GGSRDN
Educational Services Private Limited
9th, 10th, NEET, JEE(Main/Advanced)
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FOUNDATION-NEET

For Class : XI

DPP

Daily Practice Problem

ZOOLOGY

Set Your Target and Keep Try in Until You Reach It.

DPP No. : 01

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40	**Max. Time : 10 min.**
Single choice Objective	**(D marks 1 min.)**

SECTION A : Basis of classification

1. Protostomic Animals are
(A) Acoelomate (B) Pseudocoelomate
(C) Eucoelomate (D) Both (B) & (C)

2. Phyla, included in protostomia is/are
(A) Mollusca and Aschelminthes (B) Annelida and Aschelminthes
(C) Arthropoda and Mollusca (D) All of these

3. Which property of animals is not used in their classification up to phylum level ?
(A) Symmetry (B) Level of body organization
(C) Body cavity (D) Habitat

4. A sectional central plane passes through anterio – posterior of an animal that decide animal plane is called
(A) Segmentation (B) Symmetry
(C) Body pattern (D) Coelome orientation

5. Given below are the few statements regarding symmetry of animals –
i. Any plane that passes through the Centre does not divides animal into two equal halves – Asymmetrical
ii. When any place passes through central axis of the body divides the organism into two equal halves – Radial symmetry
iii. When a plane passes through central axis via anterio-posterior of an animal and divides body into identical left and right halves in only one plane–Bilateral symetry.
True statement/s are –
(A) i, ii, iii (B) ii, iii (C) i, iii (D) i, ii

6. The features not used as the basis of animal classification are –
(A) Arrangements of cells and body symmetry (B) Nature of coelom and body organization
(C) Cell complexity and nucleus organization (D) Circulatory, digestive and reproductive system.

7. Invertebrate constitute percentage of animal kingdom
(A) 95% (B) 75% (C) 60% (D) 30%

8. Organization in sponges is
(A) Protoplasmic grade (B) Cellular grade (C) Organ grade (D) Tissue grade

9. Level of organisation in sponges is
(A) Cellular level (B) Acellular level (C) Tissue level (D) Organ-system level

10. Majority of sponges are
(A) Asymmetrical (B) Radially symmetrical
(C) Spherically symmetrical (D) Bilaterally symmetrical

DPP No. : 02

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40	**Max. Time : 10 min.**
Single choice Objective	**(D marks 1 min.)**

SECTION A : Basis of classification

1. Cavity common to all types of canal systems in sponges is
(A) Incurrent canal (B) Excurrent canal
(C) Spongocoel (D) Radial chamber

2. Radial symmetry occurs in
(A) Porifera and Coelenterata (B) Coelenterata and Echinodermata
(C) Coelenterata and Platyhelminthes (D) Arthropoda and Mollusca

3. A chamber common to all types of canal system of sponges is called
(A) Paragastric cavity (B) Radial chamber
(C) Excurrent canal (D) Incurrent canal

4. Which one is not typical to all porifers
(A) Perforated body (B) Choanocytes
(C) System of pores and canal (D) Presence of spongin fibres

5. Choanocytes perform
(A) Nutrition (B) Excretion
(C) Reproduction (D) Secretion of spicules

6. Sponges filter food particles with the help of
(A) Choanocytes (B) Pinacocytes
(C) Thesocytes (D) Trophocytes

7. Reproductive cells of sponges are formed from
(A) Pinacocytes (B) Choanocytes
(C) Archaeocytes (D) Trophocytes

8. The pathway of entering and coming out of water in sponges is
(A) Water vascular system (B) Canal system
(C) Feeding current (D) Circulating current

9. The most natural concept of individuality of sponge,based on morphological and physiological aspects is
(A) Ostia and canal system (B) Ostia, osculum and canal system
(C) Ostia and diploplastic body (D) Osculum and choanocytes

10. Which of the sponges is harmful to the oyster industry?
(A) *Cliona* (boring sponge) (B) *Spongilla* (fresh water sponge)
(C) *Euspongia* (bath sponge) (D) *Hyalonema* (rope sponge)

DPP No. : 03

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Basis of classification

1. Fragmentation is a mode of
(A) Digestion
(B) Sexual reproduction
(C) Asexual reproduction
(D) Current circulation

2. The path of water in a sponge in
(A) Pinacocytes → choanocytes → osculum
(B) Ostia → spongocoel → osculum
(C) Spongocoel → gastralostia → osculum
(D) Osculum → spongocoel → ostia

3. *Spongilla* is
(A) Marine water sponge
(B) Fresh water sponge
(C) Both (A) and (B)
(D) None of the above

4. Skeleton of sponges consists of
(A) Spicules
(B) Spongin fibres
(C) Conchaolin
(D) Both (A) and (B)

5. Match the following and pick up the correct option :

	Column I		Column II
A	*Sycon*	I	Bath sponge
B	*Spongilla*	II	*Scypha*
C	*Euspongia*	III	Fresh water sponge

(A) A-II, B-III, C-I
(B) A-I, B-II, C-III
(C) A-III, B-II, C-I
(D) A-III, B-I, C-II

6. Unique character of sponges is that
(A) choanoctyes or collar cells lining the spongocoel and the canals
(B) that they are hermaphrodite
(C) that they live in marine water
(D) it reproduces by asexual means only

7. Primitive multicellular animals having cellular level of organization are
(A) Ctenophores
(B) sponges
(C) Corals
(D) Crustaceans

SECTION B : Coelenterata

8. Blind sac body plan is shown by
(A) annelids
(B) arthropods
(C) roundworms
(D) coelenterates

9. What is true about mesoglea –
(A) Undifferentiated layer present between ectoderm and mesoderm.
(B) Third layer present in body wall of Tripoblastic animals
(C) Dense cellular layer present between two layers of diploblastic animals
(D) None

10. Alimentary canal with mouth only present in –
(A) Taenia
(B) Hydra
(C) Taenia and Hydra
(D) Taenia, Hydra, Leech

DPP No. : 04

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40	**Max. Time : 10 min**
Single choice Objective	**(D marks 1 min.)**

SECTION B : Coelenterata

1. Body does not show any segmentation in
(A) Frog (B) Cockroach (C) Earthworm (D) *Hydra*

2. Which one of the following animals possesses nerve cells but no nerves ?
(A) Hydra (B) Tapeworm (C) Earthworm (D) Frog's tadpole

3. Blind sac body plan is shown by
(A) annelids (B) arthropods (C) roundworms (D) coelenterates

4. Digestion in Coelentrates is
(A) Intracellular (B) Extracellular
(C) First extracellular and then intracellular (D) First intracellular and then extracellular

5. The mesogloea of coelenterates contains
(A) Nerve cells (B) Sensory cells (C) Muscle fibres (D) No cells

6. A coelenterate, commonly known as water polyp is
(A) *Hydra* (B) *Obelia* (C) *Physalia* (D) *Aurelia*

7. Following characters are related to the phylum
I. Aquatic, mostly marine
II. Sessile or free swimming
III Radially symmetrical animals
IV. They show polymorphism
(A) Porifera (B) Ctenophora (C) Echinodermata (D) Coelenterata

8. The presence of cnidoblasts is a characteristic feature of the phylum
(A) Porifera (B) Coelenterata (C) Ctenophora (D) Arthropoda

9. Some cnidarians like corals have a skeleton composed of
(A) spongin fibres (B) silica (C) calcium carbonate (D) All of these

10. Metagenesis is shown by
(A) *Hydra* (B) *Adamsia* (C) *Aurelia* (D) *Obelia*

DPP No. : 05

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Coelenterata

1. Umbrella shaped, free swimming form of a coelenterate reproducing by sexual reproduction is
(A) polyp (B) medusa (C) Both (D) None of these

2. Select the Taxon mentioned that represents both marine and fresh water species :
(A) Echinoderms (B) Ctenophora (C) Cephalochordata (D) Cnidaria

SECTION C : Ctenophora

3. Biradial symmetry and lack of cnidoblasts are the characteristics of
(A) *Hydra* and starfish (B) *Ctenoplana* and *Beroe*
(C) *Aurelia* and *Paramoecium* (D) Starfish and sea anemone

4. Ctenophores are commonly known as
(A) sea walnuts (B) comb jellies
(C) Both (A) & (B) (D) None of these

5. Following features belong to which phylum?
I. Exclusively marine
II. Radial symmetry
III. Diploblastic
IV. Tissue level organization
(A) Coelenterata (B) Porifera (C) Ctenophora (D) Platyhelminthes

6. Body bears eight external rows of ciliated comb plates in
(A) coelenterates (B) sponges (C) ctenophora (D) platyhelminthes

7. Ctenophores show
(A) extra as well as intra cellular digestion (B) sexual reproduction only
(C) bioluminescence (D) All of these

8. An example of ctenophores is
(A) *Pleurobrachia* (B) *Ctenoplana*
(C) Both (A) & (B) (D) None of these

SECTION D : Platyhelminthes & Aschelminthes

9. In some animals, body cavity is present by scattered pouched of mesoderm in between the ectoderm and endoderm. Such a body cavity is called
(A) Eucoelom (B) Pseudocoelom (C) Acoelom (D) None of these

10. Single opening of alimentary canal is found in –
(A) Platyhelmenthes (B) Annelida
(C) Sponges (D) All

DPP No. : 06

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION D : Platyhelminthes & Aschelminthes

1. Which statement is not true -
(A) sponges are mostly asymmetrical.
(B) Ctenophores have tissue grade of body organization.
(C) Undifferentiated measoglaea present between ectoderm and endoderm in ceolentrates.
(D) Nematodes exhibit radial symmetry

2. The parasite which completes its life cycle in a single host is
(A) *Fasciola hepatica* (C) *Taenia solium* (B) *Plasmodium vivax* (D) *Ascaris* lumbricoides

3. Following are characters present in Platyhelminthes:
I. Some absorb nutrients from the host directly through their body surface.
II. Digestive system incomplete, branched and without anus.
III. Flame cells/solenocyte protonephridia help in excretion and osmoregulation.
IV. Hooks and Suckers are present in parasitic form.
V. Hermaphrodites.
VI. Fertilization internal.
VII. Indirect development through many larva stages.
(A) I, II, III, V, VI (B) II, III, IV, V, VII
(C) All except I (D) All of these

4. *Planaria* possess high capacity of:
(A) metamorphosis (B) regeneration
(C) alternation of generation (D) bioluminescence

5. Planaria, liver fluke and *Taenia solium* are
(A) All segmented (B) All found in the gut
(C) All have coelom (D) All are flatworms

6. Which of the following does not have any alimentary canal
(A) Earthworm (B) Frog
(C) *Taenia* (D) *Ascaris*

7. Triploblastic acoelomate animals are
(A) Nematodes (B) Platyhelminthes
(C) Some arthropods (D) Both (A) and (B)

8. One of the following characteristics is not correct for nematoda
(A) Elongated cylindrical body (B) Fixed number of cells in the body
(C) Hermaphroditism (D) Pseudocoelomate

9. Which is not a typical character of phylum nematoda
(A) Syncytial epidermis (B) Non-living cuticle
(C) Pseudocoel (D) All are parasite in animals

10. The adult *Wuchereria bancrofti* lives in
(A) Human subdermal spaces (B) Muscles of culex
(C) Salivary glands of culex (D) Human lymph glands

DPP No. : 07

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION D : Platyhelminthes & Aschelminthes

1. The scientific name of pin worm or seat worm is
(A) *Trichinella* (B) *Ancylostoma*
(C) *Enterobius vermicularis* (D) *Wuchereria*

2. Internal fertilization is seen in
(A) *Pleurobrachia* (B) *Fasciola* (C) *Ctenoplana* (D) all of these

3. Following are pseudocoelomate:
(A) Roundworm (B) Hookworm (C) Filarial worm (D) All of these

4. Match the following:

Column I		Column II	
A	*Ascaris*	1	Intestinal Roundworm
B	*Wuchereria*	2	Filarialworm
C	*Ancylostoma*	3	Hookworm
D	*Pheretima*	4	Earthworm

(A) A $\rightarrow$2, B $\rightarrow$4, C $\rightarrow$3, D $\rightarrow$1 (B) A $\rightarrow$ 1, B $\rightarrow$ 2, C $\rightarrow$ 3, D $\rightarrow$ 4
(C) A $\rightarrow$ 4, B $\rightarrow$ 3, C $\rightarrow$ 1, D $\rightarrow$ 2 (D) A $\rightarrow$ 2, B $\rightarrow$ 1, C $\rightarrow$ 4, D $\rightarrow$ 3

SECTION E : Annelida

5. Which statement is false?
(A) Platyhelminthes to Chordates are triploblastic
(B) Annelida to chordate are enterocoelic eucoelomates.
(C) Porifera to Hemichordates are non – chordates.
(D) Pisces to mammals are vertibrates.

6. Which of the following is correct about parapodia?
(A) they are longitudinal muscles which help in locomotion
(B) they are circular muscles which help in locomotion
(C) help in swimming
(D) it is dorsal appendages of nereis

7. Nephridia help in excretion and osmoregulation in
(A) *Nereis* (B) *Pheretima* (C) *Hirudinaria* (D) all of these

8. First true coelomates are
(A) *Nereis* (B) scorpion (C) crab (D) *Wuchereria*

9. Following features belong to which of the following phylum?
a. Triploblastic.
b. Bilateral symmetry.
c. Eucoelomate.
d. Metamerism.
(A) Mollusca (B) Aschelminthe (C) Platyhelminthes (D) Annelida

10. Metamerism is found in
(A) *Ascaris* (B) earthworm (C) *Loligo* (D) *Octopus*

DPP No. : 08

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION F : Arthropoda

1. Which of the following is correct about reproduction in Arthropods?
(A) Usually dioecious, mostly oviparous (B) Internal fertilization
(C) Some exhibit parthenogenesis (D) All of these

2. Match the following:

Column I		Column II	
A	Locusta	1	*Apis*
B	Honey bee	2	Locust
C	Silkworm	3	*Bombyx*
D	Lac insect	4	*Laccifer*

(A) A $\rightarrow$ 4, B $\rightarrow$ 1, C $\rightarrow$ 3, D $\rightarrow$ 4 (B) A $\rightarrow$ 2, B $\rightarrow$ 1, C $\rightarrow$ 4, D $\rightarrow$ 3
(C) A $\rightarrow$ 2, B $\rightarrow$ 1, C $\rightarrow$ 3, D $\rightarrow$ 4 (D) A $\rightarrow$ 4, B $\rightarrow$ 3, C $\rightarrow$ l, D $\rightarrow$ 4

3. Which of the following belongs to arthropods?
(A) Peripatus and crab (B) Prawn and scorpion
(C) Centipede and cockroach (D) All of these

4. Which of the following is largest phylum?
(A) Mollusca (B) Echinodermata (C) Arthropoda (D) Annelida

5. Which of the following phylum shows segmentation?
(A) Annelida (B) Arthropoda (C) Both (A) & (B) (D) None of these

SECTION G : Phylum - Mollusca

6. Animals with soft body, bilateral symmetry, triploblastic and unsegmented, usually protected by a shell made up of calcium carbonate belongs to phylum
(A) porifera (B) echinodermata
(C) mollusca (D) arthropoda

7. Which of the following is second largest phylum?
(A) Mollusca (B) Echinodermata
(C) Arthropoda (D) Annelida

SECTION H : Echinodermata

8. Which of the following phylum possess enterocoel ?
(A) Annelida, Mollusca, Porifera
(B) Echinodermata, Chordata
(C) Mollusca, Arthropoda, Hemichordata
(D) Porifera, Mollusca, Arthropoda

9. Another name of *Cucumaria* is
(A) sea urchin (B) sea mouse (C) sea pen (D) Sea cucumber

10. An animal which is radially symmetrical as adult but bilaterally symmetrical as larvae is -
(A) Sea lily (B) Sea squid (C) sea hare (D) Sea fan

DPP No. : 09

CHAPTER- ANIMAL KINGDOM-1

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION H : Echinodermata

1. In which phylum, larva is bilaterally symmetrical and adult have radial symmetry?
(A) Arthropoda (B) Mollusca (C) Hemichordata (D) Echinodermata

2. Which phylum shows regeneration of lost part?
(A) mollusca (B) annelida (C) arthropoda (D) echinodermata

3. The exoskeleton in echinoderms consists of
(A) silica (B) tunicin (C) calcium carbonate (D) chitin

4. Which one of the following is unrelated to the other three ?
(A) Sea star (B) Sea cucumber (C) Sea squid (D) Sea urchin

5. One feature exclusive to echinodermates is the presence of –
(A) water vascular system (B) eye spots
(C) neurosensory cells (D) radial symmetry

SECTION I : Hemichordata

6. Which statement is false?
(A) Platyhelmenthes to Chordates are triploblastic
(B) Annelida to chordata have true coelome
(C) Porifera to Echinoderms are non – chordates
(D) Hemichordates to mammals are vertibrates

7. Which of the following animal phyla belongs to Deuterostomia?
(A) Annelida (B) Parazoa (C) Mollusca (D) Hemichordata

8. Proboscis gland in *Balanoglossus* is associated with
(A) Digestion (B) Respiration (C) Circulation (D) Excretion

9. Which of the following is not a Hemichordate ?
(A) *Saccoglossus* (B) *Ptychodera* (C) *Amphioxus* (D) *Cephalodiscus*

10. Blood vascular system in Hemichordates is –
(A) Open (B) Closed (C) Reduced (D) Absent

DPP No. : 10

CHAPTER- ANIMAL KINGDOM-2

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Chordata

1. Fundamental character of chordate is
(A) notochord (B) dorsal hollow nerve cord
(C) paired pharyngeal gill slits (D) all of these

2. Urochordata and cephalochordata are referred as
(A) non chordate (B) vertebrates (C) protochordata (D) all of these

3. How many of the following belongs to subphylum cephalochordata?
Ascidia, Salpa, Doliolum, Branchiostoma
(A) 1 (B) 2 (C) 3 (D) 4

SECTION B : Cyclostomata

4. A marine cartilaginous fish that can produce electric current is:
(A) *Pristis* (B) *Torpedo* (C) *Trygon* (D) *Scoliodon*

5. Identify the correct statement.
(A) Dog fish is a bilaterally symmetrical animal covered with placoid scales
(B) Saw fish is a bilaterally symmetrical animal covered with ctenoid scales
(C) Silver fish is a radially symmetrical animal covered with silvery cycloid scales
(D) Angle fish is a radially symmetrical animal covered with ganoid scales

6. All living members of which class is ectoparasite?
(A) Osteichthyes (B) Chondrichthyes (C) Cephalopoda (D) Cyclostomata

7. Following are character of cyclostomata?
(A) 6–15 pairs of gill slits for respiration
(B) Sucking and circular mouth without jaws
(C) Body is devoid of scales and paired appendages
(D) All

8. Which of the following organism possess cartilaginous cranium, vertebral column, closed circulatory system?
(A) Ascidia (B) Scolidon (C) Petromyzon (D) All

9. Following are marine but migrate for spawning to fresh water, After spawning, within a few days, they die.Their larvage, after metamorphosis,return to ocean.Specify the correct one.
(A) *Petromyzon* (Lamprey) (B) *Myxine* (Hagfish)
(C) *Scoliodon* (D) Both (A) and (B)

10. Scale found in Chondrichthyes is/are
(A) placoid (B) cycloid (C) ctenoid (D) all

DPP No. : 11

CHAPTER- ANIMAL KINGDOM-2

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Cyclostomata

1. Osteichthyes possess which kind scales?
(A) placoid (B) cycloid (C) ctenoid (D) both(B) and (C)

2. Which fish posses poison sting?
(A) Scoliodon (dog fish) (B) Trygon
(C) Torpedo (D) Pristis (saw fish)

3. Following are fresh water bony fishes
(A) Labeo (rohu) (B) Catla (C) Clarias (magur) (D) All of these

4. In fishes the kidney is
(A) pronephros (B) mesonephros (C) metanephros (D) holonephros

5. The group of anamniota includes
(A) birds and mammals (B) reptiles and birds
(C) fishes and amphibians (D) reptiles and mammals

6. Class name 'cyclostomata' means
(A) Marine, but reproduction takes place in fresh water
(B) Mouth anterio ventral, suctorial and circular
(C) Ectoparasite of fishes
(D) Jaws are absent

7. Study of fishes is called
(A) Ichthyology (B) Serpentology
(C) Saurology (D) Chonchology

8.
a. Marine with streamlined body
b. Cartilaginous endoskeleton
c. Mouth ventral
d. Caudal fin is heterocercal
e. Notochord is presistent throughout life
Above character belongs to which of the following organism (select total number)? Dog fish, Saw fish, Flying fish, Fighting fish, Star fish, *Trygon*,*Torpedo*, *Rohu, Catla*, *Magur*
(A) 3 (B) 4 (C) 6 (D) 7

9. Which of the following is incorrect about Cartilaginous fish ?
(A) Teeth are modified placoid scales which are backwordly directed
(B) 5 to 7 pair of gills for respiration but without operculum (i.e. gill cover)
(C) Air bladder absent so they have to swim constantly to avoid sinking
(D) In males pelvic fins claspers are absent

10. Select the total number of organism which of posses two chambered heart and are poikilothermal. *Scolidon Pristis, Clarias, Pterophyllum, Echinus*, Devil Fish , Cuttel fish, Sea lily, *Hyla, Labeo,catla, Tropedo,Trygon*
(A) 7 (B) 9 (C) 11 (D) 13

DPP No. : 12

CHAPTER- ANIMAL KINGDOM-2

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION B : Cyclostomata / Pisces

1. Select the difference which is wrongly writtern

	Cartilaginous fish	**Bony fishes**
(A)	Operculum absent –	Operculum present
(B)	Fertization internal –	Fertilization external
(C)	Posses 5–7 pair of gills –	Posses 4 pair of gills
(D)	Mostly oviparous –	Mostly viviparous

2. Which fish possess electric orgains?
(A) *Scoliodon* (dog fish) (B) *Trygon*
(C) *Torpedo* (D) *Pristis* (saw fish)

3. Males possess claspers in pelvic fins in class_____.
(A) cyclostomata (B) chondricthyes
(C) osteicthyes (D) amphibia

4. Select correct matching
(A) Petromyzon – Hagfish
(B) Myxine – Lamprey
(C) Carcharodon – Great white shark
(D) Trygon – Torpedo

SECTION C : Amphibia

5. Respiration in adult frog is by
(A) Buccopharyngeal cavity (B) skin
(C) Lungs (D) All of these

6. Limbless amphibian is
(A) frog (B) tree frog
(C) Icthyophis (D) bufo

7. Three chambered heart, cold blooded, external fertilization and indirect development is seen in
(A) labeo (B) salpa
(C) frog (D) myxine

SECTION D : Reptilia

8. Select the total number of lizards from the following
Chelone, calotes, crocodilus, hemidactylus, columba, neophron
(A) 2 (B) 3 (C) 4 (D) 5

9. First class of vertebrate, which are fully adapted for terrestrial life is
(A) amphibian (B) reptila
(C) aves (D) mammals

SECTION E : Aves

10. First vertebrate which are warm-blooded
(A) reptilia (B) amphibians
(C) birds (D) mammals

DPP No. : 13

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Epithelial tissue

1. The intercellular matrix is negligible or absent in which of the following tissue
(A) Connective tissue (B) Epithelial tissue
(C) Muscular tissue (D) Cardiac tissue

2. Tissue which has power of division and regeneration throughout life
(A) Epithelial tissue (B) Muscular tissue
(C) Connective tissue (D) Nervous tissue

3. Which of the following is correct for epithelial tissue?
(A) It is present only as inner lining (B) It is present only as outer lining
(C) Contains very less intracellular matrix (D) All

4. Which of the following contains simple epithelium as their lining?
(A) Ducts (B) Tubes (C) Both (A) & (B) (D) Skin of mouth

5. Which of the following tissue has a free surface?
(A) Connective tissue (B) Muscular tissue (C) Epithelial tissue (D) Neural tissue

6. Which of the following is not a simple epithelium?
(A) Squamous (B) Cuboidal (C) Columnar (D) None

7. Which of the following sites contain squamous epithelium as its lining?
(A) Blood vessel (B) Air sac in lungs (C) Nasal cavity (D) Both (A) & (B)

8. Where is columnar epithelium found?
(A) Lining of intestine (B) Outer wall of stomach
(C) Proximal convoluted tubule (D) All

9. Where is ciliated epithelium found?
(A) Bronchioles (B) Fallopian tubes
(C) Both (D) Lungs

10. In columnar epithelium, where is nucleus located?
(A) At the base (B) In the middle
(C) At the top (D) No nucleus present

DPP No. : 14

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Epithelial tissue

1. If the cuboidal epithelium turns out to have microvilli on it, what will it be called?
(A) Ciliated columnar epithelium (B) Pseudo ciliated epithelium
(C) Both (D) Brush border epithelium

2. Cuboidal or columnar epithelium specialized for secretion are called.....
(A) ciliated epithelium (B) glandular epithelium
(C) both (D) none

3. Which of the following is unicellular glandular epithelium?
(A) Salivary gland (B) Islets of langerhan's
(C) both (D) none

4. Which of the following is not secreted by exocrine glands?
(A) Earwax (B) Oil (C) Milk (D) None

5. The filaments arising from desmosomes are called
(A) Tonofibril (B) Tonofilament (C) Both (A) and (B) (D) None

6. Reproductive cells (germinal epithelium) are made up of which of the following epithelial tissue
(A) Cuboidal (B) Columnar (C) Squamous (D) Sensory

7. Schneiderian membrane is found in
(A) Nasal passage (B) Trachea (C) Bowman's capsule (D) Loop of Henle

8. The cellular layers in epidermis of skin consists of
(A) Glandular cells (B) Columnar cells
(C) A squamous stratified cornified epithelium (D) A complex stratified epithelium

9. Desmosomes are the feature of
(A) Epithelial tissue (B) Nervous tissue
(C) Muscular tissue (D) None of these

10. Which type of epithelium is found is oesophagus, cornea and vagina
(A) Transitional epithelium (B) Columnar epithelum
(C) Non–keratinized stratified epithelium (D) Keratinized stratified epithelium

DPP No. : 15

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Epithelial tissue

1. Tissue which has power of division and regeneration throughout life
(A) Epithelial tissue (B) Muscular tissue
(C) Connective tissue (D) Nervous tissue

2. Pseudostratified columnar epithelium is found in
(A) Wall of cloaca (B) Male urethra (C) Oviduct (D) Oesophagus

3. Which tissue evolved first in the animals?
(A) Muscular tissue (B) Connective tissue (C) Epithelial tissue (D) Skeletal tissue

4. Simple cuboidal epithelium is found in
(A) Sweat gland (B) Choroid of eye (C) Thin bronchiols (D) All of the above

5. An example of merocrine gland is
(A) Sebaceous gland (B) Pineal gland
(C) Salivary gland (D) Mammary gland

6. Nature of mammary gland is
(A) Apocrine (B) Merocrine (C) Holocrine (D) None of these

SECTION B : Connective tissue

7. Which part of body's weight is formed by connective tissue?
(A) 40% (B) 30% (C) 20% (D) 60%

8. The main function of connective tissue is
(A) Binding together other tissues (B) Supporting various parts of the body
(C) Forming a packing around organs (D) All the above

9. Function of adipose tissue is
(A) Fat storing tissue (B) Helps in homeothermy
(C) Acts as shock absorber (D) All the above

10. External ear (pinna) contains a flexible structure composed of
(A) Bone (B) Cartilage (C) Tendon (D) Ligament

DPP No. : 16

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Connective tissue

1. The mast cells secrete the following substance
(A) Heparin (B) Histamine (C) Serotonin (D) All of the above

2. New born mammals generally do not shiver inspite of lower temperature outside because of
(A) Brown fat which has larger capacity for generating heat
(B) White fat which has larger capacity for generating heat
(C) Chromatophores present in them
(D) Skeletal tissue present in them

3. When collagen fibres are removed from the areolar tissue
(A) Tissue becomes hard (B) Tissue becomes loose and elastic
(C) Tissue becomes hard and inelastic (D) Remains unchanged

4. Connective tissue is
(A) Ectodermal in origin with intercellular spaces
(B) Mesodermal in origin without intercellular spaces
(C) Ectodermal in origin without intercellular spaces
(D) Mesodermal in origin with intercellular spaces

5. The main difference in white and yellow fibres is of
(A) Protein (B) Colour of the fibres
(C) (A) and (B) both (D) None of the above

SECTION C : Muscular tissue

6. Which one of the following muscles, gets fatigued very quickly?
(A) Skeletal muscle (B) Smooth muscle (C) Cardiac muscle (D) All of the above

7. Cardiac muscles have the characters of
(A) Striped muscle (B) Unstriped muscle (C) Both (A) and (B) (D) None of these

8. Sarcolemma is the covering of
(A) Nerve fibres (B) Muscle fibres (C) Bone marrow (D) Liver, kidney and stomach

9. Which of the following muscle gets into fatigue very early
(A) Skeletal muscle (B) Smooth muscle
(C) Cardiac muscle (D) All the above

10. Smooth muscles are not
(A) Spindle shaped (B) Under control of autonomic nervous system
(C) Very simple in structure (D) Multinucleated

DPP No. : 17

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION C : Muscular tissue

1. In the myofibrils of muscle fibre
(A) Myosin is found (B) Actin is found
(C) ATP is found (D) All of the above

2. In striated muscle contraction
(A) H-band is lengthened (B) *H*–band is obliterated
(C) A-band decreases in length (D) $Z-$line moves away from $A-$band

SECTION D : Nervous tissue

3. Nissl's granules are found in cyton of nerve cells. These have affinity for basic dyes. The granules are made up of
(A) Mitochondria (B) Cell metabolites (C) Fat granules (D) Ribosomes

4. Nerve fibre is different from the muscle fibre due to the presence of
(A) Myofibrils (B) Lines (C) Sarcolemma (D) Dendrites

5. Neuroglia cells differ from neurons in having
(A) No Nissl's granules (B) No radiating processes
(C) No cyton (D) No nucleus

6. The neurilemma surrounds the
(A) Axis cylinder (B) Cell body (C) Myelin sheath (D) Endoneurium

7. A nerve impulse will travel through a nerve fibre only if the membrane suddenly becomes more permeable to
(A) Chloride ions (B) Potassium ions (C) Sodium ions (D) Calcium ions

8. The electrical disturbance generated in neurons travels through
(A) neuroghia (B) cytoplasm
(C) plasma membrane (D) all

SECTION E : Cockroach

9. Which one is correct about cockroach?
(A) Generally brown and black color (B) Pest and vectors of several disease
(C) Found in damp places (D) All

10. Zoological name of cockroach is
(A) *Periplaneta americana* (B) *Pheretima posthuma*
(C) *Rana tigrina* (D) *Naja Naja*

DPP No. : 18

CHAPTER- STRUCTURAL ORGANIZATION IN ANIMALS

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION E : Cockroach

1. In each segment exoskeleton has hardened plates in cockroach known as
(A) Sclerites (B) Sternum (C) Carapace (D) All

2. Body of cockroach is segmented and divisible into three distinct region known as
(A) Head (B) Thorax (C) Abdomen (D) All

3. Cockroach has which type of mouth parts
(A) Biting and chewing type (B) Siphoning type
(C) Sponging type (D) All

4. How many filamentous Malphigian tubules are found in cockroach?
(A) 100-150 (B) 50-100 (C) 150-200 (D) 200-250

5. A ring of 6-8 blind tubules are present at the junction of foregut and midgut in cockroach is known as
(A) Hepatic caecae (B) Gastric caecae (C) Both (A) and (B) (D) Malphigian tubules

6. How many pairs of spiracles present on surface of cockroach
(A) 5 Pairs (B) 15 Pairs (C) 10 Pairs (D) 20 Pairs

7. In cockroach following organ help in excretion
(A) Fat body (B) Nephrocyte (C) Urecose gland (D) All

8. In Cockroach, wings are absent from
(A) Prothorax (B) Mesothorax (C) Metathorax (D) None of the above

9. Cockroach blood does not contain respiratory pigment. It means
(A) It does not respire
(B) Cockroach respires anaerobically
(C) Oxygen passes to all the tissues through diffusio
(D) Oxygen reaches tissue through tracheoles

10. Which is characteristic of Cockroach
(A) 13-chambered heart (B) Reduced wings
(C) Cocoon formation (D) Segmented body

DPP No. : 19

CHAPTER-BIOMOLECULES

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Introduction

1. _____of the total cell mass is formed by ions.
(A) 1% (B) 2% (C) 3% (D) 4%

2. Which elements are abundantly found in living organism in comparison to earth crust?
(A) Carbon (B) Hydrogen (C) Oxygen (D) All of these

3. To analyse chemical composition of living tissue, we solubilise them in
(A) HNO_3 (B) HCl (C) CF_3COOH (D) CCl_3COOH

4. Percentage of oxygen in human body is
(A) 65% (B) 46.6% (C) 18.5% (D) 3.3%

5.

Chemical analysis of living tissue

Acid soluble pool (Filterate)

1. mol. wt. (a)

Acid insoluble pool (retentate)

1. It contain 4 type of organic compound

a. Protein

Fill in the blanks in (a) and (b) in above flowchart.
(A) a → greater than 1000 Dalton, b → Nucleotide
(B) a → 18–800 Da, b → Nucleic acid
(C) a → greater than 10,000 Da, b → Oligosaccharides
(D) a → greater than 1000 Dalton, b → Nulceoside

6. All the carbon compounds that we get from living tissues can be called
(A) bio-resource (B) bio-informatics (C) bio-war (D) bio-molecules

7. Select the incorrect statement from the following:
(A) Elemental analysis of living tissues gives elemental composition of living tissue
(B) Analysis of chemical compound of living tissue gives an idea of organic and inorganic constituent of living tissue
(C) Weight of small amount of living fresh tissue is known as wet weight
(D) Acid soluble pool contains lipids, nucleic acid, polysaccharide only

8. The biomolecule whose weight less than_____dalton (Da) is referred to as biomicromolecule.
(A) 800 (B) 18 (C) 1000 (D) 10,000

9. Which of the following is not a macromolecule?
(A) Nucleic acid (B) Polysaccharides (C) Lipids (D) Proteins

10. Lipids are extracted with acid insoluble fraction because
(A) its molecular weight is less than 800 Da
(B) it form vesicle or micelle which are not water soluble
(C) it is polymer
(D) it is not a polymer

DPP No. : 20

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Introduction

1. Select the incorrect matching for component % in living cell:
(A) Water – 70–90%
(B) Hydrogen – 10–15%
(C) Oxygen – 2%
(D) Nucleic Acid – 5–7%

2. Plants produce an enormous diversity of substances that have no apparent role in growth and development processes and are classified under the heading of -
(A) Primary metabolites (B) Secondary metabolites
(C) Necessary metaboliles (D) Tertiary metabolites

3. Which of the following is a trace element required only in small amounts by most living things
(A) Oxygen (B) Iron (C) Nitrogen (D) Hydrogen

4. The most abundant compound in living cells is
(A) Carbon (B) Water (C) Hydrogen (D) Oxygen

SECTION B : Carbohydrates

5. Monomeric unit of cellulose is
(A) glucose (B) fructose
(C) mannose (D) ribose

6. Monomeric unit of inulin is
(A) glucose (B) fructose
(C) mannose (D) ribose

7. Which of the following is homopolysaccharide?
(A) Cellulose (B) Inulin
(C) Starch (D) All

8. Starch forms helical_____structure that can hold_____molecule and gives blue colour.
(A) primary, I_2 (B) secondary, I_2
(C) tertiary, I_2 (D) quaternary, I_2

9. Select the incorrect statement from the following:
(A) Cellulose does not contain complex helices
(B) Cellulose does not give colour with I_2
(C) Cotton fibre, plant cell wall are made up of cellulose
(D) Cellulose is heteropolysaccharide

10. Which of the following is amino-sugar?
(A) Glucosamine (B) Galactosamine
(C) Both (D) None

DPP No. : 21

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION B : Carbohydrates

1. Chitin is present in
(A) exoskeleton of arthropoda (B) cell wall of fungus
(C) seate of earthworm (D) all

2. In glycogen, which kind of linkage is found between adjacent glucose molecule?
(A) 1, 4 (B) 1, 6 (C) both (D) 1, 2

3. Which of the following is a monosaccharide ?
(A) Maltose (B) Ribose (C) Sucrose (D) Lactose

4. The most immediate source of energy for living cells is generally in the form of
(A) Lipids (B) Proteins (C) Vitamins (D) Carbohydrates

5. Carbohydrates, the most abundant biomolecules on earth, are produced by
(A) All bacteria, fungi and algae (B) Fungi, algae and green plant cells
(C) Some bacteria, algae and green plant cells (D) Viruses, fungi and bacteria

6. The "repeating unit" of glycogen is
(A) Fructose (B) Mannose (C) Glucose (D) Galactose

7. Ribose sugar occurs in
(A) RNA and ATP (B) RNA polymerase and ATP
(C) RNA only (D) RNA polymerase, RNA and ATP

8. Glycogen is a homopolymer made up of
(A) Glucose units (B) Galactose units (C) Ribose units (D) Amino acids

SECTION C : Proteins

9. Histones are
(A) Acidic proteins (B) Basic proteins (C) Mucoproteins (D) Glycoproteins

10. Proteins consist of
(A) Carbon, hydrogen, chlorine, sulphur (B) Carbon, hydrogen, oxygen, nitrogen
(C) Carbon, manganese, phosphorus, nitrogen (D) Carbon, iodine, oxygen and inorganic phosphate

DPP No. : 22

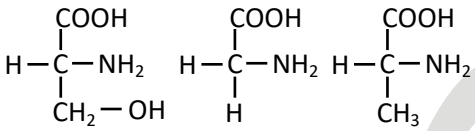
CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION C : Proteins

1. Which of the following is conjugated protein
(A) Chromoproteins (B) Phosphoprotein
(C) Glycoprotein (D) All of the above

2.

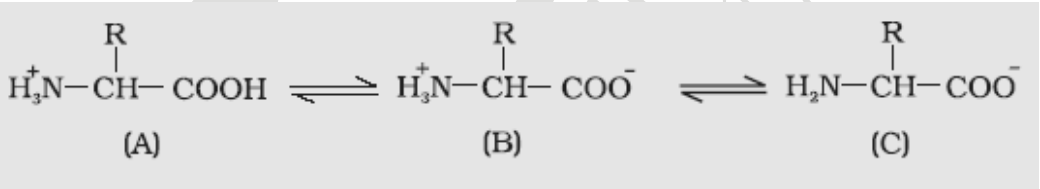


AA_3 **AA_2** **AA_1**

The correct names of these amino acids are–

	AA_1	AA_2	AA_3
(A)	Glycine	Serine	Alanine
(B)	Alanine	Glycine	Serine
(C)	Serine	Glycine	Alanine
(D)	Serine	Alanine	Glycine

3.



(A) (B) (C)

Which of the following is a zwitter ion?
(A) A (B) B (C) C (D) both (A) & (C)

4. What is the formula of a polypeptide consisting of 10 glycine molecules? The formula of glycine is $C_2H_5O_2N$
(A) $C_6H_{12}O_0N$ (B) $C_{20}H_{32}O_{11}N_{10}$ (C) $C_{30}H_{16}O_6N_5$ (D) $C_{20}H_{50}O_{20}N_{10}$

5. An amino acid is a
(A) Substituted methane (B) Substituted ethane
(C) Any acid having amino group (D) Derivative of indoacetic acid

6. The formation of protein can be considered as
(A) Dehydration synthesis (B) Dehydration analysis
(C) Hydration synthesis (D) Hydration analysis

SECTION D : Lipids

7. Which of the following is not an unsaturated fatty acid?
(A) Stearic acid (B) Linoleic acid (C) Linolenic acid (D) Oleic acid

8. Lipids are insoluble in water, because lipids molecules are
(A) Neutral (B) Zwitter ions
(C) Hydrophobic (D) Hydrophilic

9. A fat has -

(A) 3 glycerol and one fatty acid molecule (B) 1 glycerol and 3 fatty acid molecule
(C) 3 glycerol and 3 fatty acid molecule (D) 1 glycerol and 1 fatty acid molecule

SECTION E : Nucleic Acid

10. DNA nucleotides of two strands are attached by
(A) Hydrogen bonds (B) Van der waals bond
(C) Covalent bond (D) Electrovalent bond

DPP No. : 23

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION E : Nucleic Acid

1. DNA contains nitrogen bases
(A) AGTC (B) AGCU (C) CTAU (D) GAUT

2. Name the most abundant elements which occur in nucleic acid macromolecules
(A) C, H, O, N, S (B) C, O, N, S
(C) C, O, P, S (D) C, H, O, N, P

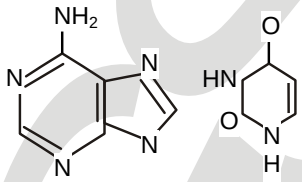
3. The similarity between RNA and DNA is in their
(A) Secondary structure (B) Constituents of backbone
(C) Types of purines present (D) Types of pyrimidines present

4. A nitrogen base is linked to sugar by a glycosidic bond at carbon number
(A) 1' (B) 2' (C) 4' (D) 5'

5. Among nitrogen bases of nucleic acids, double ring is found in
(A) Thymine (B) Cytosine (C) Uracil (D) Guanine

6. Nucleotides are formed of
(A) Purine and sugar (B) Purine, pyramidine and phosphate
(C) Pyramidine and sugar (D) Purine / pyrimidine, sugar and phosphate

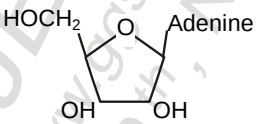
7.



A B

The above diagram represent the nitrogenous bases, Identify the correct combination -
(A) A = Adenine, B = Thymine (B) A = Guanine, B = Thymine
(C) A = Adenine, B = Uracil (D) A = Guanine, B = Uracil

8. Which one is false about the diagram?



(A) It is an adenosine acid
(C) It is adenosine
(C) It will form adenylic acid if it binds with phosphate
(D) It is a nucleoside

9. The length of one complete turn of a DNA double helix is -
(A) 34Å (B) 34 nm
(C) 3.4 Å (D) 3.4 μm

10. Which one of the following is the complementary sequence for the DNA with 5'-CGTACTA-3'
(A) 5'-TAGTACG-3' (B) 5'-ATCATGC-3'
(C) 5'-UTCUTGC-3' (D) 5'-GCUAGCA-3'

DPP No. : 24

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION E : Nucleic Acid

1. Which one is correct?
(A) Adenine = Pyrimidine, Uracil = Purine
(B) Adenine =Purine, Uracil = Purine
(C) Adenine = Pyrimidine, Uracil = Pyrimidine
(D) Adenine =Purine, Uracil = Pyrimidine

2. Which of the following may be true for RNA -
(A) A = U G =C
(B) A ≠ U G ≠ C
(C) A = U = G = C
(D) Purines = Pyrimidines

3. Which one of the following pairs of nitrogenous bases of nucleic acids, is ***wrongly*** matched with the category mentioned against it ?
(A) Guanine, Adenine – *Purines*
(B) Adenine, Thymine – *Purines*
(C) Thymine, Uracil – *Pyrimidines*
(D) Uracil, Cytosine – *Pyrimidines*

4. Thymine is –
(A) 5–Methyl uracil
(B) 4–Methyl uracil
(C) 3–Methyl uracil
(D) 1–Methyl uracil

SECTION F : Enzymes

5. Which is incorrect about coenzyme?
(A) Every coenzyme is a cofactor and every cofactor is a coenzyme
(B) Every coenzyme is a cofactor and every cofactor is not a coenzyme
(C) Most of the coenzymes are nucleotides and are composed of vitamins
(D) Coenzymes are the active constituents of enzymes

6. Allosteric modulation is due to inhibition of coenzyme action by
(A) Competitive inhibition
(B) Substrate concentration
(C) Product of reaction
(D) Enzyme concentration

7. Non protein part of enzyme is called
(A) Prosthetic group
(B) Active site
(C) Cofactor
(D) Catalytic agent

8. The enzyme amylase present in animals can break glycosidic linkages between glucose monomers only if the monomers are in the α-form. Which of the following can be broken by amylase?
(A) Glycogen, starch and amylopectin
(B) Glycogen and cellulose
(C) Cellulose and chitin
(D) Starch, amylopectin and cellulose

9. Digestive enzymes are
(A) Hydrolases
(B) Transferases
(C) Oxidoreductases
(D) Ligases

10. "Lock and Key" model of enzyme action illustates that a particular enzyme molecule
(A) Is destroyed and resynthesised several times
(B) Reacts at the same rate in all conditions
(C) Interacts with specific type of substrate molecule
(D) Forms a permanent enzyme-substrate

DPP No. : 25

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION F : Enzymes

1. Activity of an enzyme is affected least by
(A) Temperature
(B) Concentration of substrate
(C) Concentration of enzyme
(D) Original activation energy of the system

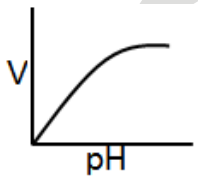
2. Holoenzyme is produced by
(A) Combined coenzyme and apoenzyme
(B) Only prosthetic group
(C) Only protein
(D) Only cofactor

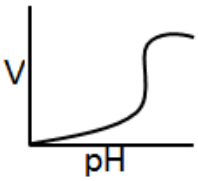
3. Amylase, rennin and trypsin
(A) are proteins
(B) act at a pH lower than 7
(C) are produced in the stomach
(D) are proteolytic enzymes

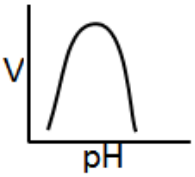
4. Which of the following are unique features about the enzyme?
(A) They are not consumed during the reaction
(B) They are not altered by the enzyme- mediated reaction
(C) They lower the activation energy
(D) All

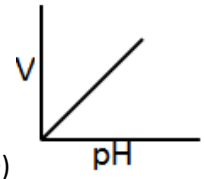
5. Which one is correct?
(A) $E + S \rightleftharpoons ES \rightarrow E + P \quad EP$
(B) $E + S \not\rightarrow ES \rightarrow E + P \quad E + P$
(C) $E + S \not\rightarrow ES \rightarrow E + P \quad E + P$
(D) $E + S \rightleftharpoons ES \rightarrow E + P \quad E + P$

6. Which of the following graph is alike the effect of pH on the velocity of a typical enzymatic reaction?

(A) 

(B) 

(C) 

(D) 

7. In competitive inhibition -
(A) Inhibitor resembles the substrate in molecular structure
(B) Competition is found between substrates and inhibitors to occupy active sites
(C) Binding of the inhibitors to active sites declines the enzyme action
(D) All

8. Sulpha drugs / sulphanilamides kill bacteria by inhibiting synthesis of folic acid from para-aminobenzoic acid. This type of control of bacterial pathogens is-
(A) Noncompetitive inhibition
(B) Allosteric inhibition
(C) Competitive inhibition
(D) Negative feed back

9. Enzymes are divided into -
(A) 6 Classes, each with 4 - 13 subclasses and named accordingly by a four- digit number
(B) 7 Classes, each with 4 - 13 subclasses and named accordingly by a four- digit number
(C) 6 Classes, each with 4 - 13 subclasses and named accordingly by a three- digit number
(D) 6 Classes, each with 4 - 20 subclasses and named accordingly by a four- digit number

10. Glucose + ATP $\xrightarrow{\text{Hexokinase}}$ Glucose 6 – Phosphate + ADP
In the reaction the given enzyme hexokinase is a kind of –
(A) Lyase (B) Ligase (C) Isomerase (D) Transferase

DPP No. : 26

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

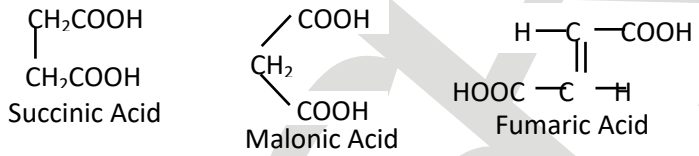
SECTION F : Enzymes

1. Cofactors are
(A) Nonprotein organic molecules (B) Certain vitamins
(C) Metallic ions (D) All of the above

2. The effect of a reversible competitive inhibitor can be nullified by
(A) increasing the product concentration (B) increasing the substrate concentration
(C) increasing the temperature (D) None of these

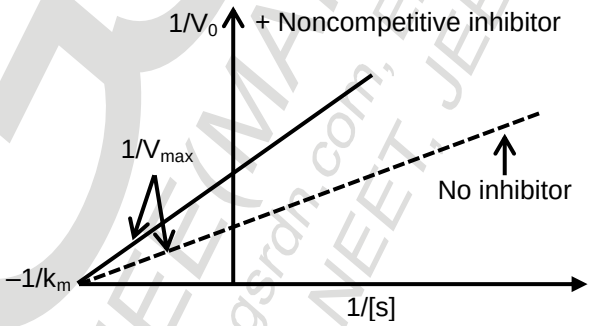
3. Succinate is the substrate for succinate dehydrogenase that converts succinate to fumarate. In the presence of reversible competitive inhibitor like malonate in place of succinate, the enzyme's–

$$\text{Succinate} \xrightarrow{\text{Succinate dehydrogenase}} \text{Fumarate} + 2H^+ + 2e^-$$



(A) Km increases and V_{max} remains the same
(B) both km and V_{max} increases
(C) both km and V_{max} decreases
(D) km decreases and V_{max} remains the same

4. A reversible non-competitive inhibitor binds reversibly at a site other than the active site. This binding lead to



(A) increase in k_m and V_{max}. remains constant
(B) increase V_{max} and k_m remains constant
(C) decrease in V_{max} and k_m remains constant
(D) No change in V_{max} & k_m.

5. Allosteric enzyme possesses
(A) Active site only (B) Active site and allosteric site
(C) Either active site or allosteric site (D) None of the above

SECTION G : Miscellaneous

6. Choose the correct statement (s) :
(A) Living steady state has a self regulatory mechanism called homeostasis
(B) Energy flow and energy transformation of living system follow the laws of thermodyamics
(C) Metabolism is release and gain of energy
(D) all of the above

7. Which of the following are characteristics of living things
(A) They reproduce (B) They acquire energy
(C) They respond to stimuli (D) All of the above

8. Which of the following substances does not play a role in normal human physiology
(A) Calcium (B) Silver
(C) Phosphorus (D) Sulphur

9. The basis of life is
(A) Lipid (B) Protein
(C) Nucleic acid (D) Nucleoprotein

10. Paraffin wax is
(A) Petroleum Product (B) Acid
(C) Monohydric alcohol (D) Cholesterol

DPP No. : 27

CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION G : Miscellaneous

1. During strenuos exercise, glucose is converted into
(A) Starch (B) Glycogen (C) Lactic acid (D) Pyruvic acid

2. Prostaglandins are
(A) Amino acid (B) Fatty acid (C) Carbohydrate (D) Steroid

3. Prokaryotic genetic material contain -
(A) neither DNA nor histones (B) DNA but no histones
(C) Either DNA or histones (D) Both DNA and histones

4. Which sugar is present in nucleic acid-
(A) Pentose (B) Hexose (C) Fructose (D) Glucose

5. Phosphorus is always present in
(A) Protein (B) DNA (C) RNA (D) Both 2 and 3

6. ADP has
(A) One high energy bond (B) Two high energy bonds
(C) Three high energy bonds(D) None of the above

7. People recovering from long illness are often advised to include the alga *Spirulina* in their diet because it
(A) is rich in proteins (B) has antibiotic properties
(C) makes the food easy to digest (D) restores the intestinal microflora

8. Largest physical and chemical molecules are
(A) Carbohydrates (B) Lipids (C) Proteins (D) Nucleic acids

9. Which of the following chemical characteristics is not common to all living beings
(A) Similar triplet code for amino acids
(B) Energy is stored by high phosphate bonds
(C) Type of protein present in the body
(D) Ribosomes are the sites of protein synthesis

10. $C_{16}H_{32}O_2$ and $C_{16}H_{30}O_{15}$ are ____and_____respectively-
(A) Protein, Starch (B) Lipid, Protein (C) Cellulose, Pectine (D) Lipid, Carbohydrate

DPP No. : 28

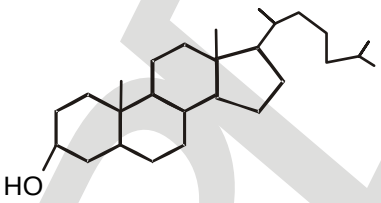
CHAPTER-BIOMOLECULES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION G : Miscellaneous

1. Which of the following lipids is most abundant in cell membrane?
(A) Steroid (B) Cholesterol
(C) Phospholipid (D) Cutin

2. This motecule is related to -



(A) Phospholipid (B) Lecithin
(C) Cholesterol (D) Oleic acid

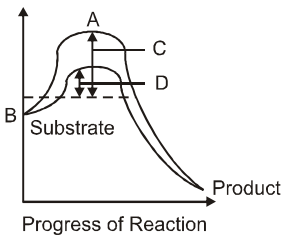
3. Which of the following is the final product of a gene?
(A) a polypeptide (B) an RNA only
(C) either polypeptide or RNA (D) a nucleotide only

4. Chemically hormones are
(A) Biogenic amines only (B) Proteins, steroids and biogenic amines
(C) Proteins only (D) Steroids only

5. The major role of minor elements inside living organisms is to act as
(A) co-factors of enzymes (B) Building blocks of important amino acids
(C) Constituent of hormones (D) Binder of cell structure

6. Which one is homopolymer?
(A) Cellulose, Glycogen and Inulin (B) Insulin, Chitin, Pectin
(C) Cellulose, Insulin, Polypeptide (D) Protein, Lipid and Polysaccharide

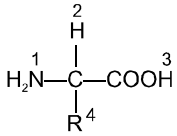
7. The figure given below shows the conversion of a substrate into product by an enzyme. In which one of the four option (A-4) the components of reaction labelled as A, B, C and D are identitied correctly.



Options :

	A	B	C	D
(A)	Activation energy with ssenzyme	Transition state	Activation energy without enzyme	Potential energy
(B)	Potential energy	Transition state	Activation energy with enzyme	Activation energy without enzyme
(C)	Transition state	Potential energy	Activation energy without enzyme	Activation energy with enzyme
(D)	Potential energy	Transition state	Activation energy with enzyme	Activation energy without senzyme

8. An amino acid has the following structure :



Which two group combine to form the peptide linkage ?

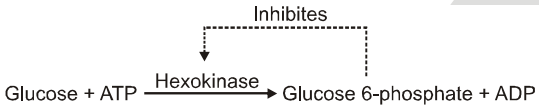
(A) 1–3 (B) 2–3 (C) 1–4 (D) 1–2

9. Erwin Chargaff formula is :

(A) $\frac{A+G}{C+T}=1$ (B) $\frac{A+T}{C+G}=1$

(C) $\frac{T+G}{A+C}=1$ (D) $\frac{A+C}{G+T}=1$

10.



This reaction is the example of -

(A) Allosteric stimulation (B) Feedback inhibition

(C) Competitive inhibition (D) None of the above

DPP No. : 29

CHAPTER-- DIGESTION AND ABSORPTION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : Nutrition

1. Essentially the world "chemical digestion" means
(A) Burning of food (B) hydrolysis of food
(C) Breaking down of food (D) Oxidation of food

SECTION B : Digestive System

2. The proximal part of stomach in which oesophagus opens is called
(A) Cardia (B) Pylorus (C) Fundus (D) None of these

3. A thin long tube extending downwards passing through neck, thorax and diaphragm eventually leading to the stomach is called
(A) Pharynx (B) Trachea (C) Oesophagus (D) Larynx

4. A muscular sphincter regulating opening of oesophagus into the stomach is called
(A) Pyloric sphincter (B) Cardiac sphincter (C) Sphincter of oddi (D) Boyden sphincter

5. The stomach is located in the upper ..... portion of the ..... cavity.
(A) Right, thoracic (B) Left, abdominal (C) Right, abdominal (D) Left, thoracic

6. The common passage for food and air is
(A) Gullet (B) Glottis (C) Larynx (D) Pharynx

7. What is true for oesophagus ?
(A) Longest in giraffe
(B) Extend posteriorly,passing through neck, throax, diaphragm and enter into j- shaped stomach
(C) Posterior opening of oesophagus is guarded by a sphincter
(D) All of the above

8. Which is characteristic of the lining of stomach of mammals ?
(A) Paneth cells (B) Deiter cells (C) Oxyntic cells (D) Kupffer cells

9. In the empty stomach, mucosal folds appear. They are called
(A) villi (B) cristae (C) Rugae (D) None

10. Small intestine is distinguishable into 3 parts:a 'C' shaped .....(i)....., a long coiled middle portion ....(ii)..... and a highly coiled .....(iii)..... . Here (i), (ii) and (iii) respectively are
(A) Ileum, jejunum, duodenum (B) Jejunum, duodenum, ileum
(C) Duodenum, jejunum, ileum (D) Caecum, duodenum, ileum.

DPP No. : 30

CHAPTER- DIGESTION AND ABSORPTION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Digestive System

1. Parotid salivary glands are present
(A) Below the tongue (B) Below the ear
(C) Below the eye orbit (D) Below the mandible

2. Right and left hepatic ducts join to form
(A) Common hepatic duct (B) Common bile duct
(C) Ampulla of Vater (D) None of these

3. Common bile duct is formed by union of
(A) Cystic duct (B) Common hepatic duct
(C) (A) & (B) (D) None of these

4. Match the items in columns I & II and pick up the correct combination.

	Column I (glands)		**Column II (location)**
A	Crypts of lieberkuhn	p	Loop of duodenum
B	Pancreas	q	Stomach
C	Adrenal gland	r	Intestine
D	Gastric gland	s	Kidney

(A) A = r , B = p , C = q , D = s (B) A = r , B = p , C = s , D = q
(C) A = q , B = s , C = r , D = p (D) A = p , B = r , C = s , D = q

5. Function of gall bladder is
(A) Dilution of bile (B) Concentration of bile
(C) Formation of bile (D) All of these

6. Glisson's capsule is present in
(A) Kidney (B) Liver (C) Pancreas (D) Stomach

7. Correct arrangement of the parts of large intestine is
(A) Caecum → Colon → Rectum → anal canal → Anus
(B) Caecum → Rectum → Colon → Anus
(C) Caecum → Colon → Anus → Rectum
(D) Colon → Caeum → Anus → Rectum

8. Intestinal villi are supplied with
(A) Only blood capillaries (B) Only lacteals
(C) Lacteals and valves (D) Blood capillaries and lacteals

9. In human beings which of the following opens into the duodenum
(A) Hepatic duct and pancreatic duct separately
(B) Hepato-pancreatic duct
(C) First hepatic duct, then pancreatic duct
(D) First pancreatic duct then hepatic duct

SECTION C : Digestive Glands

10. Plasma proteins such as albumin and globulin are synthesised in
(A) Liver (B) Pancreas (C) Kidney (D) Intestine

DPP No. : 31

CHAPTER- DIGESTION AND ABSORPTION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION C : Digestive Glands

1. Gastric glands have following cells:
i. Peptic cells
ii. Oxyntic cells
iii. Mucous neck cells
(A) Only (i) (B) Only (ii) (C) Only (i) & (iii) (D) (i), (ii) and (iii)

2. 'Crypts of Lieberkuhn' are found in
(A) gall bladder (B) liver (C) pancreas (D) intestinal tract

3. Emulsification of fats is brought about by
(A) Bile pigments (B) bile salts (C) Pancreatic juice (D) HCl

4. In which layer of stomach are gastric glands located?
(A) Serosa (B) Mucosa (C) Submucosa (D) Muscularis mucosa

SECTION D : Physiology of digestion

5. The main function of enterokinase is
(A) conversion of casein into paracasein
(B) conversion of pepsinogen into pepsin
(C) conversion of trypsinogen into trypsin
(D) stimulation of the gastric glands to secrete gastric juice

6. Salivary amylase, a digestive enzyme begins digestion of
(A) Proteins (B) Fats
(C) Carbohydrates (D) All of these

7. Pancreatic juice contains
(A) Trypsin, lipase and maltase
(B) Pepsin, tryspin and maltase
(C) Trypsin, chymotrypsin, amylase and lipase
(D) Trypsin, pepsin and amylase

8. Trypsinogen (inactive) $\xrightarrow{\text{'X'}}$ Trypsin (active) where 'X' is -
(A) Enterokinase (B) Sucrase (C) Lactase (D) Lipase

9. Which enzyme digests peptides & release amino acid ?
(A) Pepsin (B) Trypsin (C) Peptidases (D) Aminopeptidase

SECTION E : Gastro Intestinal hormones / Digestive enzymes

10. By the mechanical stimulation on the wall of stomach, a hormone is released. This is
(A) Gastrin (B) Progesterone (C) Secretin (D) Pancreozymin

DPP No. : 32

CHAPTER- BREATHING AND EXCHANGE OF GASES

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Respiratory organ

1. During hibernation, frog's respiration is
(A) Cutaneous (B) Pulmonary (C) Buccopharyngeal (D) Pharyngeal

2. Book lungs are the respiratory organs in
(A) Protozoans (B) Cnidarians (C) Arthropods (D) Amphibians

3. Common feature of human and insect trachea is
(A) Noncollapsible wall (B) Supporting rings
(C) Ectodermal origin (D) Endodermal origin

4. Respiratory organs in scorpions are
(A) gills (B) book lungs (C) skin (D) book gills

5. In which of the following gaseous exchange between O_2 and CO_2 occurs through general body surface?
(A) sponges (B) coelentrates (C) flatworms (D) All

SECTION B : Anatomy and histology

6. The following are different components of the path of passage of air during inspiration. Arrange these components in the correct sequence, from the outside to the inside
I. Respiratory bronchioles
II. Tertiary bronchioles
III. Secondary bronchioles
IV. Terminal bronchioles
V. Alveolar duct
VI. Primary bronchioles
(A) VI-III-II-IV-I-V (B) III-VI-II-IV-V-I
(C) VI-III-II- V -I- IV (D) VI-IV-III-II-I-V

7. Vocal cords in the larynx extend between the
(A) Thyroid and arytenoids cartilages (B) Thyroid and cricoid cartilages
(C) Santorini and thyroid cartilages (D) A pair of arytenoids cartilages

8. The function of nasal cavity & nasopharynx is to -
(A) Warm the inspired air
(B) Moisten the inspired air
(C) Filter out the dust particles from the inspired air
(D) All of the above

9. The trachea is prevented from collapsing by the presence of the_____ rings
(A) Striated muscles (B) cartilage (C) bony (D) sinus

10. Trachea divides into right and left primary bronchi at__ thoracic vertebra.
(A) 4 (B) 5 (C) 6 (D) 9

DPP No. : 33

CHAPTER-BREATHING AND EXCHANGE OF GASES

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Anatomy and histology

1. Sites of gaseous exchange in lungs are.
(A) Alveoli (B) Tracheoles (C) Bronchioles (D) Pleura

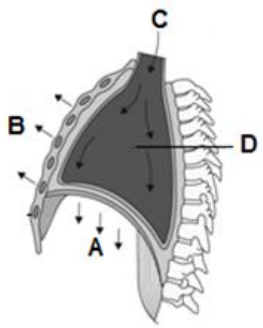
2. Incomplete cartilaginous rings support all of the following except
(A) Trachea (B) Primary, secondary and tertiary bronchi
(C) Respiratory bronchioles (D) Initial bronchioles

3. Which of the following has the highest diameter?
(A) Trachea (B) Terminal bronchiole
(C) Tertiary bronchus (D) Secondary bronchus

4. The chamber formed dorsally by the vertebral column, ventrally by sternum, laterally by ribs and on the lower side by dome-shaped diaphragm is
(A) Abdominal cavity (B) Thoracic cavity
(C) Pelvic cavity (D) Cranial cavity

SECTION C : Mchanism of breathing

5. The figure given below depicts the mechanism of breathing. In which one of the given options, correctly identifies A, B, C and D.



(A) C – Air entering lungs
B – Ribs and sternum returned to original position
A – Diaphragm relaxed
D – Volume of thorax decreased

(B) C – Air expelled from lungs
B – Ribs and sternum returned to original position
A – Diaphragm relaxed
D – Volume of thorax decreases

(C) C – Air entering into the lungs
B – Ribs and sternum raised
A – Diaphragm contracted
D – Volume of thoracic cavity increased

(D) C – Ribs and sternum returned to original position
B – Air entering lungs
A – Diaphragm contracted
D – Volume of thoracic cavity increased

6. Forceful expiration is an
(A) passive process and involved contraction of Internal intercostal and abdominal muscles
(B) active process and involved contraction of External intercostal and abdominal muscles
(C) active process and involved contraction of Internal intercostal and abdominal muscles
(D) passive process and involved contraction of External intercostal and abdominal muscles

7. During inspiration, the muscles of diaphragm
(A) Contract to make the diaphragm dome shaped
(B) Contract to make the diaphragm flat
(C) Relax to make the diaphragm dome shaped
(D) Relax to make the diaphragm flat

8. The type of respiration in mammals is called
(A) pulmonary respiration (B) gill respiration
(C) cutaneous respiration (D) tracheal respiration

9. The lungs expand in inspiration / inhalation because
(A) Diaphragm contracts upward (B) The volume of thoracic cavity increases
(C) External intercostal muscles relax (D) Diaphragm relaxes

10. Expiration takes place when the Intrapulmonary pressure is
(A) Greater than the atmospheric pressure (B) Lesser than the atmospheric pressure
(C) Equal to atmospheric pressure (D) Equal to intrapleural pressure

DPP No. : 34

CHAPTER-BREATHING AND EXCHANGE OF GASES

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION C : Mchanism of breathing

1. On an average, a healthy human breathes..... times / minute
(A) 20-40 (B) 1-6 (C) 12-16 (D) 16-25

2. Additional muscles for forceful breathing are
(A) Diaphragm and external intercostal muscles
(B) Abdominal muscles and internal intercostal muscles
(C) Diaphragm and abdominal muscles
(D) External and internal intercostal muscles

SECTION D : Respiratory volume and capacity

3. Match the following:

A. Tidal volume	**I.** Maximum volume of air that can be exhaled after deepest breath
B. Residual volume	**II.** Volume of air that remains in the lungs at all times
C. Vital capacity	**III.** Volume of air that can be exhaled after tidal volume
D. Expiratory reserve volume	**IV.** Volume of air moved in or out of the lungs

The correct match is:

	A	B	C	D
(A)	II	IV	I	III
(B)	IV	II	I	III
(C)	III	IV	I	II
(D)	I	II	III	IV

4. The amount of air remaining in the air passages and alveoli at the end of normal respiration is
(A) Tidal volume (B) Inspiratory capacity
(C) Inspiratory reserve volume (D) Functional residual capacity

5. A spirometer cannot be used to measure
(A) IC (B) RV
(C) ERV (D) IRV

SECTION E : Exchange and transport of gases

6. How much O_2 is present in one litre of deoxygenated blood under normal conditions?
(A) 125 ml (B) 250 ml
(C) 50 ml (D) 150 ml

7. Displacement of oxygen from oxyhaemoglobin due to increase in CO_2 occurs in the tissues. This phenomenon is called
(A) Chloride shift (B) Haldane effect
(C) Bohr Effect (D) Reverse chloride shift

8. Study the following statements
I. Effect of CO_2 and H^+ on the oxygen affinity of haemoglobin is termed Bohr effect
II. Formation of carbonic acid is faster in plasma than RBC due to carbonic anhydrase
III. Decrease in pH increase in CO_2 and temperature shifts oxyhaemoglobin dissociation curve to the left side
IV. Exchange of chloride and bicarbonate ions between RBC and plasma is called Hamberger's phenomenon
Correct statements are:
(A) I & II (B) II & III
(C) I & IV (D) II & IV

9. The relation between affinity of O_2 with haemoglobin and effect of CO_2 and H^+ ions is termed

(A) Haldane effect (B) Hamburger's phenomenon

(C) Bohr's effect (D) O_2 – Hb dissociation curve

10. Maximum amount of CO_2 is carried to the lungs for elimination in the blood by

(A) Erythrocytes in the form of bicarbonate $\left(HCO_3^-\right)$ ions

(B) Plasma in the form of bicarbonate $\left(HCO_3^-\right)$ ions

(C) Erythrocytes in the form of carbonic acid $\left(H_2CO_3\right)$

(D) Haemoglobin in the form of carbamino haemoglobin $\left(Hb-CO_2\right)$

DPP No. : 35

CHAPTER-BREATHING AND EXCHANGE OF GASES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION E : Exchange and transport of gases

1. O_2 – Hb dissociation curve may shift to right, when
(A) PCO_2 is low, temperature is high and pH is lower than normal
(B) PCO_2 and temperature are high and pH is lower than normal
(C) PCO_2 and temperature are low and pH is higher than normal
(D) PCO_2, temperature and pH are changed and show higher than normal

2. Exchange of gases
(A) Occurs between the alveoli and pulmonary blood capillary
(B) Occurs between blood and tissues
(C) By diffusion
(D) All

3. Which of the following factors affect the diffusion of gases?
(A) Partial pressure of diffusing gases (B) Solubility of gases
(C) The thickness of diffusion membrane (D) All

4. A section of an alveolus with a pulmonary capillary indicates the presence of major layers constituting diffusion membrane
(A) 3 (B) 2 (C) 6 (D) 10

5. The barrier between the air in alveolus and blood in pulmonary capillary consists of 3 layers and its total thick ness
(A) 1 mm (B) more than 1 mm
(C) Much less than 1 mm (D) 2 mm

6. Besides RBC blood plasma also carries O_2 in solution. The percentage is
(A) 3% (B) 97% (C) 49% (D) 25%

7. Dissociation curve is related with
(A) Carbonic anhydrase (B) CO
(C) O_2 (D) Oxyhaemoglobin

8. Binding of O_2 with haemoglobin is primarily related to
(A) pO_2 (B) pCO_2 (C) H^+ conc (D) None

9. Hb-Oxygen dissociation curve is
(A) J-shaped (B) S-shaped
(C) L-shaped (D) Zig-zag

10. What will be the pO_2 and pCO_2 in the atmospheric air compared to those in the alveoli ?
(A) pO_2 lesser pCO_2 higher (B) pO_2 higher, pCO_2 lesser
(C) pO_2 higher, pCO_2 higher (D) pO_2 lesser, pCO_2 lesser

DPP No. : 36

CHAPTER-BREATHING AND EXCHANGE OF GASES

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION E : Exchange and transport of gases

1. Which of the following would have the same O_2 content?
(A) Blood entering the lungs and the blood leaving the lungs
(B) Blood entering the right side of the heart and the blood leaving the right side of the heart
(C) Blood entering the right side of the heart and the blood leaving the left side of the heart
(D) Blood entering the tissue capillaries and the blood leaving the tissue capillaries

2. CO_2 dissociates from carbaminohaemoglobin when
(A) $PO_2 = \downarrow$ $PCO_2 = \downarrow$, (B) $PO_2 = \uparrow$, $PCO_2 = \uparrow$
(C) $PO_2 = \downarrow$ $PCO_2 = \uparrow$ (D) $PO_2 = \uparrow$, $PCO_2 = \downarrow$

3. All of the followings favour the dissociation of oxyhaemoglobin to deliver O_2 to tissues except
(A) $PO_2 = \uparrow$ (B) $PCO_2 = \uparrow$ or $H^+ = \uparrow$
(C) Temperature = $\uparrow$ (D) $PO_2 = \downarrow$

4. The transport of CO_2 by the blood is primarily dependent on
(A) The solubility of CO_2 in blood
(B) The presence of carbonic anhydrase in RBCs
(C) The ability of haemoglobin to bind and transport CO_2
(D) The ability of other blood proteins

5. In comparison to solubility of O_2 in blood the solubility of CO_2 is
(A) 20 - 25 times lesser (B) Slightly higher
(C) Slightly lesser (D) 20 - 25 times higher

6. Chloride shift is essential for transport of:
(A) CO_2 and O_2 (B) N_2 (C) CO_2 (D) O_2

7. During oxygen transport the oxyhaemoglobin, at the tissue level liberates oxygen to the cells because in tissue
(A) O_2 concentration is high and CO_2 is low (B) O_2 concentration is low and CO_2 is not high
(C) O_2 tension is high and CO_2 tension is low (D) O_2 tension is low and CO_2 tension is high

8. What would happen if human blood becomes acidic (low pH)?
(A) Oxygen carrying capacity of haemoglobin increases
(B) Oxygen carrying capacity of haemoglobin decreases
(C) RBCs count increases
(D) RBCs count decreases

9. Amount of O_2 normally carried by 100 ml of oxygenated blood:
(A) 10 ml (B) 20 ml (C) 30 ml (D) 40 ml

10. Bicarbonate ions are produced inside
(A) Lymphocytes (B) Erythrocytes (C) Neutrophils (D) Basophils

DPP No. : 37

CHAPTER-BREATHING AND EXCHANGE OF GASES

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION E : Exchange and transport of gases

1. During one circuit of blood from lungs to the tissues and back through circulatory system, the percentage of haemoglobin giving up its oxygen to tissues under normal conditions is:
(A) 25% (B) 50% (C) 75% (D) 100%

SECTION F : Regulation

2. Higher concentration of CO_2 in the blood causes
(A) Low transport of O_2 and decreased performance of carbonic anhydrase
(B) Great affinity of O_2 with Hb
(C) Quick dissociation of O_2 from HbO_2 and diffusion into tissue cells
(D) pH is increased due to solubility of CO_2 with water in the plasma

3. The breathing centre initiates ventilation in response to
(A) A decrease in air pressure (B) A decrease in O_2
(C) An increase in CO_2 (D) The rate of gas exchange in the alveoli

4. All of the following factors play role in the regulation of respiratory rhythm except
(A) CO_2 (B) H^+ conc (C) O_2 (D) blood pH

5. Respiratory centre that controls normal breathing lies in
(A) Cerebrum (B) Cerebellum (C) Midbrain (D) Medulla oblongata

SECTION G : Disorders

6. Asphyxia occurs due to
(A) Rise in level of CO_2 (B) Fall in level of CO_2
(C) Rise of O_2 level (D) Fall in O_2 level

7. Emphysema is characterized by
(A) destruction of alveolar wall (B) pulmonary haemorrhage
(C) Increased number of air sacs (D) Infection of *Mycobacterium trabeculae*

SECTION H : Miscellaneous

8. How does carbon monoxide, a poisonous gas emitted by automobiles, prevent the transport of oxygen to body tissues?
(A) By obstructing the reaction of oxygen with haemoglobin
(B) By forming a stable compound with haemoglobin
(C) By changing oxygen into carbon dioxide
(D) By destroying the haemoglobin

9. During which phase of respiration ATPs are produced?
(A) External respiration (B) Internal respiration
(C) During breathing (D) Cellular respiration

10. The endoparasite which respires aerobically is
(A) *Amoeba* (B) Tapeworm (C) Liver fluke (D) *Plasmodium*

DPP No. : 38

CHAPTER- BODY FLUIDS AND CIRCULATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A: HEART AND CONDUCTION

1. In circulatary system,valves occur in
(A) Heart and blood vessels of both vertebrates and invertebrates as well as vertebrate lymphatics
(B) Both Vertebrates and invertebrate hearts
(C) Vertebrates hearts only
(D) Both Vertebrates and invertebrate hearts and their blood vessels

2. The pH of blood is
(A) More in veins and less in arteries (B) More in arteries and less in veins
(C) Same in arteries and veins (D) Not definite

3. Which one of the following word is not applicable to coagulation of blood?
(A) Fibrin (B) Fibrinogen (C) Calcium (D) Bilirubin

4. Lobbed Nucleated phagocytic WBC is
(A) Neutrophil (B) Basophil (C) Monocyte (D) All of these

5. Which is used to prevent bleeding?
(A) Vitamin A (B) Vitamin C (C) Vitamin B_{12} (D) Vitamin K

6. One of the factor required for the maturation of erythrocytes is
(A) Vitamin D (B) Vitamin A (C) Vitamin B_{12} (D) Vitamin C

7. The component of blood that checks its clotting in the intact blood vessels is
(A) Plasmin (B) Thrombin (C) Heparin (D) Haemoglobin

8. Movement of WBCs out of capillaries is called
(A) Translocation (B) Phagocytosis (C) Diapedesis (D) Pinocytosis

9. Blood clotting is initiated by
(A) Ca^{++} and thromboplastin (B) Prothrombin and thromboplastin
(C) Fibrinogen and Ca^{++} (D) Fibrinogen and thromboplastin

10. Haemophilia is caused by
(A) Factor V (B) Factor VIII (C) Factor III (D) None of these

DPP No. : 39

CHAPTER-BODY FLUIDS AND CIRCULATION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : HEART AND CONDUCTION

1. Thromboplastin is secreted by
(A) Platelets (B) Lymphokines
(C) Helper T cells (D) Mast cells

2. For safe blood transfusion
(A) Donor's RBC should not contain antibodies against recipient serum
(B) Recipient's serum should not contain antigens against donor's antibodies
(C) Recipient's serum should not contain antibodies against RBC of donor
(D) Recipient's RBC should not contain antibodies against donor's antigens

3. Which of the following substances,if introduced into the blood stream,would cause coagulation of blood at the site of its introduction ?
(A) Prothrombin (B) Fibrinogen
(C) Thromboplastin (D) Heparin

4. Heparin is synthesized in
(A) Liver (B) Kidney
(C) Saliva (D) pancreas

5. A drop of each of the following is placed separately on four slides.Which of them will not coagulate ?
(A) Blood serum
(B) Sample from the thoracic duct of lymphatic system
(C) Whole blood from pulmonary vein
(D) Blood plasma

6. Rh-ve person donated blood to Rh + ve person for the second time.Then
(A) Rh -ve person will die
(B) Nothing happens to Rh -ve person
(C) Rh +ve blood starts reacting to Rh -ve blood
(D) Rh +ve person will die

7. The pericardium and the pericardial fluid help in
(A) Protecting the heart from friction, shocks and keeps it moist
(B) Pumping the blood
(C) Receiving the blood from various parts of the body
(D) None of the above

8. Which one is the correct route through which pulse making impulse travels in the heart
(A) SA node → Purkinje fibres → Bundle of His → AV node → Heart muscles
(B) AV node → SA node → Purkinje fibres → Bundle of His → Heart muscles
(C) AV node → Bundle of His → SA node → Purkinje fibres → Heart muscles
(D) SA node → AV node → Bundle of His → Purkinje fibres → Heart muscles

9. In the heart of mammals the bicuspid valve is situated between
(A) Left auricle and left ventricle (B) Post caval and right caval
(C) Right auricle and left auricle (D) Right ventricle and pulmonary aorta

10. The heart of a healthy man beats normally per minute
(A) 60 – 70 times (B) 70 – 80 times
(C) 80 – 90 times (D) 85 – 95 times

DPP No. : 40

CHAPTER-BODY FLUIDS AND CIRCULATION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION A : HEART AND CONDUCTION

1. Which valve is present between the left atrium and the left ventricle?
(A) Tricuspid (B) Mitral (C) Aortic (D) Pulmonary

2. Heart beat can be initiated by
(A) Sino-auricular node (B) Atrio-ventricular node
(C) Sodium ion (D) Purkinje's fibres

3. Purkinje's fibres are special types of
(A) Muscle fibres located in heart
(B) Nerve fibres located in cerebrum
(C) Connective tissue fibres joining one bone to another bone
(D) Sensory fibres extending from retina into optic nerve

4. During ventricular diastole
(A) The auricles relax (B) The heart contracts
(C) The heart pumps blood (D) The ventricles relax

SECTION B : Blood Vesseles

5. What is true of all veins ? They
(A) Carry oxygenated blood (B) Carry blood towards the heart
(C) Contain less blood than arteries (D) Have valves opening away from the heart

6. Maximum surface area of circulatory system is een in
(A) Heart (B) Capillaries (C) Arterioles (D) veins

7. Carotid artery supplies
(A) oxygenated blood to lungs (B) oxygenated blood to brain
(C) oxygenated blood to intestine (D) none of these

SECTION C : Blood Pressure, ECG

8. Normal diastolic pressure in young man is about
(A) 20 mm Hg (B) 80 mm Hg (C) 100 mm Hg (D) 130 mm Hg

9. In all the leads of ECG, all following are positive except
(A) P (B) Q (C) R (D) T

10. In an ECG, the depolarization of atria is indicated by
(A) P Wave (B) Q Wave (C) R Wave (D) S Wave

DPP No. : 41

CHAPTER-EXCRETARY PRODUCTS AND THEIR ELIMINATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Homeostasis and Osmoregulation

1. The function performed by kidneys apart from excretion is
(A) Osmoregulation (B) Temperature regulation
(C) Hormonal regulation (D) Spermatogenesis

2. Mammals have the ability to produce ——urine-
(A) Hypotonic (B) Hypertonic (C) Isotonic (D) Alkaline

SECTION B : Excretory waste products

3. Ammonia and urea are waste products derived from the metabolic breakdown of
(A) Lipids (B) Carbohydrates (C) Proteins (D) Sugars

4. Uricotelism is found in
(A) Birds , reptiles and insects (B) Frogs and toads
(C) Mammals and birds (D) Fishes and fresh water protozoans

5. Reptiles are
(A) Ammonotelic
(B) Uricotelic
(C) Ammonotelic in water and uricotelic on land
(D) ureotelic

6. Which of the following nitrogenous substance is highly toxic
(A) Urea (B) Uric acid (C) Amino acid (D) Ammonia

7. Earthworms are
(A) ammonotelic when plenty of water is available
(B) ureotelic when plenty of water is available
(C) uricotelic when plenty of water is available
(D) uricotelic under conditions of water scarcity

8. Animal which excrete urea produced during metabolism of amino acids is
(A) Ureotelism (B) Uricotelism (C) Ammonotelism (D) Aminotelism

9. Aquatic reptiles are
(A) Ammonotelic (B) Ureotelic over land (C) Ureotelic (D) Ureotelic in water

SECTION C : Excretory organs of different organism

10. Which of the following statements is correct?
(A) Many bony fishes, aquatic amphibian and aquatic insects are ammonotelic
(B) Ammonia is readily soluble
(C) It is generally excreted by cross the body surface or through gills (in fishes)
(D) All of these

DPP No. : 42

CHAPTER-EXCRETARY PRODUCTS AND THEIR ELIMINATION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION C : Excretory organs of different organism

1. Correct order of excretory organs in Cockroach, Earthworm and Rabbit respectively
(A) Skin, malpighian tubules, kidney (B) Malpighian tubules, nephridia, kidney
(C) Nephridia, malpighian tubules, kidney (D) Nephridia, kidney, green gland

2. Which of the following correct about protonephridia/flame cells?
(A) Protonephridia are the excretory structures in Platyhelminthes (e. g. Planaria) rotifers and some annelids
(B) Protonephridia are the excretory structures in the cephalochordes (e. g. amphioxus)
(C) Protonephridia are primarily concerned with ionic and fluid volume regulation i. e. osmoregulation
(D) All

SECTION D : Human excretory system

3. Which one of the following correctly explains the function of a specifice part of a human nephron?
(A) **Podocytes:** Create minute spaces (slit pores) for the filtration of blood into the Bowman's capsule
(B) **Henle's loop:** Most reabsorption of the major substances from the glomerular filtrate
(C) **Distal convoluted tubule:** Reabsorption of K^+ ions into the surrounding blood capilaries
(D) **Afferent Arteriole:** Carries the blood away from the glomerulus towards renal vein.

4. Part not belonging to uriniferous tubule is
(A) Glomerulus (B) Henles loop
(C) Distal convoluted tubule (D) Collecting tubule

5. "Columns of Bertini" in the kidney of mammals are formed as the extension of
(A) Medulla into cortex (B) Cortex into medulla
(C) Medulla into pelvis (D) Pelvis into ureter

6. The glomerular filtrate i.e., the liquid collected in the cavity of Bowman's capsule is
(A) Blood minus proteins (B) Blood minus proteins and corpuscles
(C) Water (D) Urine

7. Ultrafiltration occurs through
(A) Basement membrane (B) Glomerular membrane
(C) Interpodocytic space (D) Capsular wall

SECTION E : Uriniferous tubule / Nephrons

8. Brush border is characteristic of
(A) Neck of nephron (B) Collecting tube
(C) Proximal convoluted tubule (D) All of the above

9. All Bowman's capsules of the kidney are found in
(A) Cortex (B) Medulla (C) Pelvis (D) None of these

10. In mammalian kidney Henle's loop is present in
(A) Cortex (B) Caput epididymus
(C) Medulla (D) Ureter

DPP No. : 43

CHAPTER-EXCRETARY PRODUCTS AND THEIR ELIMINATION

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION F : Urine formation

1. What causes the liquid part of the blood to filter out from the glomerulus into the renal tubule?
(A) Osmosis (B) High (hydrostatic) pressure
(C) Diapedesis (D) Dialysis

2. Under normal conditions which one is completely reabsorbed in the renal tubule?
(A) Urea (B) Uric acid (C) Salts (D) Glucose

3. The vessel carrying blood (containing nitrogenous waste) into the Bowman's capsule is known as
(A) Afferent arteriole (B) Efferent arteriole (C) Renal artery (D) Renal vein

4. Glucose is taken back from glomerular filtrate through
(A) Diffusion (B) Osmosis (C) Active transport (D) Passive transport

5. A large quantity of fluid is filtered every day by the nephrons in the kidneys. Only about 1% of it is excreted as urine. The remaining 99% of the filtrate
(A) is stored in the urinary bladder (B) is reabsorbed into the blood
(C) gets collected into the renal pelvis (D) is lost as sweat

6. Find the incorrect statement regarding mechanism of urine formation in man
(A) The glomerular filtration rate is about 125 ml per minute
(B) The ultrafiltration is opposed by the colloidal osmotic pressure of plasma
(C) Tubular secretion takes place in the PCT
(D) The counter current system contribute in diluting the urine

7. Total filtrate formed in 24 hours in human kidney is
(A) 1.8 litre (B) 8.0 litre (C) 18 litre (D) 180 litre

8. Main functions of kidney is
(A) Passive absorption (B) Ultrafiltration
(C) Selective reabsorption (D) Both (B) and (C)

9. Which one plays an important role in counter current mechanism?
(A) Vasa recta (B) PCT
(C) Loop of Henle (D) (A) and (C)

10. NaCl is transported by the ascending limb of Henle's lop which is exchanged with
(A) DCT (B) PCT
(C) Ascending limb of vasa recta (D) Descending limb of vasa recta

DPP No. : 44

CHAPTER- LOCOMOTION AND MOVEMENT

Total Marks : 40 | **Max. Time : 10 min.**
Single choice Objective | **(D marks 1 min.)**

SECTION F : Urine formation

1. Vasa recta is
(A) L shaped (B) S shaped
(C) U shaped (D) J shaped

SECTION G : Micturition

2. The neural mechanisms causing urination is called
(A) Scarth reflex (B) Withdrawal reflex
(C) Micturition reflex (D) None

SECTION H : Role of other organ in excretion

3. In addition to kidneys, which of the following help/help's in the elimination of excretory wastes?
(A) Skin (B) Liver
(C) Lungs (D) All of these

4. Most of the excretory products of bile, ultimately pass out, along with
(A) Urine (B) Digestive wastes (C) Sweat (D) None of these

5. How much CO_2 is removed per day by our lungs?
(A) 18 ml (B) 288 litres (C) 1 litre (D) 8 litres

6. Liver (largest gland) is both secretory and excretory organs. It secretes bile. Which of the following are not major excretory products of bile?
(A) Degraded steroid hormones (B) Vitamins and drugs
(C) Bilirubin and biliverdin (D) Cholesterol

SECTION A : Muscles

7. During muscle contraction
(A) A-band decreases (B) I-band and H-zone decrease or disappear
(C) Both A and I-bands decrease (D) A and I-bands remain unchanged

8. Electron microscopic studies of the sarcomeres have revealed that during muscle contraction
(A) the diameter of the fiber decreases (B) the width of the A-band increases
(C) the width of the H-zone decreases (D) the width of the I-band increases

9. The muscle fatigue occurs due to an accumulation of
(A) creatine phosphate (B) carbon dioxide
(C) lactic acid (D) myosin ATPase

10. Unstriped muscles are found in the
(A) thigh
(B) extra ocular muscles for the movement of eye balls
(C) tongue
(D) iris

DPP No. : 45

CHAPTER- LOCOMOTION AND MOVEMENT

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Muscles

1. Cardiac muscles are characteristic in that they
(A) contract relatively slowly and do not get fatigued
(B) contract quickly and soon get fatigued
(C) contract quickly and do not get fatigued
(D) are branched and do not contain nuclei

2. The thick myosin filaments represent
(A) dark or anisotropic bands (B) light or isotropic bands
(C) sarcomere (D) krause's end membrane

3. Muscle phosphagen present in invertebrate muscles is
(A) phosphoarginine (B) phosphocreatine
(C) lactic acid (D) creatinine phosphate

4. The thick myosin filaments represent
(A) dark or anisotropic bands (B) light or isotropic bands
(C) sarcomere (D) krause's end membrane

5. The muscle band that remains unchanged during muscle contraction and relaxation of the skeletal muscle is -
(A) I (B) A (C) H (D) Z-line

6. Detachment of myosin from actin requires the attachment of
(A) ATP to the myosin head (B) Mg^{++} to the actin filament
(C) ATP to the actin molecule (D) Ca^{++} to the myosin head

7. The relief of muscle from possible fatigue is due to the
(A) oxidation of lactic acid (B) Cori and Cori cycle
(C) accumulation of Ca^{2+} ions (D) disappearance of cross bridges

8. The substances that accumulate or increase during active muscle contraction are
(A) ATP, glycogen, phosphocreatine and oxygen
(B) ADP, lactic acid, creatine and carbon dioxide
(C) ADP, glycogen, creatine and carbon dioxide
(D) ATP, lactic acid, phosphocreatine and oxygen

9. During muscle contraction
(A) mechanical energy is changed into chemical energy
(B) chemical energy is changed into electrical energy
(C) chemical energy is changed into potential energy
(D) chemical energy is changed into mechanical energy

SECTION B : Axial Skeleton

10. Palate is meant for
(A) mastication of food materials before digestion
(B) separation of food channel from the respiratory channel
(C) quicker expiration of carbon dioxide
(D) to prevent the entry of food into trachea while swallowing

DPP No. : 46

CHAPTER- LOCOMOTION AND MOVEMENT, NEURAL CONTROL AND COORDINATION

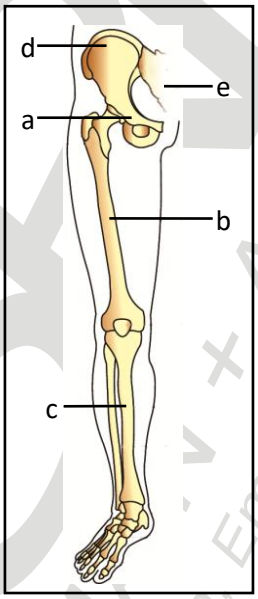
Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION C : Appendicular Skeleton

1. An acromian process is characteristically found in the
(A) skull of frog (B) sperm of mammals
(C) pelvic girdle of mammals (D) pectoral girdle of mammals

2. The three bones that contribute in the formation of pelvic girdle are
(A) ischium, pubis, coccyx (B) ileum, ischium, pubis
(C) ilium, ischium, pubis (D) pubis, acetabulum, ischium

3. Consider the diagram given below.



Parts labelled as (a), (b), (c), (d) and (e) respectively indicate.
(A) Ilium, femur, tibia, pubis and sacrum (B) Pubis, femur, tibia, Ilium and sacrum
(C) Pubis, tibia, femur, Ilium and sacrum (D) Ilium, femur, tibia, pubis and sacrum

4. A cricket player is chasing a ball in the field. Which one of the following groups of bones are directly contributing in this movement?
(A) Pelvis, ulna, patella, tarsals (B) Sternum, femur, tibia, fibula
(C) Tarsals, femur, metatarsals, tibia (D) Femur, malleus, tibia, metatarsals

5. An acromian process is characteristically found in the
(A) skull of frog (B) sperm of mammals
(C) pelvic girdle of mammals (D) pectoral girdle of mammals

6. Which set is the correct representation of upper limb bones from humerus to phallanges in each arm ?
(A) 1, 1, 1, 5, 8, 14 (B) 8,5,14, 1, 1, 1 (C) 2,2,2,16,10,28 (D) 1,1,1,8,5,14

7. Number of bones in human appendicular skeleton is-
(A) 80 (B) 106 (C) 206 (D) 126

8. During locomotion in man, movement between two structures of which one of the following sets takes part?
(A) Skull and atlas (B) Humerus and ulna
(C) Femur and pelvic girdle (D) Humerus and pectoral girdle

SECTION D : Joints

9. Extremities of long bones posses.....cartilage.
(A) calcified (B) fibrous (C) hyaline (D) elastic

SECTION E : Miscellaneous

10. Which one of the following is a sesamoid bone?

(A) Pelvic girdle (B) Patella (C) Pterygoid (D) Pectoral girdle

DPP No. : 47

CHAPTER- NEURAL CONTROL AND COORDINATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Neural tissue, Nerve physiology

1. Which cell stops dividing after birth?
(A) Neuron (B) Glial (C) Epithelium (D) Liver

2. Which of the following has non-myelinated nerve fibres?
(A) Optic nerves (B) Cranial nerves (C) Spinal nerves (D) Autonomic nerves

3. Nissl's granules are present in the ..... and are made up of ..... respectively.
(A) Muscle cells and deoxyribo nucleic acid (B) Mast cells and RNA
(C) Osteocytes and DNA (D) Neuron and RNA

4. Potential difference across resting membrane is negatively charged. This is due to the differential distribution of
(A) Na^+ and K^+ ions (B) CO^{3++} and Cl^- ions
(C) Ca^{++} and Mg^{++} ions (D) Ca^{+4} and Cl^- ions

5. Which of the following is/are released at the synaptic junction?
(A) Hormones (B) Neurotransmitters
(C) Cerebrospinal fluid (D) Lymph

6. In a nerve, if sodium pump is blocked, which of the following is most likely to happen?
(A) Na^+ and K^+ will increase outside the cell (B) Na^+ outside the cell will increase
(C) Na^+ inside the nerve will increase (D) K^+ inside the nerve will increase

SECTION B : Brain, Spinal cord

7. Parkinson's disease (characterized by tremors and progressive rigidity of limbs) is caused by degeneration of brain neurons that are involved in movement and control and make use of neurotransmitter
(A) GABA (B) Dopamine (C) Acetylcholine (D) Norepinephrine

8. The branched tree like structure present in cerebellum is
(A) Arbor vitae (B) Arboreal (C) Archenteron (D) Areole

9. What is found in the periphery of spinal cord
(A) Grey matter (B) Myelinated nerve (C) White matter (D) Notochord

10. Mammalian brain differs from an amphibian brain in possessing
(A) Olfactory lobe (B) Hypothalamus (C) Corpus callosum (D) Cerebellum

DPP No. : 48

CHAPTER- NEURAL CONTROL AND COORDINATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Brain, Spinal cord

1. Subdural space is found between
(A) piamater and arachnoid membrane
(B) duramater and cranium
(C) arachnoid membrane and duramater
(D) duramater and filum terminale

2. Which of the following is the immediate covering of a nerve fibre?
(A) Sarcoplasm (B) Perineurium (C) Epineurium (D) Endoneurium

3. The innermost meninx surrounding the central nervous system in frog and man respectively are
(A) Piamater and piamater (B) Arachnoid and piamater
(C) Piamater and duramater (D) Arachanoid and duramater

4. An area in the brain which is associated with strong emotions is
(A) cerebral cortex (B) cerebellum (C) limbic system (D) medulla

5. That part of the brain which is involved in interpreting an input, storing input information and initiating a response in the light of similar past experience is
(A) Motor area (B) Sensory area (C) Association area (D) Pons

6. Cerebrospinal fluid is produced by
(A) Ependymal cells (B) Choroid plexus (C) Neuroglial cells (D) Neurons

7. Which of the following is a richly vascular layer with lots of blood capillaries?
(A) Durameter of brain (B) Piamater of spinal cord
(C) Epidermis of skin (D) Epithelial lining of trachea

8. Foramen of Monro connects
(A) first & third ventricles (B) Diocoel and Metacoel
(C) second & third ventricles (D) Lateral ventricles & Diocoel

SECTION C : Reflex action, PNS

9. Purely motor nerve is
(A) Optic (B) Abducens (C) Opthalamic (D) Palatine

10. Which is activated in stress condition
(A) Sympathetic (B) Parasympathetic (C) Somatic (D) Whole *ANS*

DPP No. : 49

CHAPTER- NEURAL CONTROL AND COORDINATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION C : Reflex action, PNS

1. Which of the following cranial nerve of man is both sensory and motor
(A) Olfactory (B) Trigeminal (C) Optic (D) Auditory

2. Parasympathetic nerves increase the mobility in
(A) Small intestine (B) Heart (C) Brain (D) None of the above

3. Neural stimulation in visceral organ in human being is done by
(A) Sympathetic and parasympathetic nerves and is under involuntary action
(B) Sympathetic nerves and is under voluntary action
(C) Sympathetic and parasympathetic nerves and is under voluntary action
(D) Parasympathetic nerves and is under voluntary action

4. The self governing nervous system is known as
(A) Central nervous system (B) Peripheral nervous system
(C) Autonomic nervous system (D) Sympathetic nervous system

5. Sympathetic nerve fibres in mammals arise from
(A) Thoracolumbar region of spinal cord
(B) Cranial nerves and sacral region of spinal cord
(C) Lumbar nerves
(D) Cervical nerves

6. The function of our visceral organs is controlled by
(A) sympathetic and somatic neural system (B) sympathetic and parasympathetic neural system
(C) central and somatic nervous system (D) None of these

7. Parasympathetic nervous system increases the activity of
(A) gut, iris, urinary bladder (B) heart, adrenal, sweat glands
(C) heart, lacrimal glands, pancreas (D) lacrimal glands, sweat glands, erector pili

SECTION D : Sensory organs

8. Differentiation of colour is the property of the cone; it is because of the
(A) Types of cones sensory to different colours only
(B) Different types of cones alongwith the different types of colour sensory centres in the brain
(C) Single type of cones but it has the properties to differentiate the colour
(D) The colour differentiation is entirely a property of the colour sensory centre in the brain

9. In mammalian eye, the power of accommodation is controlled by changing the shape of the lens. It is governed by
(A) Cornea (B) Pupil (C) Iris (D) Ciliary body

10. Colour blindness results from
(A) Absence of rods (B) Absence of cones
(C) Absence of eyelids (D) Inverted retina

DPP No. : 50

CHAPTER- NEURAL CONTROL AND COORDINATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION D : Sensory organs

1. The binocular vision in mammals is due to the
(A) Eyes adapted for such vision
(B) Decussation of optic nerve at optic chiasma but no change of fibres of left and right optic nerve
(C) Exchange of left and right optic nerve fibres after decussation at optic chiasma
(D) None of the above

2. In eyes the bipolar cells are present in
(A) Sclerotic (B) Choroid (C) Retina (D) Yellow spot

3. In man the receptors stimulated by sound waves are
(A) Organ of corti (B) Semicircular canal (C) Utriculus (D) Sacculus

4. The part of internal ear responsible for hearing is
(A) cochlea (B) semicircular canal (C) utriculus (D) sacculus

5. Wax gland present in the ear canal is called
(A) sweat gland (B) prostate gland
(C) cowper's gland (D) ceruminous gland

6. The organ of Corti is a structure present in the
(A) external ear (B) middle ear (C) semicircular canal (D) cochlea

7. Hearing is controlled by
(A) Cerebral lobes (B) Hypothalamus (C) Temporal lobe (D) Cerebellum

8. Otolith is an organ which helps in
(A) Vision (B) Equilibrium (C) Tactile stimulation (D) Chemical stimulation

9. Main function of eustachian tube is to
(A) Protect tympanic membrane
(B) Support the bones of middle ear
(C) Equalize pressure on two sides of tympanic membrane
(D) Prevent infection entering ear drum

10. Vitreous humour is seen in
(A) Ear (B) Eye (C) Brain (D) Bone marrow

DPP No. : 51

CHAPTER- CHEMICAL COORDINATION AND INTEGRATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION A : Introduction, Pituatary. Pineal

1. Listed below are the hormones of anterior pituitary origin. Tick the wrong entry.
(A) Growth hormone (B) Follicle stimulating hormone
(C) Oxytocin (D) Adrenocorticotrophic hormone

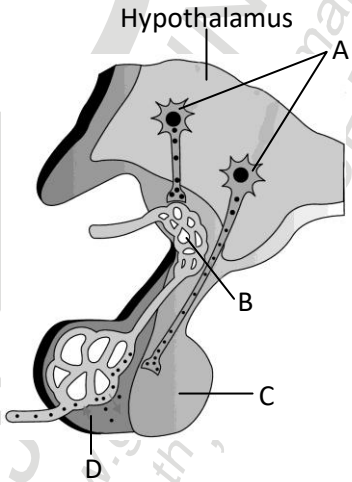
2. Acromegaly is due to the hypersecretion of
(A) Insulin (B) Thyroxine (C) Prolactin (D) Growth hormone

3. Which of the following statements is true regarding hormones?
(A) All hormones are proteins
(B) Hormones are required and secreted in large quantities
(C) Hormones are informational molecules
(D) Most hormones are used locally

4. Hormones are called chemical signals that stimulate specific target tissues. Their specificity is due to the presence of signal receiving 'receptors' only in the respective target tissues. Where are these receptors present in case of hormones of protein nature?
(A) Extra cellular matrix (B) Blood
(C) Plasma membrane (D) Nucleus

5. Portal blood vessels connect the_____ to the _____ .
(A) Hypothalamus, brain (B) Hypothalamus, posterior pituitary
(C) hypothalamus, anterior pituitary (D) Anterior pituitary, posterior pituitary

6.



Observe the above diagramatic representation. Identify A to D
(A) A → Hypothalamic neurons, B → Hypothalamic artery, C → Posterior pituitary , D → Anterior pituitary
(B) A → Epithalamic neurons, B → Hypothalamic vein, C → Pars distalis, D → Pars intermedia
(C) A → Hypothalamic neurons, B → Portal circulation, C → Anterior pituitary, D → Posterior pituitary.
(D) A → Hypothalamic neurons, B → Portal circulation, C → Posterior pituitary, D → Anterior pituitary

7. The pituitary hormone which controls the growth and maturation of ovaries and testes
(A) Gonadotropic hormones (B) Progesterone
(C) Androgen (D) Estrogen

8. Hypersecretion of GH from pituitary in the adult causes a disease called
(A) Gigantism (B) Acromegaly
(C) Cushing's disease (D) Addison's disease

9. In an accident the anterior pituitary of a four year old boy was severely damaged but the boy survived. What is likely to happen?
(A) High levels of thyroxin will be released (B) Spermatogenesis will be stimulated

(C) The boy will not grow much in height (D) The growth of mammary glands will be stimulated

10. Which hormone promotes cell division, protein synthesis and bone growth
(A) GH (STH) (B) PTH (C) ADH (D) ACTH

DPP No. : 52

CHAPTER-CHEMICAL COORDINATION AND INTEGRATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION B : Introduction, Pituatary. Pineal, Thyroid, Parathyroid, Thymus

1. A substance called ADH is
(A) A hormone that promotes glycogenesis in liver cells
(B) An enzyme secreted by cell of intestinal wall; hydrolyses dipeptides into amino acids
(C) A pituitary secretion which promotes reabsorption of water from glomerular filtrate
(D) A high energy compound involved in muscle contraction

2. A person passes much urine and drinks much water but his blood glucose level is normal. This condition may be the result of
(A) A reduction in insulin secretion from pancreas
(B) A reduction in vasopressin secretion from posterior pituitary
(C) A fall in the glucose concentration in urine
(D) An increase in secretion of glucagon

3. The pituitary gland is located in a bony cavity called _____ and is attached to_____by a stalk, called as_____
(A) Sella tursica; hypothalamus; Infundibulum (B) Sella tursica; cerebrum; Infundibulum
(C) Sella tursica; thyroid; Infundibulum (D) Sella tursica, pineal; pars distalis

4. Which of the following are gonadotropins?
(A) FSH + GH (B) LH + FSH (C) LH + GH (D) GH

5. "*Water drinkers*" is the name given to persons who have
(A) Undersecretion of ADH (B) Oversecretion of ADH
(C) Absence of MSH (D) None of the above

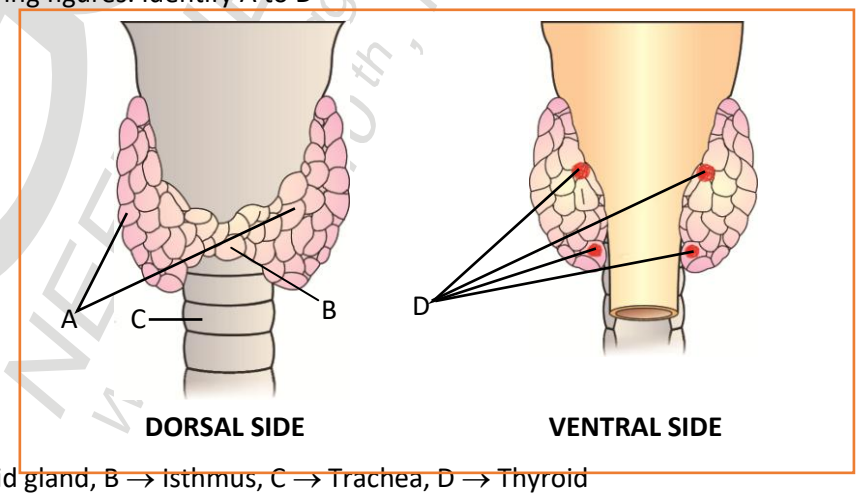
6. One of the following conditions is not linked to deficiency of thyroid hormones?
(A) Cretinism (B) Goitre (C) Myxoedema (D) Exophthalmosis

7. Calcitonin lowers the calcium level in the blood. This is secreted by
(A) Parathyroid (B) Hypothalamus (C) Adrenal (D) Thyroid

8. Which endocrine gland stores its secretion in the extracellular space before discharging it into the blood
(A) Adrenal (B) Pancreas (C) Testis (D) Thyroid

9. A man has an I.Q. equivalent to that of a boy 5 years old, this is due to deficiency of which hormone
(A) Thyroxin (B) Adrenaline (C) Aldosterone (D) Somatotropin

10. Observe the following figures. Identify A to D-



(A) A → Parathyroid gland, B → Isthmus, C → Trachea, D → Thyroid
(B) A → thyroid, B → Isthmus, C → Trachea, D → Parathyroid gland
(C) A → Thyroid, B → Isthmus, C → Larynx, D → Parathyroid gland
(D) A → Thyroid, B → Corpus luteum, C → Trachea, D → Parathyroid gland

DPP No. : 53

CHAPTER-CHEMICAL COORDINATION AND INTEGRATION

Total Marks : 40 **Max. Time : 10 min.**
Single choice Objective **(D marks 1 min.)**

SECTION C : Pancreas, Adrenal, Others, Mechanism of Hormone

1. Select the right match of endocrine gland and their hormones among the options given below.

A.	Pineal	i.	Epinephrine
B.	Thyroid	ii.	Melatonin
C.	Ovary	iii.	Estrogen
D.	Adrenal medulla	iv.	Tetraiodothyronine

(A) A → iv, B → ii, C → iii, D → i (B) A → ii, B → iv, C → i, D → iii
(C) A → iv, B → ii, C → i, D → iii (D) A → ii, B → iv, C → iii, D → i

2. Addison's disease results from
(A) Hyposecretion of adrenal cortex (B) Hypersecretion of adrenal cortex
(C) Hypertrophy of gonads (D) Hyperactivity of cells of Leydig

3. The steroid responsible for balance of water and electrolytes in our body is
(A) Insulin (B) Melatonin (C) Testosterone (D) Aldosterone

4. In the mechanism of action of a protein hormone, one of the second messengers is
(A) Cyclic AMP (B) Insulin (C) T_3 (D) Gastrin

5. Corpus luteum secretes a hormone called
(A) Prolactin (B) Progesterone (C) Aldosterone (D) Testosterone

6. Cortisol is secreted from
(A) Pancrease (B) Thyroid (C) Adrenal (D) Thymus

7. According to the accepted concept of hormone action, if receptor molecules are removed from target organs
(A) The target organ will continue to respond to the hormone without any difference
(B) The target organ will continue to respond to the hormone but will require higher concentration
(C) The target organ will not respond to the hormone
(D) The target organ will continue to respond to the hormone but in the opposite way

8. Glucagon and insulin are
(A) Synergistic secretions
(B) Secreted by same cells and perform similar function
(C) Secreted by different cells and perform antagonistic function
(D) Secreted by same cells and perform antagonistic functions

9. Adrenal cortex is composed of 3 layers the sequence of layers from the outside to the inside is
(A) Zona glomerulosa, zona fasciculata, zona reticularis
(B) Zona reticularis, zona glomerulosa, zona fasciculata
(C) Zona fasciculata, zona reticularis, zona glomerulosa
(D) Zona fasciculata, zona glomerulosa, zona reticularis

10. All of the following statements are incorrect except.
(A) Deficiency of GH leads to cretinism
(B) LH induces mammary glands to produce milk
(C) FSH stimulates testes to produce sperm cells
(D) Adrenaline reduces blood pressure

ANSWER KEY

ZOOLOGY

(DPP 1 TO 53)

DPP No. : 01

1.	(4)	**2.**	(4)	**3.**	(4)	**4.**	(2)	**5.**	(1)	**6.**	(3)	**7.**	(1)
8.	(2)	**9.**	(1)	**10.**	(1)								

DPP No. : 02

1.	(3)	**2.**	(2)	**3.**	(1)	**4.**	(4)	**5.**	(1)	**6.**	(1)	**7.**	(3)
8.	(2)	**9.**	(2)	**10.**	(1)								

DPP No. : 03

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(4)	**5.**	(1)	**6.**	(1)	**7.**	(2)
8.	(4)	**9.**	(4)	**10.**	(2)								

DPP No. : 04

1.	(4)	**2.**	(1)	**3.**	(4)	**4.**	(3)	**5.**	(4)	**6.**	(1)	**7.**	(4)
8.	(2)	**9.**	(3)	**10.**	(4)								

DPP No. : 05

1.	(2)	**2.**	(4)	**3.**	(2)	**4.**	(3)	**5.**	(3)	**6.**	(3)	**7.**	(4)
8.	(3)	**9.**	(2)	**10.**	(1)								

DPP No. : 06

1.	(4)	**2.**	(4)	**3.**	(4)	**4.**	(2)	**5.**	(4)	**6.**	(3)	**7.**	(2)
8.	(3)	**9.**	(4)	**10.**	(4)								

DPP No. : 07

1.	(3)	**2.**	(2)	**3.**	(4)	**4.**	(2)	**5.**	(2)	**6.**	(3)	**7.**	(4)
8.	(1)	**9.**	(4)	**10.**	(2)								

DPP No. : 08

1.	(4)	**2.**	(3)	**3.**	(4)	**4.**	(3)	**5.**	(3)	**6.**	(3)	**7.**	(1)
8.	(2)	**9.**	(4)	**10.**	(1)								

DPP No. : 09

1.	(4)	**2.**	(4)	**3.**	(3)	**4.**	(3)	**5.**	(1)	**6.**	(4)	**7.**	(4)
8.	(4)	**9.**	(3)	**10.**	(1)								

DPP No. : 10

1.	(4)	**2.**	(3)	**3.**	(1)	**4.**	(2)	**5.**	(1)	**6.**	(4)	**7.**	(4)
8.	(3)	**9.**	(1)	**10.**	(1)								

DPP No. : 11

1.	(4)	**2.**	(2)	**3.**	(4)	**4.**	(2)	**5.**	(3)	**6.**	(2)	**7.**	(1)
8.	(2)	**9.**	(4)	**10.**	(2)								

DPP No. : 12

1.	(4)	**2.**	(3)	**3.**	(2)	**4.**	(3)	**5.**	(4)	**6.**	(3)	**7.**	(3)
8.	(1)	**9.**	(2)	**10.**	(3)								

DPP No. : 13

1.	(2)	**2.**	(1)	**3.**	(3)	**4.**	(3)	**5.**	(3)	**6.**	(4)	**7.**	(4)
8.	(1)	**9.**	(3)	**10.**	(1)								

DPP No. : 14

1.	(4)	**2.**	(2)	**3.**	(4)	**4.**	(4)	**5.**	(3)	**6.**	(1)	**7.**	(1)
8.	(3)	**9.**	(1)	**10.**	(3)								

DPP No. : 15

1.	(1)	**2.**	(2)	**3.**	(3)	**4.**	(4)	**5.**	(3)	**6.**	(1)	**7.**	(2)
8.	(4)	**9.**	(4)	**10.**	(2)								

DPP No. : 16

1.	(4)	**2.**	(1)	**3.**	(2)	**4.**	(4)	**5.**	(3)	**6.**	(1)	**7.**	(3)
8.	(2)	**9.**	(1)	**10.**	(4)								

DPP No. : 17

1.	(4)	**2.**	(2)	**3.**	(4)	**4.**	(4)	**5.**	(1)	**6.**	(3)	**7.**	(3)
8.	(3)	**9.**	(4)	**10.**	(1)								

DPP No. : 18

1.	(1)	**2.**	(4)	**3.**	(1)	**4.**	(1)	**5.**	(3)	**6.**	(3)	**7.**	(4)
8.	(1)	**9.**	(4)	**10.**	(1)								

DPP No. : 19

1.	(1)	**2.**	(4)	**3.**	(4)	**4.**	(1)	**5.**	(2)	**6.**	(4)	**7.**	(4)
8.	(3)	**9.**	(3)	**10.**	(2)								

DPP No. : 20

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(2)	**5.**	(1)	**6.**	(2)	**7.**	(4)
8.	(2)	**9.**	(4)	**10.**	(3)								

DPP No. : 21

1.	(4)	**2.**	(3)	**3.**	(2)	**4.**	(4)	**5.**	(3)	**6.**	(3)	**7.**	(1)
8.	(1)	**9.**	(2)	**10.**	(2)								

DPP No. : 22

1.	(4)	**2.**	(2)	**3.**	(2)	**4.**	(2)	**5.**	(1)	**6.**	(1)	**7.**	(1)
8.	(3)	**9.**	(2)	**10.**	(1)								

DPP No. : 23

1.	(1)	**2.**	(4)	**3.**	(3)	**4.**	(1)	**5.**	(4)	**6.**	(4)	**7.**	(3)
8.	(1)	**9.**	(1)	**10.**	(1)								

DPP No. : 24

1.	(4)	**2.**	(2)	**3.**	(2)	**4.**	(1)	**5.**	(1)	**6.**	(3)	**7.**	(3)
8.	(1)	**9.**	(1)	**10.**	(3)								

DPP No. : 25

1.	(4)	**2.**	(1)	**3.**	(1)	**4.**	(4)	**5.**	(4)	**6.**	(3)	**7.**	(4)
8.	(3)	**9.**	(1)	**10.**	(4)								

DPP No. : 26

1.	(4)	**2.**	(2)	**3.**	(1)	**4.**	(3)	**5.**	(2)	**6.**	(4)	**7.**	(4)
8.	(2)	**9.**	(3)	**10.**	(1)								

DPP No. : 27

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(1)	**5.**	(4)	**6.**	(1)	**7.**	(1)
8.	(3)	**9.**	(3)	**10.**	(4)								

DPP No. : 28

1.	(3)	**2.**	(3)	**3.**	(3)	**4.**	(2)	**5.**	(1)	**6.**	(1)	**7.**	(3)
8.	(1)	**9.**	(1)	**10.**	(2)								

DPP No. : 29

1.	(2)	**2.**	(1)	**3.**	(3)	**4.**	(2)	**5.**	(2)	**6.**	(4)	**7.**	(4)
8.	(3)	**9.**	(3)	**10.**	(3)								

DPP No. : 30

1.	(2)	**2.**	(1)	**3.**	(3)	**4.**	(2)	**5.**	(2)	**6.**	(2)	**7.**	(1)
8.	(4)	**9.**	(2)	**10.**	(1)								

DPP No. : 31

1.	(4)	**2.**	(4)	**3.**	(2)	**4.**	(2)	**5.**	(3)	**6.**	(3)	**7.**	(3)
8.	(1)	**9.**	(4)	**10.**	(1)								

DPP No. : 32

1.	(1)	**2.**	(3)	**3.**	(1)	**4.**	(2)	**5.**	(4)	**6.**	(1)	**7.**	(1)
8.	(4)	**9.**	(2)	**10.**	(2)								

DPP No. : 33

1.	(1)	**2.**	(3)	**3.**	(1)	**4.**	(2)	**5.**	(3)	**6.**	(3)	**7.**	(2)
8.	(1)	**9.**	(2)	**10.**	(1)								

DPP No. : 34

1.	(3)	**2.**	(2)	**3.**	(2)	**4.**	(4)	**5.**	(2)	**6.**	(4)	**7.**	(3)
8.	(3)	**9.**	(3)	**10.**	(2)								

DPP No. : 35

1.	(2)	**2.**	(4)	**3.**	(4)	**4.**	(1)	**5.**	(3)	**6.**	(1)	**7.**	(4)
8.	(1)	**9.**	(2)	**10.**	(2)								

DPP No. : 36

1.	(2)	**2.**	(4)	**3.**	(1)	**4.**	(2)	**5.**	(4)	**6.**	(3)	**7.**	(4)
8.	(2)	**9.**	(2)	**10.**	(2)								

DPP No. : 37

1.	(1)	**2.**	(3)	**3.**	(3)	**4.**	(3)	**5.**	(4)	**6.**	(1)	**7.**	(1)
8.	(2)	**9.**	(4)	**10.**	(4)								

DPP No. : 38

1.	(1)	**2.**	(2)	**3.**	(4)	**4.**	(1)	**5.**	(4)	**6.**	(3)	**7.**	(3)
8.	(3)	**9.**	(1)	**10.**	(2)								

DPP No. : 39

1.	(1)	**2.**	(3)	**3.**	(3)	**4.**	(1)	**5.**	(1)	**6.**	(2)	**7.**	(1)
8.	(4)	**9.**	(1)	**10.**	(2)								

DPP No. : 40

1.	(2)	**2.**	(1)	**3.**	(1)	**4.**	(4)	**5.**	(2)	**6.**	(2)	**7.**	(2)
8.	(2)	**9.**	(2)	**10.**	(1)								

DPP No. : 41

1.	(1)	**2.**	(2)	**3.**	(3)	**4.**	(1)	**5.**	(2)	**6.**	(4)	**7.**	(1)
8.	(1)	**9.**	(1)	**10.**	(4)								

DPP No. : 42

1.	(2)	**2.**	(4)	**3.**	(1)	**4.**	(4)	**5.**	(2)	**6.**	(2)	**7.**	(1)
8.	(3)	**9.**	(1)	**10.**	(3)								

DPP No. : 43

1.	(2)	**2.**	(4)	**3.**	(1)	**4.**	(3)	**5.**	(2)	**6.**	(4)	**7.**	(4)
8.	(4)	**9.**	(4)	**10.**	(4)								

DPP No. : 44

1.	(3)	**2.**	(3)	**3.**	(4)	**4.**	(2)	**5.**	(2)	**6.**	(2)	**7.**	(2)
8.	(3)	**9.**	(3)	**10.**	(4)								

DPP No. : 45

1.	(3)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(2)	**6.**	(1)	**7.**	(2)
8.	(2)	**9.**	(4)	**10.**	(2)								

DPP No. : 46

1.	(4)	**2.**	(3)	**3.**	(2)	**4.**	(3)	**5.**	(4)	**6.**	(4)	**7.**	(4)
8.	(3)	**9.**	(3)	**10.**	(2)								

DPP No. : 47

1.	(1)	**2.**	(4)	**3.**	(4)	**4.**	(1)	**5.**	(2)	**6.**	(3)	**7.**	(2)
8.	(1)	**9.**	(3)	**10.**	(3)								

DPP No. : 48

1.	(3)	**2.**	(4)	**3.**	(1)	**4.**	(3)	**5.**	(3)	**6.**	(2)	**7.**	(2)
8.	(4)	**9.**	(2)	**10.**	(1)								

DPP No. : 49

1.	(2)	**2.**	(1)	**3.**	(1)	**4.**	(3)	**5.**	(1)	**6.**	(2)	**7.**	(1)
8.	(2)	**9.**	(4)	**10.**	(2)								

DPP No. : 50

1.	(3)	**2.**	(3)	**3.**	(1)	**4.**	(1)	**5.**	(4)	**6.**	(4)	**7.**	(3)
8.	(2)	**9.**	(3)	**10.**	(2)								

DPP No. : 51

1.	(3)	**2.**	(4)	**3.**	(3)	**4.**	(3)	**5.**	(3)	**6.**	(4)	**7.**	(1)
8.	(2)	**9.**	(3)	**10.**	(1)								

DPP No. : 52

1.	(3)	**2.**	(2)	**3.**	(1)	**4.**	(2)	**5.**	(1)	**6.**	(4)	**7.**	(4)
8.	(4)	**9.**	(1)	**10.**	(2)								

DPP No. : 53

1.	(4)	**2.**	(1)	**3.**	(4)	**4.**	(1)	**5.**	(2)	**6.**	(3)	**7.**	(3)
8.	(3)	**9.**	(1)	**10.**	(3)								