

- Draw diagram wherever it is necessary.
- All Questions are compulsory.
- Right hand figures indicates full marks.

A) Answer the following questions : (Any 4)

- What is twitch ?
- What is myofibril ?
- What is tropomyosin ?
- Name the parts of myosin filament.
- What is movement of variation ?
- Define chemotropism.
- Define thermotactic movement.
- What is nasy movement ?

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B) Answer the following in short. (Any 2)

- Write a short note on tetanus.
- Explain repolarisation.
- Explain susmonastic movement with suitable example.
- How will you prove root is positively hydrotropic ?

6

C) Answer the following in brief : (Any 1)

- Give a detail account on muscle contraction.
- Explain phototropism, geotropism with respect to the role of auxin.

6

A) Answer the following questions : (Any 4)

- What is autonomic nervous system ?
- What is neurological cell ?
- Name the different transporters involved in nerve impulse propagation.
- Write down the structure of norepinephrine.
- What is the function of Ca^{+2} in nerve impulse ?
- What do you mean by indirect antagonist molecule ?
- What is synaptic deft ?
- What is bipolar neuron ?

8

B) Answer the following in short. (any 2)

- Mention the role of neurogical cells.
- Write down the mechanism of termination of nerve impulse.
- Write shortly about refractory period.
- Write a note on catecholamines.

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C) Answer the following in brief : (Any 1)

- i) How does nerve impulse propagate through axon.
- ii) Write a note on distribution of nervous system throughout human body.

Q. 3 A) Answer the followings : (Any 4)

- i) What is the function of cisterna chyli ?
- ii) What do you mean by coagulation time of blood ?
- iii) What do you mean by extracellular fluid ?
- iv) Name one bile pigment.
- v) How does bile help in the digestion of food ?
- vi) What do you mean by calculi ?
- vii) What do you mean by diuretics ?
- viii) Define whole blood.

B) Answer the following in short : (Any 2)

- i) What do you mean by transudation ?
- ii) Mention the different properties of lymph.
- iii) What are the different function of blood.
- iv) What are the difference between intercellular and extracellular fluid.

C) Answer the following in brief. (Any 1)

- i) Mention the different factors affecting formation of urine.
- ii) What are the difference blood coagulation factors.

Q. 4.1 A) Define the following : (Any 1)

- i) Ameboid movement
- ii) Actin filament

B) Answer the following by choosing correct option. (Any 3)

- i) Tropomyosin inhibit active site present on _____ (G-actin / F-actin / Actin protein)
- ii) Myosin has 2 _____ (heavy chain / light chain / cross bridge.)
- iii) Thigh muscle is _____ Twitch Muscle. (Slow / fast / rapid)
- iv) _____ shows seismonastic movement (Mimosa sp. / Sunflower / tulip)
- v) Tactic is paratonic movement of _____ (Curvature / Locomotion / variation)
- vi) Circumnutation is a subtype _____ movement (Nasty / nastic / tropic)

Q. 4.2 A) Define the following : (Any 1)

- i) Multipolar nerve
- ii) Glutamine

B) Answer the following by choosing correct option. (Any 3)

- i) _____ nervous system perform housekeeping functions.
(Sympathetic / parasympathetic / autonomic)
- ii) GABA is a _____ neurotransmitter (positive / negative / neuromodulator).

- iii) The $\text{Na}^+ - \text{K}^+$ ATP are pump _____ pumps out and in respectively.
($3 \text{ Na}^+ - 2 \text{ K}^+ / 2 \text{ K}^+ - 3 \text{ Na}^+ / 2 \text{ Na}^+ - 3 \text{ K}^+$)
- iv) Synaptic cleft is _____ wide. ($0.02 \text{ mm} / 0.02 \text{ }\mu\text{m} / 0.2 \text{ }\mu\text{m}$)
- v) Threshold potential is _____ ($-64 \text{ mV} / -74 \text{ mV} / -54 \text{ mV}$)
- vi) Schwann cells produce myelin sheath of _____ nerves. (PNS / CNS / ANS).

3 A) Write short notes. (Any 1)

2

- i) lymph ii) Starling's hypothesis

B) Fill in the blanks : (Any 3)

3

- i) Lymphatic capillaries are not found in _____ spleen, epidermis, internal ear & eye cobe.
(bone / cartilage / tendroh)
- ii) Yellow colour of plasma is due to small amount of billirubin _____ & xanthophylin.
(biie pigment / oxalate / carotens)
- iii) During clotting prothrombin is converted into _____ (thromboplastin / thrombin / erythropoetin)
- iv) Formation of proconvertin is retarded in deficiency of _____ (Vit A / Vit B / Vit K)
- v) _____ is formed from the plasma by process of diffussion and filtration.
(Tissue fluid / Cerebro spinal fluid / Lymph)
- vi) _____ is the chief storehouse of bile. (Gall-bladder / Spleen / Pancreas)

— The End —