UNIVERSITY OF LUCKNOW

D.Pharm Entrance Examination

Biology Group — Model Test Paper Set 8

Total Questions: 100 | Section A: Chemistry & Physics (50) + Section B: Biology (50)

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SECTION A — Chemistry & Physics [50]

Chemistry

1. Compounds that inhibit the action of compounds :

(a) Narcotic drug (b) Antipyritics

(c) Antihistamines (d) Analgesics

Answer: (c) Antihistamines

2. Which of the following is an antacid?

(a) Novwstrol (b) Omeprazone

(c) Cimetidine (d) Both Cimetidine & Omeprazole

Answer: (d) Both Cimetidine & Omeprazole

3. Which of the following is a tranquilizer?

(a) Rantac (b) Oxytocin

(c) Valium (d) Amoxycilin

Answer: (c) Valium

4. Drugs that inhibit the growth of bacteria and kill bacterial, respectively, are called : oJeeSb pees peerJeeCegDeeW :

(a) Both are called Bacteriostatic (b) Bactericidal, Bacteriostatic

(c) Bacteriostatic, Bactericidal (d) Both are called Bactericidal

Answer: (c) Bacteriostatic, Bactericidal

5. Isoniazid is an : DeeFmeesefve :

(a) Antipyretic (b) Anti-TB drug

(c) Antihistamine (d) Analgesic

Answer: (b) Anti-TB drug

6. Tetracycline are a type :

(a) Analgesics (b) Antibiotics

(c) Antihistamines (d) Antipyretics

Answer: (b) Antibiotics

7. Which of the following options represents the correct order of boiling points ?

(a) Propane < 1, 2, propanediol < diethyl ether (b) Propane

(c) Propane > diethyl ether > 1, 2, propanediol (d) Propane < diethyl ether < 1, 2, propanediol

Answer: (d) Propane < diethyl ether < 1, 2, propanediol

8. Dow's process is used for the preparation of : efvecveefueefKele ceW mes efke :

(a) Ethers (b) Alkyl halides

(c) Alcohols (d) Phenol

Answer: (d) Phenol

9. The Pka value is highest for: efke :

(a) Ethanol (b) Both Etnanol & Phenol

(c) Phenol (d) Acetic acid

Answer: (a) Ethanol

10. Which of the following does not react with K Cr O ?

(a) All alcohol (b) Primary alcohol

(c) Secondary alcohol (d) Tertiary alcohol

Answer: (d) Tertiary alcohol

11. Haloalkanes cannot be prepared by : nwueesSukes :

(a) Electrophilic substitution (b) Nucleophilic substitution

(c) U.V light (d) Electrophilic addition

Answer: (a) Electrophilic substitution

12. Which of the following participates fast in SN2 mechanism?

(a) R-Br (b) R-F

(c) R-I (d) R-Cl

Answer: (c) R-I

13. Which ligand is used in elimination of harmful radioactive metals from the body?

(a) NCS (b) EDTA

(c) Cl (d) CN

Answer: (b) EDTA

14. Which d-block elements has highest oxidation state?

(a) Os (b) Nb

(c) Pd (d) Mn

Answer: (a) Os

15. while, Mn exhibits highest range of oxidation states from + 2 to +7. 150. Mn-Cu alloys indicate_____

(a) ferromagnetic (b) antiferromagnetic

(c) paramagnetic (d) diamagnetic

Answer: (a) ferromagnetic

16. Which of the following is the correct order of magnitude :

(a) [Co(CN)]3 > [Co(NH)]3+>[Co(H O)]3+ 6 3 6 2 (b) [Co(CN)]3

(c) [Co(NH)]3+ > [Co(H O)]3+ > [Co(CN)]3 (d) [Co(H O)]3+ > [Co(NH)]3+ > [Co(CN)]3

Answer: (d) [Co(H O)]3+ > [Co(NH)]3+ > [Co(CN)]3

17. Stregth of ligand :

(a) 5f-block elements (b) II A group elements

(c) 4f-block elements (d) 4d-block elements

Answer: (c) 4f-block elements

18. Which of the following is the correct decreasing order of complex formation with ligand?

(a) Ln2+ > Ln3+ > Ln4+ (b) Ln4+ > Ln3+ > Ln2+

(c) Ln3+ > Ln2+ > Ln4+ (d) Ln3+ > Ln4+ > Ln2+

Answer: (b) Ln4+ > Ln3+ > Ln2+

19. Which option represents the correct order of stability?

(a) ICl > ClF > BrF > IF (b) IF > BrF > ClF > ICl

(c) None of these options (d) ClF > BrF > IF > ICl

Answer: (b) IF > BrF > ClF > ICl

20. What is the shape of IF +?

(a) Bent (b) Tetrahedral

(c) Square planar (d) Sea-saw

Answer: (d) Sea-saw

21. Which option represents correct arrangement per metallic character of given elements?

(a) B < Tl < In < Ga (b) Tl < Ba < In < B

(c) B < Ga < In < Tl (d) Tl < In < Ga < B

Answer: (c) B < Ga < In < Tl

22. Which oxides react with B O to form 2 3 metaborates?

(a) Basic oxides (b) Acidic oxides

(c) Salts (d) Both Acidic oxides & Basic oxides

Answer: (a) Basic oxides

23. The element Si is obtained by reducing SiO 2 with : SiO :

(a) Coke (b) Graphite

(c) Preons (d) Diamond

Answer: (a) Coke

24. Calcium carbonate is strongly heated to form : :

(a) Calcium (b) Calcium oxide

(c) Sodium oxide (d) Sodium carbonate

Answer: (b) Calcium oxide

25. Which of the following is a low spin square planar complex ?

(a) [Pt(NH)]2+ (b) All of the options 3

(c) [PdCl]2 (d) [Ni(CN)]2

Answer: (b) All of the options 3

Physics

26. With the increases of temperature, the fluidity of liquids ?

(a) Increases (b) Decreases

(c) No effect (d) Remains constant

Answer: (a) Increases

27. A circular coil of radius 'r' carries a current and the magnetic field at its centre is 'B'. At what distance from the centre on the axis of coil, the magnetic field will be B/8?

(a) 2r (b) r

(c) 8r (d) 3r

Answer: (d) 3r

28. Which of the following is not a source of electric field?

(a) Static charge (b) Current

(c) Capacitor (d) Changing magnetic field

Answer: (b) Current

29. A 500-watt heating unit is designed to operate on 115-volt line. If the line voltage drops to 110-volt line, the percentage drop in heat output will be :

(a) 7.6% (b) 8.5%

(c) 10.2% (d) 8.1%

Answer: (b) 8.5%

30. Equivalent resistance between points A and B in adjoining circuit is :

(a) 13 (b) 7

(c) 12 (d) 5

Answer: (d) 5

31. Kirchhoff's Laws are applicable to ?

(a) AC only (b) AC and DC both

(c) None of the above (d) DC only

Answer: (b) AC and DC both

32. In He-Ne laser, population inversion is achieved in ?

(a) Both the atoms (b) Ne atoms

(c) He atoms (d) none of these atoms

Answer: (b) Ne atoms

33. Working of Laser is based on ?

(a) None of the above (b) Spontaneous emission of radiation

(c) Stimulated emission of radiation (d) Stimulated absorption of radiation

Answer: (c) Stimulated emission of radiation

34. A soap film appears colored in white light because of:

(a) dispersion (b) diffraction

(c) reflection (d) interference

Answer: (d) interference

35. Water rises to height of 4.0 cm in a capillary tube. If the capillary tube is titled such that it make an angle of 30° with the horizontal, to that light water will rise?

(a) 2.0 cm (b) 4.0 cm

(c) 6.0 cm (d) 8.0 cm

Answer: (d) 8.0 cm

36. That transport phenomenon, which causes viscosity in medium, is :

(a) Transportation of energy (b) Transportation of angular momentum

(c) Transportation of momentum (d) Transportation of particle

Answer: (c) Transportation of momentum

37. A satellite is revolving round the earth at a height of 600 km from the surface of earth. The speed of the satellite if (Radius of the earth = 6×1024 6400 km, mass of the earth : kg. 6.67×10−11 N-m^2/kg^2) G = ?

(a) 4.92 km/s (b) 11.00 km/s

(c) 9.00 km/s (d) 7.60 km/s

Answer: (d) 7.60 km/s

38. The law of gravitation gives the gravitational force between :

(a) the earth and a point mass only (b) the earth and the sun only

(c) any two charged bodies only (d) any two bodies having some mass

Answer: (d) any two bodies having some mass

39. Formula Volt × Charge/Time (V×Q/T) can be equivalent to :

(a) Acceleration (b) Power

(c) Velocity (d) Work done

Answer: (b) Power

40. The ratio of the largest and the shortest wavelengths of Lyman series for H-atoms is approximately ?

(a) 16:7 (b) 9:5
(c) 9:4 (d) 4:3
Answer: (d) 4:3

41. The value of in the ψ (r, θ, φ) state of a 100 r hydrogen atom is (a is Bohr radius). 0 ?
(a) 0 a 0 (b) 2a
(c) 0 (d) a
Answer: (a) 0 a 0

42. The packing fraction of Body Centred Cubic Structure (BCC) is ?
(a) 0.84 (b) 0.34
(c) 0.72 (d) 0.68
Answer: (d) 0.68

43. The Maxwell's field equation ∇×B=μ J 0 represents ?
(a) Ampere's Law (b) Lenz's Law
(c) Faraday's Law (d) Gauss's Law
Answer: (a) Ampere's Law

44. The sign of charge carriers can be determined by utilizing ?
(a) Piezolectric effect (b) Hall effect
(c) Meissner effect (d) Mossbauer effect
Answer: (b) Hall effect

45. If a current is allowed to pass through a circuit consisting of two dissimilar metals, there is either an evolution or absorption of heat at the junctions depending upon the direction of the current. The effect is known as ?
(a) Seebeck effect (b) Peltier effect
(c) Thomson effect (d) Joule's effect
Answer: (b) Peltier effect

46. Two tuning forks when sounded simultaneously give one beat each in 0.25 s. The difference of their frequencies is:
(a) 2 (b) 6
(c) 8 (d) 4
Answer: (d) 4

47. A rod of length is clamped at both ends as well as at the middle point. The lowest possible frequency of vibration (velocity of sound = v) is:
(a) 2v/l (b) v/2l
(c) v/4l (d) v/l
Answer: (d) v/l

48. Which one of the following instruments work on the principle of damped oscillation?
(a) Voltmeter (b) Ammeter
(c) Helmhotz galvanometer (d) Ballistic galvanometer
Answer: (d) Ballistic galvanometer

49. When a monochrome light passes from vacuum to a material and vice-versa, which of the following characteristics of the light beam does not change ?
(a) intensity (b) wavelength
(c) velocity (d) frequency

Answer: (d) frequency

50. A straight tunnel is bored through to centre of the earth. A body of mass 5 gm is dropped into it. Its motion will be:

(a) Forced motion (b) Damped motion

(c) Simple harmonic motion (d) Free motion

Answer: (c) Simple harmonic motion

SECTION B — Biology [50]

Zoology

51. An oviparous animal is ?

(a) Petromyzon (b) Pigeon

(c) Hemichordata (d) Aves

Answer: (b) Pigeon

52. Limbless amphibian is ?

(a) Testudo (b) Cartilage

(c) Connective (d) Ichthyophis

Answer: (d) Ichthyophis

53. Identify the aquatic mammals from the following is ?

(a) Great white Shark (b) Ornithorhynchus

(c) Balaenoptera, Delphinus (d) Hemichordata

Answer: (c) Balaenoptera, Delphinus

54. In presence of bone air cavity filled with air of birds is ?

(a) Reduce body weight (b) Calcium phosphate

(c) Pavo, Psittacula, Corvus (d) Great white Shark

Answer: (a) Reduce body weight

55. Crocodile and penguin are similar to whale and dog fish feature ?

(a) Mesodermal and ventral to nerve cord (b) Beak is absent in them

(c) Have gill slits at some stage (d) Inner wall of blood vessels

Answer: (c) Have gill slits at some stage

56. Post anal tail occurs in ?

(a) Brush-bordered (b) Hemichordata Chordata

(c) Chordates (d) Chondrocytes

Answer: (c) Chordates

57. Subphyla Urochordata and Cephalochordata are often referred to as ?

(a) Limulus (b) Protochordates

(c) Muscles (d) Struthio

Answer: (b) Protochordates

58. An egg-laying mammal is ?

(a) Amphibians (b) Areolar tissue

(c) Ornithorhynchus (d) Protochordates

Answer: (c) Ornithorhynchus

59. Ear pinna is found in ?

(a) Mammals (b) Hormone

(c) Gap junctions (d) Ornithorhynchus

Answer: (a) Mammals

60. The body is devoid of scales and paired fins in ?

(a) Brush-bordered (b) Cyclostomata

(c) Areolar tissue (d) Chordates

Answer: (b) Cyclostomata

61. Exoskeleton, a characteristic feature of reptilia, is absents in ?

(a) Protochordates (b) Calcium phosphate

(c) Energy reservoir (d) Amphibians

Answer: (d) Amphibians

62. Adipose tissue belong ?

(a) Epithelium tissue (b) Squamous

(c) Connective (d) Areolar tissue

Answer: (c) Connective

63. Mast cell secret is ?

(a) Loose connective tissue (b) Non-nucleated, biconcave and circular

(c) Balaenoptera, Delphinus (d) Vaso Constrictors (Serotonin)

Answer: (d) Vaso Constrictors (Serotonin)

64. Salt predominates in bone matrix is ?

(a) Calcium phosphate (b) Amphibians

(c) Connective (d) Multicellular

Answer: (a) Calcium phosphate

65. RBCs of mammals are ?

(a) Ascidia, Salpa and Doliolum (b) Kangaroo, Dolphin, lorises and hedgehog

(c) Non-nucleated, biconcave and circular (d) Reptiles, birds and insects

Answer: (c) Non-nucleated, biconcave and circular

66. Mast cells found in ?

(a) Limulus (b) Smooth muscles

(c) Warm blooded (d) Areolar tissue

Answer: (d) Areolar tissue

67. Exoskeleton originated from (e.g. nail, horn) is ?

(a) Epithelium tissue (b) Multicellular

(c) Gills, Lungs, Skin (d) Energy reservoir

Answer: (a) Epithelium tissue

68. The cells lining the blood vessels belong to the category of ?

(a) Squamous epthelium (b) Epithelial tissues

(c) Reduce body weight (d) Smooth muscles

Answer: (a) Squamous epthelium

69. Epithelium forms the inner lining of lung alveoli, blood vessels and peritoneum of body cavity is ?

(a) Squamous (b) Chondrocytes

(c) Gap junctions (d) Glandular epithelium

Answer: (a) Squamous

70. Brush bordered cuboidal epithelium is present in the ?

(a) Squamous epthelium (b) Great white Shark
(c) Proximal convoluted tubule (d) Glandular epithelium
Answer: (c) Proximal convoluted tubule

71. The epithelium found in the lining layer of stomach and intestine is ?
(a) Columnar (b) Hormone
(c) Protochordates (d) Epithelium tissue
Answer: (a) Columnar

72. Fibres are absent in ?
(a) Gap junctions (b) Columnar
(c) Cardiac muscle (d) Blood
Answer: (d) Blood

73. Smooth muscles are ?
(a) Proximal convoluted tubule (b) Dorsal tubular nerve cord
(c) Involuntary, fusiform, non-striated (d) Specialized connective tissue
Answer: (c) Involuntary, fusiform, non-striated

74. Cuboidal epithelium with brush border of microvilli is found in ?
(a) Dorsal tubular nerve cord (b) Proximal convoluted tubule of nephron
(c) Have gill slits at some stage (d) Kangaroo, Dolphin, lorises and hedgehog
Answer: (b) Proximal convoluted tubule of nephron

75. Categories does adipose tissue belong ?
(a) Areolar tissue (b) Bones
(c) Connective (d) Smooth muscles
Answer: (c) Connective

Botany

76. Lens-like shaped structures of cork helps in gaseous exchange are ?
(a) Lenticels (b) Primary root
(c) Carrot (d) Heart wood
Answer: (a) Lenticels

77. Cork is also known as ?
(a) Phellem (b) Phellogen
(c) Stem (d) Meristems
Answer: (a) Phellem

78. For lenticels, one should observe is ?
(a) Old woody stem (b) Sap wood only
(c) Heart wood (d) Sweet potato
Answer: (a) Old woody stem

79. Responsible for formation of annual rings is ?
(a) Differential activity of vascular cambium (b) Region of cell elongation
(c) Having dead and non-conducting elements (d) Root tip and shoot tip
Answer: (a) Differential activity of vascular cambium

80. Annual ring is formed by ?
(a) Differential activity of vascular cambium (b) Suberised, impermeable to water
(c) Early wood + late wood (d) Phellem, Phelloderm, Secondary cortex

Answer: (c) Early wood + late wood

81. Cambium is generally more active on ?

(a) Bundle sheath cells (b) Strawberry

(c) Inner side (d) Phellem

Answer: (c) Inner side

82. Annual rings are formed basically due to ?

(a) Marked variations in seasons (b) Bundle sheath cells

(c) Region of maturation (d) Region of elongation

Answer: (a) Marked variations in seasons

83. The pairs of parts, a flowering plant is epidermis absent ?

(a) Region of cell elongation (b) Marked variations in seasons

(c) Early wood + late wood (d) Root tip and shoot tip

Answer: (d) Root tip and shoot tip

84. Large, empty colourless cells of the adaxial epidermis along the veins of grass leaves are ?

(a) Heart wood (b) Bulliform cells

(c) Interfasicular cambium (d) Pneumatophores

Answer: (b) Bulliform cells

85. Primary root is short lived and new root originated from base of the stem ?

(a) Stilt roots (b) Wheat root

(c) Outer side (d) Meristems

Answer: (b) Wheat root

86. The supporting roots coming out of lower nodes is maize stem are ?

(a) Suberin Secondary Growth (b) Vascular cambium

(c) Adventitious root (d) Stilt roots

Answer: (d) Stilt roots

87. Very fine, delicate, unicellular, thread like structures developed from the zone of root that is proximal to ?

(a) Size of veins (b) Region of cell elongation

(c) Narrow band of parenchyma (d) Suberin Secondary Growth

Answer: (b) Region of cell elongation

88. Cuscuta, Viscum and Orobanche are similar in having ?

(a) Interfasicular cambium (b) Heart wood

(c) Haustorial roots (d) Adventitious root

Answer: (c) Haustorial roots

89. Primary root is the direct elongation of the ?

(a) Monocot stem (b) Radicle

(c) Heart wood (d) Cambium

Answer: (b) Radicle

90. The type of roots present in mustard plant is ?

(a) Fibrous (b) Tap roots

(c) Axillary bud (d) Wheat root

Answer: (b) Tap roots

91. In wheat plant ____ root system is present ?

(a) Sweet potato (b) Adventitious roots

(c) Fibrous (d) Carrot

Answer: (c) Fibrous

92. A root grows in length, _____ of the root is responsible for this growth ?

(a) Secondary xylem (b) Old woody stem

(c) Adventitious roots (d) Region of elongation

Answer: (d) Region of elongation

93. The tap roots of _____ gets modified to store food is ?

(a) Carrot (b) Opuntia

(c) Prop roots (d) Stem

Answer: (a) Carrot

94. Adventitious roots of ____ get swollen and store food is ?

(a) Wheat plant (b) Sweet potato

(c) Meristems (d) Secondary xylem

Answer: (b) Sweet potato

95. Supporting roots coming out of the lower nodes of the sugarcane stem are called ?

(a) Citrus, Bougainvillea (b) Wheat plant

(c) Stilt roots (d) Providing support

Answer: (c) Stilt roots

96. In Rhizophora, roots are modified to form ?

(a) Interfasicular cambium (b) Vascular cambium

(c) Pneumatophores (d) Phellogen

Answer: (c) Pneumatophores

97. Roots play insignificant role in absorption of water in is ?

(a) Pistia (b) Lenticels

(c) Alstonia (d) Fibrous

Answer: (a) Pistia

98. Sweet potato is a modified ?

(a) Interfasicular cambium (b) Adventitious root

(c) Providing support (d) Prop roots

Answer: (b) Adventitious root

99. Roots developed from parts of the plant other than radicle are called ?

(a) Pneumatophores (b) Adventitious roots

(c) Stilt roots (d) Lenticels

Answer: (b) Adventitious roots

100. Edible roots are found in ?

(a) Turnip, Carrot, Asparagus (b) Sweet potato

(c) Grass and strawberry (d) Strawberry

Answer: (b) Sweet potato