NEET (UG)

Sample Question Paper - 3

Full Mock Test | 200 Questions | Time: 3 Hours | Max. Marks: 720

Important Instructions:

1. There are 200 questions. Attempt only 180 questions. Each question carries 4 marks.
2. For each correct response: +4 marks. For each incorrect response: -1 mark. Unattempted: 0 marks.
3. Section A has 35 questions (compulsory). Section B has 15 questions (attempt only 10).
4. Maximum marks: 720. Use Blue/Black ballpoint pen only.

PHYSICS

SECTION A

Q.1. Ohm's law is valid for:

(A) Metallic conductors at constant temperature
(B) All conductors
(C) Semiconductors
(D) Electrolytes only

Q.2. The dimensional formula of surface tension is:

(A) [MT^-2]
(B) [MLT^-2]
(C) [ML^2T^-2]
(D) [ML^-1T^-2]

Q.3. Two equal masses m are connected by a spring. Natural frequency is:

(A) (1/2pi)*sqrt(2k/m)
(B) (1/2pi)*sqrt(k/m)
(C) (1/2pi)*sqrt(k/2m)
(D) (1/pi)*sqrt(k/m)

Q.4. Image formed by a plane mirror is:

(A) Virtual, erect, same size
(B) Real, inverted
(C) Virtual, inverted
(D) Real, erect

Q.5. The work function of a metal is the minimum energy needed to:

(A) Remove an electron from metal surface
(B) Add an electron
(C) Ionize the atom
(D) Excite an electron

Q.6. A photon of energy 4 eV strikes a metal of work function 2.5 eV. Max KE of photoelectron is:

(A) 1.5 eV

(B) 6.5 eV
(C) 4 eV
(D) 0.5 eV

Q.7. The velocity-time graph of uniform acceleration is:

(A) Straight line with positive slope
(B) Horizontal line
(C) Parabola
(D) Vertical line

Q.8. A body of 2 kg dropped from 10 m height. KE just before hitting ground (g=10):

(A) 200 J
(B) 20 J
(C) 100 J
(D) 400 J

Q.9. Displacement in SHM at mean position is:

(A) Zero
(B) Maximum
(C) Equal to amplitude
(D) Infinite

Q.10. The principle of superposition applies to:

(A) Linear systems (waves)
(B) Non-linear systems
(C) Mechanical waves only
(D) EM waves only

Q.11. The self-inductance of a coil depends on:

(A) Number of turns and geometry of coil
(B) Current only
(C) Voltage only
(D) Resistance

Q.12. Power factor of a purely inductive circuit is:

(A) Zero
(B) One
(C) 0.5
(D) 0.707

Q.13. Two charges of +q and -q separated by 2a form a dipole. Dipole moment is:

(A) 2qa
(B) qa
(C) q/2a
(D) 4qa

Q.14. The shape of field lines near a negative charge is:

(A) Radially inward

(B) Radially outward
(C) Circular
(D) Parabolic

Q.15. Half life of a radioactive element is 5 days. After 15 days fraction remaining is:

(A) 1/8
(B) 1/4
(C) 1/16
(D) 1/2

Q.16. An object of mass 1 kg moving at 10 m/s collides elastically with a stationary mass of 1 kg. Final velocity of first body:

(A) 0
(B) 10 m/s
(C) 5 m/s
(D) 20 m/s

Q.17. The modulus of elasticity has units:

(A) N/m^2 (Pa)
(B) N.m
(C) N/m
(D) N.m^2

Q.18. A body projected vertically upward reaches max height in:

(A) v/g seconds
(B) 2v/g seconds
(C) v/2g seconds
(D) g/v seconds

Q.19. Magnetic flux through a coil of N turns is:

(A) N times flux through one turn
(B) Same as one turn
(C) N^2 times
(D) 1/N times

Q.20. The spectral line series in hydrogen for transitions to n=2 is:

(A) Balmer series
(B) Lyman series
(C) Paschen series
(D) Brackett series

Q.21. In p-type semiconductor, majority carriers are:

(A) Holes
(B) Electrons
(C) Protons
(D) Neutrons

Q.22. Specific heat capacity of an ideal gas at constant pressure Cp is related to Cv by:

(A) Cp - Cv = R

(B) Cp + Cv = R

(C) Cp = Cv

(D) Cp/Cv = R

Q.23. A standing wave has nodes that are:

(A) Points of zero displacement

(B) Points of maximum displacement

(C) Moving points

(D) Antinodes

Q.24. When a bus suddenly stops, passengers are thrown forward due to:

(A) Inertia of motion

(B) Inertia of rest

(C) Gravity

(D) Friction

Q.25. The pressure at depth h in a liquid of density rho is:

(A) rho*g*h (gauge pressure)

(B) rho*g

(C) rho*h

(D) g*h

Q.26. X-ray diffraction is used to determine:

(A) Crystal structure

(B) Atomic mass

(C) Electron configuration

(D) Nuclear structure

Q.27. For a full wave rectifier, ripple frequency is:

(A) 2f

(B) f

(C) f/2

(D) 4f

Q.28. At what angle must a projectile be thrown to have equal range and max height?

(A) 76 degrees (approximately)

(B) 45 degrees

(C) 60 degrees

(D) 30 degrees

Q.29. Seebeck effect is related to:

(A) Thermoelectric effect

(B) Piezoelectric effect

(C) Photoelectric effect

(D) Magnetic effect

Q.30. The mass of a neutron is approximately:

(A) 1.675 x 10^-27 kg

(B) 9.11 x 10^-31 kg
(C) 1.67 x 10^-27 kg (proton)
(D) 0

Q.31. Principle of conservation of linear momentum applies when:

(A) No external force acts
(B) Friction is absent
(C) Only internal forces act
(D) Both a and c

Q.32. Radioactive carbon-14 is used for:

(A) Dating archaeological samples
(B) Treating cancer
(C) Nuclear reactors
(D) Food preservation

Q.33. The quantum number that determines the shape of an orbital is:

(A) Azimuthal (l)
(B) Principal (n)
(C) Magnetic (m)
(D) Spin (s)

Q.34. A body weighs 60 N on Earth. On moon (g_moon = g/6) it weighs:

(A) 10 N
(B) 360 N
(C) 60 N
(D) 6 N

Q.35. The phenomenon of total internal reflection is used in:

(A) Optical fibres
(B) Microscopes
(C) X-ray machines
(D) Radio telescopes

SECTION B

Q.36. A photovoltaic cell converts:

(A) Light to electrical energy
(B) Electrical to light energy
(C) Heat to electricity
(D) Chemical to electrical

Q.37. The efficiency of Carnot engine with source at 500 K and sink at 300 K is:

(A) 40%
(B) 60%
(C) 30%
(D) 50%

Q.38. A particle has charge q and mass m. In electric field E, its acceleration is:

(A) qE/m
(B) qm/E
(C) E/qm
(D) qE*m

Q.39. Nuclear binding energy per nucleon is maximum for:

(A) Iron-56
(B) Hydrogen
(C) Uranium-238
(D) Helium-4

Q.40. The capacity of a parallel plate capacitor increases when:

(A) A dielectric is inserted
(B) Distance between plates increases
(C) Plate area decreases
(D) Voltage decreases

Q.41. Sound travels fastest in:

(A) Solids
(B) Liquids
(C) Gases
(D) Vacuum

Q.42. Work done by a force F over displacement s at angle theta is:

(A) F*s*cos(theta)
(B) F*s*sin(theta)
(C) F*s
(D) F*s*tan(theta)

Q.43. The induced emf in a coil is given by Faraday's law as:

(A) e = -N*d(phi)/dt
(B) e = N*d(phi)/dt
(C) e = d(phi)/dt
(D) e = -d(phi)/dt

Q.44. In a diffraction grating, the condition for principal maxima is:

(A) d*sin(theta) = n*lambda
(B) d*sin(theta) = (2n+1)*lambda/2
(C) d*cos(theta) = n*lambda
(D) d = n*lambda

Q.45. A body of moment of inertia I rotating with angular velocity omega has KE:

(A) (1/2)*I*omega^2
(B) I*omega^2
(C) I*omega
(D) (1/2)*I*omega

Q.46. The threshold frequency in photoelectric effect:

(A) Minimum frequency to eject electrons
(B) Maximum frequency
(C) Frequency at which intensity is max
(D) None

Q.47. The drift velocity of electrons in a conductor is of order:

(A) 10^-3 m/s
(B) 10^6 m/s
(C) 10^8 m/s
(D) 10^-8 m/s

Q.48. Biot-Savart law gives magnetic field due to:

(A) Current element
(B) Static charge
(C) Magnetic pole
(D) Moving charge only

Q.49. The coefficient of friction between surfaces depends on:

(A) Nature of surfaces in contact
(B) Normal force
(C) Area of contact
(D) Velocity

Q.50. In Compton effect, scattered X-ray has:

(A) Higher wavelength than incident
(B) Lower wavelength
(C) Same wavelength
(D) Lower frequency

CHEMISTRY

SECTION A

Q.51. The number of moles in 44 g of CO_2 is:

(A) 1
(B) 2
(C) 0.5
(D) 4

Q.52. Which element has the highest electronegativity?

(A) F
(B) O
(C) Cl
(D) N

Q.53. The van't Hoff equation for osmotic pressure is:

(A) pi = MRT
(B) pi = M/RT

(C) pi = RT/M

(D) pi = MR/T

Q.54. The shape of PCl5 molecule is:

(A) Trigonal bipyramidal

(B) Octahedral

(C) Tetrahedral

(D) Square pyramidal

Q.55. Which of the following is an electrophile?

(A) Br+ (bromonium)

(B) NH3

(C) H2O

(D) OH-

Q.56. The gas law relating pressure and volume at constant temperature is:

(A) Boyle's law

(B) Charles' law

(C) Gay-Lussac's law

(D) Avogadro's law

Q.57. Amino acids are joined by:

(A) Peptide bonds

(B) Ester bonds

(C) Glycosidic bonds

(D) Hydrogen bonds

Q.58. The half-life of a first order reaction is:

(A) 0.693/k

(B) k/0.693

(C) k*0.693

(D) 1/k

Q.59. Neon belongs to which period?

(A) Period 2

(B) Period 3

(C) Period 1

(D) Period 4

Q.60. The product of SN2 reaction has:

(A) Inversion of configuration

(B) Retention of configuration

(C) Racemisation

(D) No change

Q.61. Oleum is:

(A) H2SO4 + SO3

(B) H2SO4 + SO2

(C) $H_2SO_4 + H_2O$

(D) $H_2SO_4 + HCl$

Q.62. The first law of thermodynamics states:

(A) $dU = dQ - dW$ (energy conservation)

(B) Entropy always increases

(C) Heat flows from hot to cold

(D) None

Q.63. Kjeldahl method is used to estimate:

(A) Nitrogen in organic compounds

(B) Carbon

(C) Hydrogen

(D) Sulfur

Q.64. Which of the following is aromatic?

(A) Benzene

(B) Cyclohexane

(C) Cyclohexadiene

(D) Cyclopentadiene

Q.65. Cryoscopic constant depends on:

(A) Nature of solvent only

(B) Nature of solute

(C) Concentration

(D) Temperature

Q.66. The dissociation of weak acid HA has equilibrium constant:

(A) $Ka = [H^+][A^-]/[HA]$

(B) $Ka = [HA]/[H^+][A^-]$

(C) $Ka = [H^+]/[HA]$

(D) $Ka = [A^-]/[HA]$

Q.67. Which of these is NOT a thermoplastic?

(A) Bakelite

(B) Polythene

(C) PVC

(D) Nylon

Q.68. The Wittig reaction converts a carbonyl compound to:

(A) Alkene

(B) Alkane

(C) Alkyne

(D) Aldehyde

Q.69. Kohlrausch law deals with:

(A) Molar conductance at infinite dilution

(B) Equivalent weight

(C) Viscosity
(D) Surface tension

Q.70. Which metal is extracted by thermite process?

(A) Cr
(B) Fe
(C) Cu
(D) Al

Q.71. Phenolphthalein is colourless in:

(A) Acidic medium
(B) Basic medium
(C) Neutral medium
(D) Both acidic and neutral

Q.72. The reagent used for detection of primary amine:

(A) Carbylamine test
(B) Fehling's test
(C) Benedict's test
(D) Ninhydrin test

Q.73. Diazomethane is used in:

(A) Methylation reactions
(B) Bromination
(C) Nitration
(D) Sulfonation

Q.74. The standard reduction potential of SHE is:

(A) 0 V
(B) 1 V
(C) -1 V
(D) 0.5 V

Q.75. Beer-Lambert law relates absorbance to:

(A) Concentration and path length
(B) Temperature
(C) Pressure
(D) Volume

Q.76. Which is the most stable carbocation?

(A) Tertiary
(B) Secondary
(C) Primary
(D) Methyl

Q.77. Catenation is the ability of an element to:

(A) Form bonds with its own atoms
(B) Form ionic bonds

(C) React with metals
(D) Oxidize other elements

Q.78. The hormone insulin is a:

(A) Polypeptide
(B) Steroid
(C) Lipid
(D) Carbohydrate

Q.79. Biodegradable polymer is:

(A) PHBV
(B) PVC
(C) Nylon-6,6
(D) Bakelite

Q.80. Which vitamin prevents scurvy?

(A) Vitamin C
(B) Vitamin D
(C) Vitamin B12
(D) Vitamin K

Q.81. Friedel-Crafts acylation gives:

(A) Aromatic ketone
(B) Aromatic aldehyde
(C) Aromatic ester
(D) Aromatic amine

Q.82. Nitrogen gas exists as:

(A) N2 (triple bond)
(B) N (monoatomic)
(C) N4 (tetraatomic)
(D) N3-

Q.83. The acidic character of oxides:

(A) Increases across a period
(B) Decreases across a period
(C) Remains constant
(D) Not related to period

Q.84. A galvanic cell converts:

(A) Chemical energy to electrical
(B) Electrical to chemical
(C) Heat to electrical
(D) Light to electrical

Q.85. The Tollens' reagent is:

(A) Ammoniacal AgNO3
(B) Fehling's solution

(C) Benedict's solution

(D) K2Cr2O7

SECTION B

Q.86. The IUPAC name of (CH3)3C-Br is:

(A) 2-bromo-2-methylpropane

(B) 1-bromo-2-methylpropane

(C) Tert-butyl bromide (common)

(D) Bromotrimethylmethane

Q.87. The Crystal field theory explains:

(A) Colour and magnetism of complexes

(B) Bonding only

(C) Geometry only

(D) Ionization energy

Q.88. Nucleotides are made of:

(A) Base + Sugar + Phosphate

(B) Base + Sugar

(C) Sugar + Phosphate

(D) Base + Phosphate

Q.89. DNA helix is:

(A) Right-handed B-form (Watson-Crick)

(B) Left-handed

(C) Z-form only

(D) A-form only

Q.90. The reaction of alkene with H2SO4 gives:

(A) Alkyl hydrogen sulfate (Markovnikov)

(B) Alkyl sulfide

(C) Alkane

(D) Alcohol directly

Q.91. Hess's law is based on:

(A) Conservation of energy

(B) Conservation of mass

(C) Conservation of momentum

(D) None

Q.92. Geometrical isomerism is possible in:

(A) Alkenes with different groups on each C of double bond

(B) Alkanes

(C) Alkynes

(D) Benzene

Q.93. The molecular formula of glucose is:

(A) C6H12O6

(B) C12H22O11
(C) C6H10O5
(D) C5H10O5

Q.94. Organometallic compound used in organic synthesis is:

(A) Grignard reagent (RMgX)
(B) NaCl
(C) HCl
(D) H2SO4

Q.95. Iodine is extracted from sea weeds by:

(A) Displacement with Cl2
(B) Electrolysis
(C) Roasting
(D) Reduction

Q.96. The basic structural unit of silicates is:

(A) SiO4^4- tetrahedron
(B) SiO2
(C) Si4+
(D) SiO3^2-

Q.97. Nessler's reagent is used for detection of:

(A) Ammonia
(B) CO2
(C) SO2
(D) H2S

Q.98. The reagent for detection of -CHO group in an aldehyde:

(A) 2,4-DNP (2,4-dinitrophenylhydrazine)
(B) Lucas reagent
(C) HCl
(D) NaOH

Q.99. Addition of HBr to propene gives:

(A) 2-bromopropane (Markovnikov)
(B) 1-bromopropane
(C) 1,2-dibromopropane
(D) Allyl bromide

Q.100. The law of octaves was proposed by:

(A) Newlands
(B) Mendeleev
(C) Dobereiner
(D) Moseley

BOTANY

SECTION A

Q.101. The process of forming mRNA from DNA is:

(A) Transcription
(B) Translation
(C) Replication
(D) Transduction

Q.102. Genes located on the same chromosome are called:

(A) Linked genes
(B) Alleles
(C) Dominant genes
(D) Recessive genes

Q.103. Plasmids are:

(A) Extrachromosomal circular DNA
(B) Chromosomal DNA
(C) RNA
(D) Linear DNA

Q.104. Thigmotropism is growth in response to:

(A) Touch
(B) Light
(C) Gravity
(D) Water

Q.105. Peroxisomes are involved in:

(A) Photorespiration
(B) Photosynthesis
(C) Glycolysis
(D) Fermentation

Q.106. The product of oogenesis is:

(A) 1 egg + 3 polar bodies
(B) 4 eggs
(C) 2 eggs
(D) 1 egg + 1 polar body

Q.107. Endosperm in angiosperms is:

(A) Triploid
(B) Diploid
(C) Haploid
(D) Tetraploid

Q.108. The process by which RNA is converted to protein is:

(A) Translation
(B) Transcription
(C) Replication
(D) Transposition

Q.109. Which organelle is absent in mature RBCs?

(A) All membranous organelles
(B) Ribosome
(C) Mitochondria
(D) Nucleus

Q.110. Photomorphogenesis is regulated by:

(A) Phytochrome
(B) Chlorophyll
(C) Carotene
(D) Xanthophyll

Q.111. The fluid mosaic model of membrane was proposed by:

(A) Singer and Nicolson
(B) Watson and Crick
(C) Khorana
(D) Meselson and Stahl

Q.112. Karyokinesis is division of:

(A) Nucleus
(B) Cytoplasm
(C) Cell wall
(D) Chloroplast

Q.113. Root nodules for N2 fixation are associated with:

(A) Rhizobium
(B) Azotobacter
(C) Nostoc
(D) Anabaena

Q.114. Which plant is used as a model organism in molecular biology?

(A) Arabidopsis thaliana
(B) Nicotiana tabacum
(C) Lycopersicon
(D) Pisum sativum

Q.115. The law of segregation was proposed by:

(A) Mendel
(B) Darwin
(C) De Vries
(D) Morgan

Q.116. Erythromycin is produced by:

(A) Streptomyces erythraeus
(B) Bacillus
(C) Penicillium
(D) Aspergillus

Q.117. The outer coat of virus is called:

(A) Capsid
(B) Envelope
(C) Cell wall
(D) Membrane

Q.118. Phytoremediation uses:

(A) Plants to remove pollutants
(B) Bacteria
(C) Fungi
(D) Worms

Q.119. Which plant does NOT have a root system?

(A) Monotropa (heterotroph)
(B) Maize
(C) Wheat
(D) Sunflower

Q.120. Apomixis is:

(A) Asexual seed formation without fertilization
(B) Sexual reproduction
(C) Vegetative propagation
(D) Spore formation

Q.121. Casparian strips are found in:

(A) Endodermis of roots
(B) Epidermis
(C) Cortex
(D) Pericycle

Q.122. Which hormone induces seed germination?

(A) Gibberellin
(B) ABA
(C) Cytokinin
(D) Auxin

Q.123. The site of ribosome biogenesis is:

(A) Nucleolus
(B) Golgi body
(C) Lysosome
(D) Vacuole

Q.124. Turgor pressure drives:

(A) Cell elongation
(B) Photosynthesis
(C) Respiration
(D) Protein synthesis

Q.125. Secondary metabolites in plants include:

(A) Alkaloids, tannins, resins
(B) Glucose, starch
(C) Proteins
(D) Nucleic acids

Q.126. Which pigment absorbs light for photosynthesis in algae?

(A) Phycoerythrin and phycocyanin
(B) Chlorophyll a only
(C) Carotene
(D) Xanthophyll

Q.127. Nodal meristem is responsible for:

(A) Axillary bud growth
(B) Root growth
(C) Leaf expansion
(D) Seed formation

Q.128. The conducting vessels of xylem are:

(A) Tracheids and vessels
(B) Sieve tubes
(C) Companion cells
(D) Phloem fibres

Q.129. Which stage of meiosis involves crossing over?

(A) Pachytene
(B) Leptotene
(C) Zygotene
(D) Diplotene

Q.130. BOD (Biological Oxygen Demand) measures:

(A) Organic pollution in water
(B) Air pollution
(C) Soil fertility
(D) Heavy metal contamination

Q.131. Antheridiophore and archegoniophore are structures found in:

(A) Marchantia (liverwort)
(B) Ferns
(C) Mosses
(D) Gymnosperms

Q.132. Tyndall effect is exhibited by:

(A) Colloidal solutions
(B) True solutions
(C) Suspensions
(D) Gases

Q.133. Mycorrhiza is:

(A) Symbiotic association of fungi with plant roots
(B) Parasitic fungi
(C) Free-living fungi
(D) Pathogenic fungi

Q.134. The pneumatophores are modified roots for:

(A) Breathing (in mangroves)
(B) Climbing
(C) Storage
(D) Reproduction

Q.135. Genetically Modified Organisms (GMOs) are produced by:

(A) Recombinant DNA technology
(B) Natural selection
(C) Hybridization
(D) Mutation

SECTION B

Q.136. Operon concept was proposed by:

(A) Jacob and Monod
(B) Watson and Crick
(C) Nirenberg
(D) Meselson

Q.137. In angiosperm, the integuments develop into:

(A) Seed coat (testa)
(B) Endosperm
(C) Cotyledon
(D) Embryo

Q.138. Golden rice is enriched with:

(A) Beta-carotene (Vitamin A precursor)
(B) Vitamin C
(C) Protein
(D) Iron only

Q.139. Biodiversity hotspot concept was proposed by:

(A) Norman Myers
(B) Wilson
(C) Darwin
(D) Odum

Q.140. ELISA technique is used for:

(A) Detection of antigen-antibody interaction
(B) DNA sequencing
(C) PCR
(D) Cloning

Q.141. Which enzyme joins Okazaki fragments during DNA replication?

(A) DNA ligase
(B) Helicase
(C) Primase
(D) Topoisomerase

Q.142. Transgenic Bt crops produce toxin that is effective against:

(A) Lepidopteran insects
(B) Bacteria
(C) Viruses
(D) Fungi

Q.143. Satellite DNA is used in:

(A) DNA fingerprinting
(B) Gene expression
(C) Protein synthesis
(D) Transcription

Q.144. Flow cytometry is used to:

(A) Analyze and sort cells
(B) Sequence DNA
(C) Clone genes
(D) Synthesize proteins

Q.145. The disease caused by prions is:

(A) Creutzfeldt-Jakob disease
(B) Rabies
(C) Polio
(D) Malaria

Q.146. Bioinformatics involves:

(A) Computational analysis of biological data
(B) Biochemistry
(C) Ecology
(D) Physiology

Q.147. Telomeres protect:

(A) Chromosome ends
(B) Gene promoters
(C) Centromeres
(D) Histones

Q.148. Western blotting detects:

(A) Proteins
(B) DNA
(C) RNA
(D) Lipids

Q.149. Southern blotting detects:

(A) DNA
(B) Proteins
(C) RNA
(D) Carbohydrates

Q.150. The enzyme reverse transcriptase is found in:

(A) Retroviruses
(B) Bacteriophages
(C) Bacteria
(D) Eukaryotes

ZOOLOGY

SECTION A

Q.151. Endoskeleton made of cartilage is found in:

(A) Cartilaginous fish (Chondrichthyes)
(B) Bony fish
(C) Mammals
(D) Birds

Q.152. The fluid in the semicircular canals is:

(A) Endolymph
(B) Perilymph
(C) Aqueous humor
(D) CSF

Q.153. Tidal volume is:

(A) Normal breath volume (~500 mL)
(B) Maximum breathing capacity
(C) Residual volume
(D) Vital capacity

Q.154. Which organ produces erythropoietin?

(A) Kidney
(B) Liver
(C) Spleen
(D) Bone marrow

Q.155. The smallest bone in human body is:

(A) Stapes (ear)
(B) Radius
(C) Tibia
(D) Femur

Q.156. Brown fat tissue generates:

(A) Heat (thermogenesis)

(B) ATP only
(C) Glucose
(D) Triglycerides

Q.157. Zona pellucida is found in:

(A) Mammalian egg
(B) Sperm
(C) Blastocyst
(D) Implanted embryo

Q.158. Acrosome is part of:

(A) Sperm head
(B) Sperm tail
(C) Egg
(D) Polar body

Q.159. The largest gland in human body is:

(A) Liver
(B) Pancreas
(C) Kidney
(D) Salivary gland

Q.160. Which hormone promotes sodium reabsorption in kidneys?

(A) Aldosterone
(B) ADH
(C) Thyroxin
(D) Insulin

Q.161. B-cells mature in:

(A) Bone marrow
(B) Thymus
(C) Spleen
(D) Lymph nodes

Q.162. The protein involved in blood clotting that requires Vitamin K is:

(A) Prothrombin
(B) Fibrinogen
(C) Thrombin
(D) Albumin

Q.163. Number of pairs of spinal nerves in humans:

(A) 31
(B) 12
(C) 30
(D) 24

Q.164. Peristalsis is movement in:

(A) Alimentary canal

(B) Heart
(C) Blood vessels
(D) Lungs

Q.165. Which enzyme is deficient in Phenylketonuria?

(A) Phenylalanine hydroxylase
(B) Tyrosinase
(C) Amylase
(D) Lipase

Q.166. Ganglion cells are found in:

(A) Retina
(B) Cochlea
(C) Olfactory bulb
(D) Hypothalamus

Q.167. The blood-brain barrier is formed by:

(A) Tight junctions in brain capillaries
(B) Neurons
(C) Astrocytes only
(D) Microglia

Q.168. Male sex hormones are collectively called:

(A) Androgens
(B) Estrogens
(C) Progestogens
(D) Gonadotropins

Q.169. Erythrocytes are produced in:

(A) Red bone marrow
(B) Yellow bone marrow
(C) Spleen
(D) Lymph nodes

Q.170. The knee cap is also called:

(A) Patella
(B) Fibula
(C) Tibia
(D) Femur

Q.171. Which vitamin is important for vision?

(A) Vitamin A
(B) Vitamin C
(C) Vitamin D
(D) Vitamin E

Q.172. GnRH is secreted by:

(A) Hypothalamus

(B) Anterior pituitary
(C) Posterior pituitary
(D) Gonads

Q.173. Cardiac output = Heart rate x:

(A) Stroke volume
(B) Blood pressure
(C) Blood volume
(D) Venous return

Q.174. The primary visual cortex is located in:

(A) Occipital lobe
(B) Frontal lobe
(C) Parietal lobe
(D) Temporal lobe

Q.175. The sinoatrial node is called the pacemaker because:

(A) It generates regular action potentials
(B) It controls blood flow
(C) It oxygenates blood
(D) It filters blood

Q.176. Which phase of cell cycle has the longest duration?

(A) G1 phase (interphase)
(B) S phase
(C) M phase
(D) G2 phase

Q.177. Gluconeogenesis occurs mainly in:

(A) Liver
(B) Muscle
(C) Brain
(D) Heart

Q.178. The sinus venosus in lower vertebrates corresponds to:

(A) SA node in mammals
(B) AV node
(C) Bundle of His
(D) Purkinje fibers

Q.179. Calcitonin lowers blood calcium by:

(A) Inhibiting bone resorption
(B) Stimulating gut absorption
(C) Increasing renal excretion
(D) All of above

Q.180. The enzyme that converts prothrombin to thrombin is:

(A) Thrombokinase (thromboplastin)

(B) Fibrinogen
(C) Heparin
(D) Albumin

Q.181. ATP synthesis in mitochondria is by:

(A) Oxidative phosphorylation
(B) Substrate-level phosphorylation
(C) Photophosphorylation
(D) All three

Q.182. In which type of muscle are intercalated discs found?

(A) Cardiac muscle
(B) Smooth muscle
(C) Skeletal muscle
(D) All types

Q.183. The hormone that stimulates uterine contraction during labor is:

(A) Oxytocin
(B) Progesterone
(C) Estrogen
(D) Relaxin

Q.184. Which component of blood has no nucleus?

(A) Erythrocytes (mature RBC)
(B) Neutrophil
(C) Lymphocyte
(D) Monocyte

Q.185. Phagocytosis of dead cells is done by:

(A) Macrophages
(B) B-cells
(C) T-cells
(D) NK cells

SECTION B

Q.186. The gene for ABO blood groups has how many alleles?

(A) 3 (IA, IB, i)
(B) 2
(C) 4
(D) 1

Q.187. Which enzyme initiates digestion of starch in intestine?

(A) Pancreatic amylase
(B) Pepsin
(C) Trypsin
(D) Lipase

Q.188. The outer layer of blastocyst is called:

(A) Trophoblast
(B) Inner cell mass
(C) Epiblast
(D) Hypoblast

Q.189. MHC (Major Histocompatibility Complex) is important for:

(A) Immune recognition of self vs non-self
(B) DNA replication
(C) Protein synthesis
(D) Energy metabolism

Q.190. Which cancer is linked to Epstein-Barr virus?

(A) Burkitt lymphoma
(B) Lung cancer
(C) Breast cancer
(D) Leukemia

Q.191. Endocytosis of large particles is called:

(A) Phagocytosis
(B) Pinocytosis
(C) Exocytosis
(D) Transcytosis

Q.192. The ventricular muscle contracts during:

(A) Systole
(B) Diastole
(C) Both
(D) Neither

Q.193. Synaptic vesicles contain:

(A) Neurotransmitters
(B) Hormones
(C) Enzymes
(D) Ions only

Q.194. Acetylcholine is hydrolyzed by:

(A) Acetylcholinesterase
(B) Monoamine oxidase
(C) Catechol-O-methyltransferase
(D) Adenylate cyclase

Q.195. The endocrine function of pancreas is:

(A) Secreting insulin and glucagon
(B) Secreting digestive enzymes
(C) Both
(D) Neither

Q.196. Hemophilia A is due to deficiency of:

(A) Factor VIII
(B) Factor IX
(C) Factor X
(D) Platelet

Q.197. Which test detects HIV?

(A) ELISA (enzyme linked immunosorbent assay)
(B) Western blot only
(C) PCR only
(D) Blood smear

Q.198. Menarche refers to:

(A) First menstrual cycle
(B) Last menstrual cycle
(C) First ovulation
(D) Menopause onset

Q.199. The number of thoracic vertebrae in humans is:

(A) 12
(B) 7
(C) 5
(D) 4

Q.200. The resting membrane potential of a neuron is approximately:

(A) -70 mV
(B) +70 mV
(C) -90 mV
(D) 0 mV

ANSWER KEY — SQP-3

Physics

1. (a)	**2.** (a)	**3.** (a)	**4.** (a)	**5.** (a)	**6.** (a)	**7.** (a)	**8.** (a)
9. (a)	**10.** (a)	**11.** (a)	**12.** (a)	**13.** (a)	**14.** (a)	**15.** (a)	**16.** (a)
17. (a)	**18.** (a)	**19.** (a)	**20.** (a)	**21.** (a)	**22.** (a)	**23.** (a)	**24.** (a)
25. (a)	**26.** (a)	**27.** (a)	**28.** (a)	**29.** (a)	**30.** (a)	**31.** (d)	**32.** (a)
33. (a)	**34.** (a)	**35.** (a)	**36.** (a)	**37.** (a)	**38.** (a)	**39.** (a)	**40.** (a)
41. (a)	**42.** (a)	**43.** (a)	**44.** (a)	**45.** (a)	**46.** (a)	**47.** (a)	**48.** (a)
49. (a)	**50.** (a)						

Chemistry

51. (a)	**52.** (a)	**53.** (a)	**54.** (a)	**55.** (a)	**56.** (a)	**57.** (a)	**58.** (a)
59. (a)	**60.** (a)	**61.** (a)	**62.** (a)	**63.** (a)	**64.** (a)	**65.** (a)	**66.** (a)
67. (a)	**68.** (a)	**69.** (a)	**70.** (a)	**71.** (d)	**72.** (a)	**73.** (a)	**74.** (a)
75. (a)	**76.** (a)	**77.** (a)	**78.** (a)	**79.** (a)	**80.** (a)	**81.** (a)	**82.** (a)
83. (a)	**84.** (a)	**85.** (a)	**86.** (a)	**87.** (a)	**88.** (a)	**89.** (a)	**90.** (a)
91. (a)	**92.** (a)	**93.** (a)	**94.** (a)	**95.** (a)	**96.** (a)	**97.** (a)	**98.** (a)
99. (a)	**100.** (a)						

Botany

101. (a)	**102.** (a)	**103.** (a)	**104.** (a)	**105.** (a)	**106.** (a)	**107.** (a)	**108.** (a)
109. (a)	**110.** (a)	**111.** (a)	**112.** (a)	**113.** (a)	**114.** (a)	**115.** (a)	**116.** (a)
117. (a)	**118.** (a)	**119.** (a)	**120.** (a)	**121.** (a)	**122.** (a)	**123.** (a)	**124.** (a)
125. (a)	**126.** (a)	**127.** (a)	**128.** (a)	**129.** (a)	**130.** (a)	**131.** (a)	**132.** (a)
133. (a)	**134.** (a)	**135.** (a)	**136.** (a)	**137.** (a)	**138.** (a)	**139.** (a)	**140.** (a)
141. (a)	**142.** (a)	**143.** (a)	**144.** (a)	**145.** (a)	**146.** (a)	**147.** (a)	**148.** (a)
149. (a)	**150.** (a)						

Zoology

151. (a)	**152.** (a)	**153.** (a)	**154.** (a)	**155.** (a)	**156.** (a)	**157.** (a)	**158.** (a)
159. (a)	**160.** (a)	**161.** (a)	**162.** (a)	**163.** (a)	**164.** (a)	**165.** (a)	**166.** (a)
167. (a)	**168.** (a)	**169.** (a)	**170.** (a)	**171.** (a)	**172.** (a)	**173.** (a)	**174.** (a)
175. (a)	**176.** (a)	**177.** (a)	**178.** (a)	**179.** (a)	**180.** (a)	**181.** (a)	**182.** (a)
183. (a)	**184.** (a)	**185.** (a)	**186.** (a)	**187.** (a)	**188.** (a)	**189.** (a)	**190.** (a)
191. (a)	**192.** (a)	**193.** (a)	**194.** (a)	**195.** (a)	**196.** (a)	**197.** (a)	**198.** (a)
199. (a)	**200.** (a)						