent/retard entry of sperms, prevent ovulation and fertilisation
d.	Vasectomy	Prevents spermatogenesis

50. Which of the following depicts the **correct** pathway to transport of sperms?

a. Rete testis → Vas deferens → Efferent ductules → Epididymis

b. Efferent ductules → Rete testis → Vas deferens → Epididymis

c. Rete testis → Efferent ductules → Epididymis → Vas deferens

d. Rete testis → Epididymis → Efferent ductules → Vas deferens

51. Match Column-I with Column-II and select the **correct** option using the codes given below:

Column I	Column II
(A) Mons pubis	**1.** Embryo formation
(B) Antrum	**2.** Sperm
(C) Trophectoderm	**3.** Female external genitalia
(D) Nebenkern	**4.** Graafian follicle

a. A-3, B-1, C-4, D-2 **b.** A-1, B-4, C-3, D-2
c. A-3, B-4, C-2, D-1 **d.** A-3, B-4, C-1, D-2

52. Several hormones like hCG, hPL, estrange, progesterone are produced by

a. Fallopian tube **b.** Pituitary
c. Ovary **d.** Placenta

53. If a colour-blind man marries a woman who is homozygous for normal colour vision, the probability of their son being colour-blind is:

a. 0.75 **b.** 1 **c.** 0 **d.** 0.5

54. Antivenom injection contains preformed antibodies while polio drops that are administered into the body contain:

a. Activated pathogens **b.** Harvested antibodies
c. Gamma globulin **d.** Attenuated pathogens

55. In Hardy-Weinberg equation, the frequency of heterozygous individual is represented by:

a. pq **b.** q^2 **c.** p^2 **d.** 2pq

56. Which of the following is not a stem modification?

a. Pitcher of Nepenthes
b. Thorns of citrus
c. Tendrils of cucumber
d. Flattened structures of *Opuntia*

57. Which of the following is the correct sequence of events in the origin of life?

I. Formation of protobionts
II. Synthesis of organic monomers
III. Synthesis of organic polymers
IV. Formation of DNA-based genetic systems

a. II, III, I, IV **b.** II, III, IV, I
c. I, II, III, IV **d.** I, III, II, IV

58. A molecule that can act as a genetic material must fulfill the traits given below, except:

a. It should be unstable structurally and chemically
b. It should provide the scope for slow changes that are required for evolution
c. It should be able to express itself in the form of 'Mendelian characters'
d. It should be able to generate its replica

59. DNA-dependent RNA polymerase catalyses transcription on one strand of the DNA which is called the

a. Alpha strand **b.** Antistrand
c. Template strand **d.** Coding strand

60. Select the **correct** statements:

a. Gymnosperms are both homosporous and heterosporous
b. Salvinia, *Ginkgo* and *Pinus* all are gymnosperms
c. *Sequoia* is one of the tallest trees
d. The leaves of gymnosperms are not well adapted to extremes of climate

61. Which of the following is **correct** regarding AIDS causative agent HIV?

a. HIV is unenveloped retrovirus
b. HIV does not escape but attacks the acquired immune response
c. HIV is enveloped virus containing one molecule of single-stranded RNA and one molecule of reverse transcriptase.
d. HIV is enveloped virus that contains two identical molecules of single-stranded RNA and two molecules of reverse transcriptase.

62. Among the following edible fishes, which one is a marine fish having rich source of omega-3 fatty acids?

a. Mrigala **b.** Mackerel **c.** Mystus **d.** Mangur

63. Match Column-I with Column-II and select the **correct** option using the codes given below:

Column I	Column II
(A) Citric acid	**1.** Trichoderma
(B) Cyclosporin	**2.** Clostridium
(C) Statins	**3.** Aspergillus
(D) Butyric acid	**4.** Monascus

a. A-1, B-4, C-2, D-3 **b.** A-3, B-4, C-1, D-2
c. A-3, B-1, C-2, D-4 **d.** A-3, B-1, C-4, D-2

64. Which type of tissue **correctly** matches with its location?

Tissue	Location
a. Smooth muscle	Wall of intestine
b. Areolar tissue	Tendons
c. Transitional epithelium	Tip of nose
d. Cuboidal epithelium	Lining of stomach

65. The principle of competitive exclusion was stated by:
a. MacArthur
b. Verhulst and Pearl
c. C. Darwin
d. G.F. Gause

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

a.	Cartilaginous endoskeleton	Chondrichthyes
b.	Viviparous	Mammalia
c.	Possess a mouth with an upper and a lower jaw	Chordata
d.	3 – chambered heart with one incompletely divided	Reptilia

67. A lake which is rich in organic waste may result in:
a. Increased population of fish due to lots of nutrients
b. Mortality of fish due to lack of oxygen
c. Increased population of aquatic organisms due to minerals
d. Drying of the lake due to algal bloom

68. Following are the two statements regarding the origin of life:
(a) The earliest organisms that appeared on the earth were non-green and presumable anaerobes.
(b) The first autotrophic organisms were the chemoautotrophs that never released oxygen. Of the above statements which one of the following options is **correct**?
a. (a) is correct but (b) is false
b. (b) is correct but (a) is false
c. Both (a) and (b) are correct
d. Both (a) and (b) are false

69. Which of the following sets of diseases is caused by bacteria?
a. Tetanus and mumps
b. Herpes and influenza
c. Cholera and tetanus
d. Typhoid and smallpox

70. Match Column-I with Column-II for housefly classification and select the **correct** option using the codes given below:

Column I	Column II
(A) Family	**1.** Diptera
(B) Order	**2.** Arthropoda
(C) Class	**3.** Muscidae
(D) Phylum	**4.** Insecta

a. A-4, B-3, C-2, D-1 **b.** A-4, B-2, C-1, D-3
c. A-3, B-1, C-4, D-2 **d.** A-3, B-2, C-4, D-1

71. Choose the **correct** statement.
a. All reptiles have a three-chambered heart.
b. All pisces have gills covered by an operculum
c. All mammals are viviparous
d. All cyclostomes do not possess jaws and paired fins

72. Study the four statements (A-D) given below and select the two correct ones out of them:
(A) Definition of biological species was given by Ernst Mayr
(B) Photoperiod does not affect reproduction in plants
(C) Binomial nomenclature system was given by R.H. Whittaker
(D) In unicellular organisms, reproduction is synonymous with growth.
a. A and D **b.** A and B
c. B and C **d.** C and D

73. When does the growth rate of a population following the logistic model equal zero? The logistic model is given as $dN/dt = rN(1-N/K)$:
a. When N/K is exactly one.
b. When N nears the carrying capacity of the habitat.
c. When N/K equals zero.
d. When death rate is greater than birth rate.

74. Smooth muscles are:-
a. Involuntary, cylindrical, striated
b. Voluntary, spindle-shaped, uninucleate
c. Involuntary, fusiform, non-striated
d. Voluntary, multinucleate, cylindrical

75. Oxidative phosphorylation is
a. Addition of phosphate group to ATP
b. formation of ATP by energy released from electrons removed during substrate oxidation.
c. Formation of ATP by transfer of phosphate group from a substrate to ADP
d. Oxidation of phosphate group in ATP

76. Which of the following is the least likely to be involved in stabilizing the three-dimensional folding of most proteins?
a. Hydrophobic interaction **b.** Ester bonds
c. Hydrogen bonds **d.** Electrostatic interaction

77. Which of the following features is true for both chloroplasts and the mitochondria?
a. Presence of ribosomes **b.** Presence of carotenoid
c. Presence of chlorophyll **d.** Presence of particles

78. When cell has stalled DNA replication fork, which checkpoint should be predominantly activated?
a. M **b.** Both G_2/M and M
c. G_1/S **d.** G_2/M

79. Match the stages of meiosis in Column-I to their characteristic features in Column-II and select the correct option using the codes given below:

Column I	Column II
(A) Pachytene	**1.** Pairing of homologous chromosomes
(B) Metaphase-I	**2.** Terminalisation of chiasmata
(C) Diakinesis	**3.** Crossing over takes place
(D) Zygotene	**4.** Chromosomes align at equatorial plate

a. A-2, B-4, C-3, D-1 **b.** A-4, B-3, C-2, D-1
c. A-3, B-4, C-2, D-1 **d.** A-1, B-4, C-2, D-3

80. Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature?
a. Biological names can be written in any language
b. The first word in a biological name represents the genus name, and the second is a specific epithet.
c. The names are written in Latin and are italicised.
d. When written by hand, the names are to be underlined.

81. Down's syndrome is a very common genetic disorder affecting one out of every 700 live births. Which of the following symptoms is not characteristic of Down's syndrome?
a. Folded skin of the upper eyelids
b. Sterile and degenerated sex organs
c. Broad skull with widely spaced nostrils
d. Stubby hands with simian creases on plans

82. Water vapour comes out from the plant leaf through the stomatal opening. Through the same stomatal opening carbon dioxide diffuses into the plant during photosynthesis. Reason out the above statements using one of following options:
a. Both processes cannot happen simultaneously.
b. Both processes can happen together because the diffusion coefficient of water and CO_2 is different.
c. The above processes happen only during night time.
d. One process occurs during day time and the other at night.

83. During genetic manipulation, the desired gene is inserted into the vector by cutting the vector at specific sites for gene insertion. The enzyme used for this purpose is:
a. restriction endonuclease **b.** DNA polymerase
c. nuclease **d.** ligase

84. Which of the following organisms is used in the genetic engineering of plants?
a. Acetobacter **b.** Lactobacillus
c. Agrobacterium **d.** Saccharomyces

85. If the amount of DNA sample isolated is low, then which process is used for the amplification of DNA?
a. PCR technique **b.** DNA microarrays
c. DNA electrophoresis **d.** Southern blot techniques

86. Which of the following is wrongly matched in the given table?

	Microbe	Product	Application
a.	*Trichoderma polysporum*	Cyclosporin A	Immunosuppressive drug
b	*Monascus purpureus*	Statins	Lowering of blood cholesterol
c.	*Streptococcus*	Streptokinase	Removal of clot from vessel
d	*Clostridium butylicum*	Lipase	Removal of oil stains

87. Bt cotton is a genetically modified cotton variety containing genes from the bacteria called Bacillus thuringiensis (Bt). Which of the following statements is incorrect regarding Bt cotton?
a. It is resistant to the attack of crop pests.
b. It helps in decreasing the use of pesticides on the field
c. It can cause genetic pollution in the wild cotton variety.
d. It can increase the population of beneficial insects on the field.

88. Keith Campbell and I an Wilmut were the first scientists to clone a mammal at the Rosalin Institute, Edinburgh, Scotland. It was a major breakthrough in the field of reproduction, as for the first time, a mammal was born without the normal process of mating and fertilisation. Which was the first mammal to be cloned in the world?

a. Cow **b.** Goat

c. Sheep **d.** Deer

89. Production of insulin using bacteria has helped diabetic patients throughout the world. Which of the following methods is used for producing insulin from bacteria?

a. Recombinant DNA technology

b. Polymerase chain reaction

c. Organ transplantation

d. Enzymatic digestion

90. For which of the following diseases does the transgenic model not exist?

a. Malaria **b.** Cancer

c. Cystic fibrosis **d.** Rheumatoid arthritis

Answers and Solutions

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
d	d	d	d	b	c	d	a	b	a
11.	**12.**	**13.**	**14.**	**15.**	**16.**	**17.**	**18.**	**19.**	**20.**
a	a	b	d	c	a	d	c	b	a
21.	**22.**	**23.**	**24.**	**25.**	**26.**	**27.**	**28.**	**29.**	**30.**
a	d	c	c	b	b	d	d	d	b
31.	**32.**	**33.**	**34**	**35.**	**36.**	**37.**	**38.**	**39.**	**40.**
c	c	c	d	a	b	a	b	a	c
41.	**42.**	**43.**	**44.**	**45.**	**46.**	**47**	**48.**	**49.**	**50.**
b	d	c	c	a	d	b	d	d	c
51.	**52.**	**53.**	**54.**	**55.**	**56.**	**57.**	**58.**	**59.**	**60**
d	d	c	d	d	a	a	a	c	c
61.	**62.**	**63.**	**64.**	**65.**	**66.**	**67.**	**68.**	**69.**	**70.**
d	b	d	a	d	a	b	c	**c**	**c**
71.	**72.**	**73.**	**74.**	**75.**	**76.**	**77.**	**78.**	**79.**	**80.**
d	a	a	c	b	b	a	c	c	a
81.	**82.**	**83.**	**84.**	**85.**	**86.**	**87.**	**88.**	**89.**	**90.**
b	b	a	c	a	d	d	c	a	a

1. **(d)** The two polyopeptides of human insulin are linked together by disulphide bridges.

2. **(d)** Slime mould – Saprophytic motile spores with true walls.

3. **(d)** The coconut water from tender coconut represents free nuclear endosperm.

4. **(d)** Damping off — Diptheria

5. **(b)** Gametophyte of bryophyte is independent, multicellular.

6. **(c)** In Polychaeta, usually biramous, muscular, lateral projections of the body, paired and extending from the body segments, more or less compressed laterally, and bearing setae; in free-swimming forms they are used for locomotion, and in sessile forms to fan water.

7. **(d)** Gametophytic main plant body

8. **(a)** Needle shaped. Typical short shoots in *Pinus* monophylla have one single needle leaf preceded by some scale leaves and are inserted in the axils of scaly long shoot leaves.

9. **(b)** X-linked recessive gene disorder

10. **(a) (**All are correct)
(a) Grows in swampy area
(b) Pneumatophores are present of respiration
(c) Is halophyte
(d) Shows *in situ* germination of seed

11. **(a)** Availability of oxygen throughout the process.

12. **(a)** The chronic respiratory disorder caused mainly emphysema by cigarette smoking.

13. **(b)** Emphysema a condition in which air is abnormally present within the body tissues.

14. **(d)** *Eco*RV (pronounced "eco R five") is a type II restriction endonuclease isolated from certain strains of Escherichia coli. In molecular biology, it is a commonly used restriction enzyme. It creates blunt ends.

15. **(c)** Semi-autonomous organelles is true but formed by division of pre-existing organelles and they contain DNA but lack protein synthesising machinery is false.

16. **(a)** 34 hotspots of biodiversity in the world have been identified till date by Norman Myers.

17. **(d)** Chemosynthetic bacteria

18. **(c)** Large number of progeny with small size

19. **(b)** Photosensitive compound in human eye is made up of opsin and retinal.

20. **(a)** *Parthenium hysterophorus*–Threat to biodiversity

21. **(a)** Threatened species

22. **(d)** All fungi possess a purely cellulosic cell wall

23. **(c)** Lactose is required as inducer for the expression of Lac operon.

24. **(c)** The walls of diatoms are easily destructible.

25. **(b)** Height of the plant

26. **(b)** Microtubules are the constituents of Spindle fibres, Centrioles and Cilia.

27. **(d)** Algin is obtained from red algae, and carrageenan from brown algae.

28. **(d)** Androecium, the stamens of a flower collectively, united by the filaments into three or more sets or bundles, having stamens joined by their filaments into a number of clusters origin of polyadelphous from classical Greek polyadelphous.

29. **(d)** Four

30. **(b)** Asthma may be attributed to allergic reaction of the mast cells in the lungs.

31. **(c)** Free-central placentation is found in dianthus.

32. **(c)** Cortex is the region found between epidermis and stele.

33. **(c)** The Avena curvature is used for bioassay of IAA.

34. **(d)** Mesosome

35. **(a)** Bacterium

36. **(b)** The genetic material inside a bacterial cell is present as a nucleoid.

37. **(a)** The crossing over in meiosis occurs during prophase l.

38. **(b)** In meiosis, the sister chromatids separate from the centrometre during anaphase II.

39. **(a)** Best material for the study of mitosis is root tip.

40. **(c)** LH and FSH decrease gradually during the follicular phase.

41. **(b)** Metaphase cell cycle stage are suitable condensed chromosomes found so that their morphology can be studied.

42. **(d)** Single-stranded

43. **(c)** In the cell cycle, the separation of sister chromatids begins during the anaphase.

44. **(c)** An autoimmune disease is a condition in which your immune system mistakenly attacks your body.

45. **(a)** In potato, banana and ginger, the plantlets arise from the internodes present in the modified stem.

46. **(d)** Proximal convoluted tubule is the part of nephron. involved in active reabsorption of sodium.

47. **(b)** A-2, B-3, C-4, D-1

48. **(d)** No sperm occurs in epididymis

49. **(d)** Vesectomy → Prevents spermatogenesis

50. **(c)** Rete testis → Efferent ductules → Epididymis → Vas deferens

51. **(d)** A-3, B-4, C-1, D-2

52. **(d)** Several hormones like hCG, hPL, oestrogen, progesterone are produced by placenta.

53. **(c)** 0

54. **(d)** Antivenom injection contains preformed antibodies while polio drops that are administered into the body contain attenuated pathogens.

55. **(d)** 2pq

56. **(a)** Pitcher of *Nepenthes*

57. **(a) (**II, III, I, IV)
II. Synthesis of organic monomers
III. Synthesis of organic polymers
I. Formation of protobionts
IV. Formation of DNA-based genetic systems

58. **(a)** It should be unstable structurally and chemically

59. **(c)** DNA-dependent RNA polymerase catalyses transcription on one strand of the DNA which is called the template strand.

60. **(c)** *Sequoia* is one of the tallest trees.

61. **(d)** HIV is enveloped virus that contains two identical molecules of single-stranded RNA and two molecules of reverse transcriptase.

62. **(b)** Mackerel edible fishes, which one is a marine fish having rich source of omega-3 fatty acids.

63. **(d)** A-3, B-1, C-4, D-2

64. **(a)**

Tissue	**Location**
Smooth muscle	Wall of intestine

65. **(d)** The principle of competitive exclusion was stated by G.F. Gause.

66. **(a)** Cartilaginous endoskeleton → Chondrichthyes

67. **(b)** Mortality of fish due to lack of oxygen.

68. **(c)** Both: The earliest organisms that appeared on the Earth were non-green and presumable anaerobes. And the first autotrophic organisms were the chemoautotrophs that never released oxygen are correct.

69. **(c)** Cholera and tetanus are caused by bacteria.

70. **(c)** A-3, B-1, C-4, D-2

71. **(d)** All cyclostomes do not possess jaws and paired fins.

72. **(a)** (a and d)
(a) Definition of biological species was given by Ernst Mayr
(d) In unicellular organisms, reproduction is synonymous with growth.

73. **(a)** When N/K is exactly one.

74. **(c)** Involuntary, fusiform, non-striated are smooth muscle.

75. **(b)** Oxidative phosphorylation is formation of ATP by energy released from electrons removed during substrate oxidation.

76. **(b)** Ester bonds is the least likely to be involved in stabilising the three-dimensional folding of most proteins.

77. **(a)** Presence of ribosomes

78. **(c)** G_1/S

79. **(c)** A-3, B-4, C-2, D-1

80. **(a)** Biological names can be written in any language

81. **(b)** Sterile and degenerated sex organs

82. **(b)** Both processes can happen together because the diffusion coefficient of water and CO_2 is different.

83. **(a)** The enzyme used for this purpose is restriction endonuclease During genetic manipulation, the desired gene is inserted into the vector by cutting the vector at specific sites for gene insertion.

84. **(c)** *Agrobacterium* is used in the genetic engineering of plants.

85. **(a)** If the amount of DNA sample isolated is low, then PCR technique is used for the amplification of DNA.

86. **(d)**

Microbe	Product	Application
Clostridium butylicum	Lipase	Removal of oil stains

87. **(d)** It can increase the population of beneficial insects on the field.

88. **(c)** Sheep

89. **(a)** Recombinant DNA technology

90. **(a)** Malaria

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