Pati's

Locations Functions

PREPARE

for

ICSE

Class 10

Biology

How to Prepare for ICSE Class 10 exams : Free Resources

Please click on subject to proceed further.

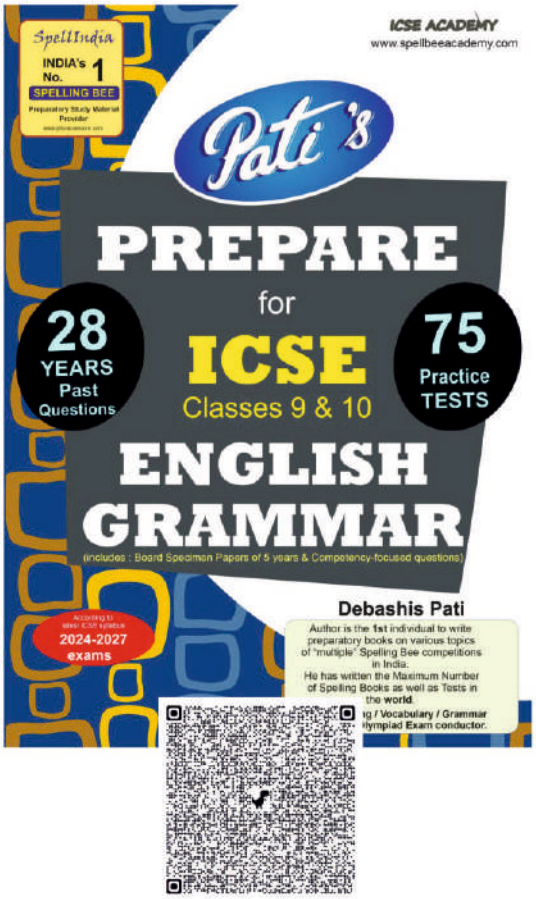
We will keep adding resources here till "March 2026".

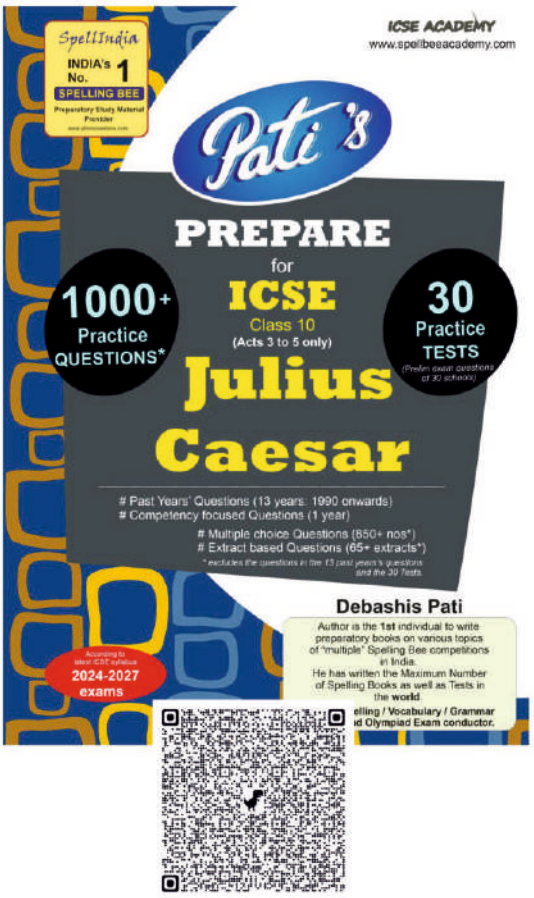
So, save this link, keep visiting and stay updated.

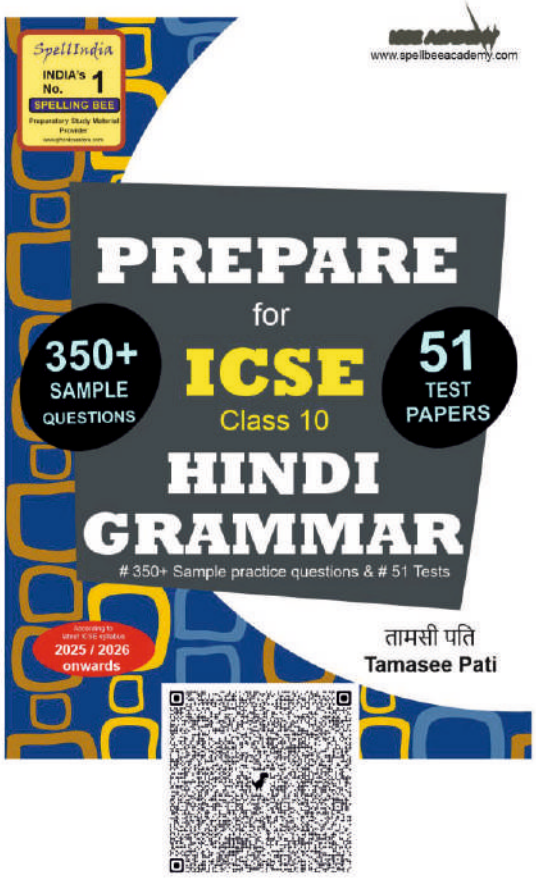
(Resources include : Syllabus, Past Year Papers, Specimen Papers, Competency based Questions, Books pdf downloadable, 350+ Term Papers / Prelim Papers of various schools - across subjects, etc.)

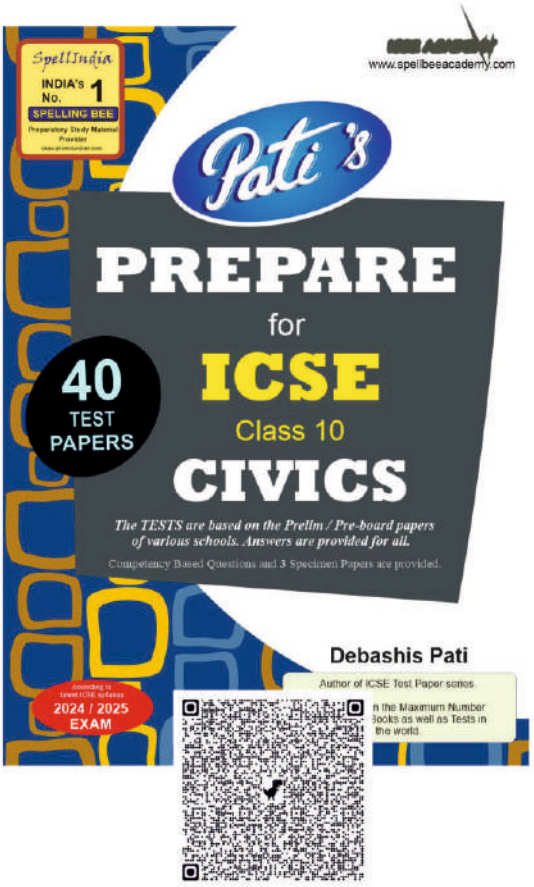
01 English Literature	02 English Language	03 Geography	04 History & Civics
05 Physics	06 Chemistry	07 Mathematics	08 Biology
09 Computer Applications	10 Physical Education	11 Hindi	12 Commercial Studies
13 Economics	14 Technical Drawing	15 Environmental Science	16 Home Science
17 Gujarati	18 Marathi	19 French	

SCAN QR code to buy the book at amazon NOW.





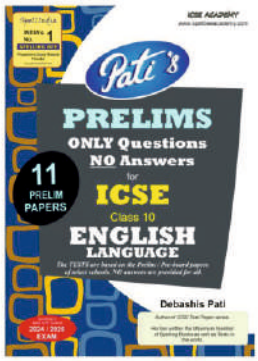


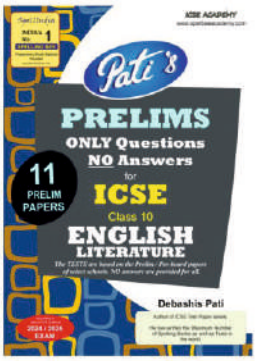


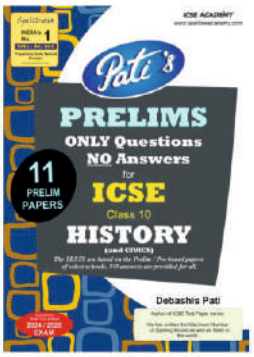
Pati's

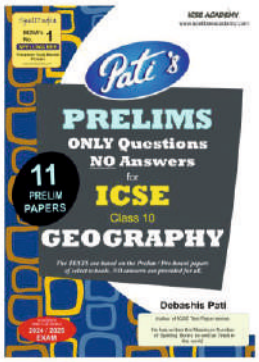
ICSE ACADEMY

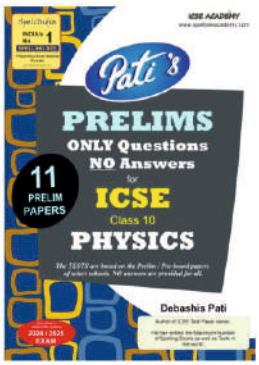
Scan QR code for Free Access to
500+ Prelim Papers across 20 subjects

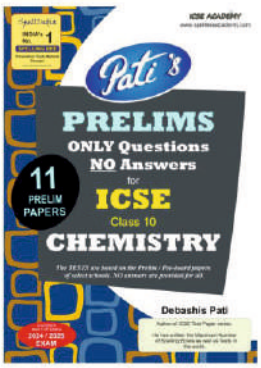


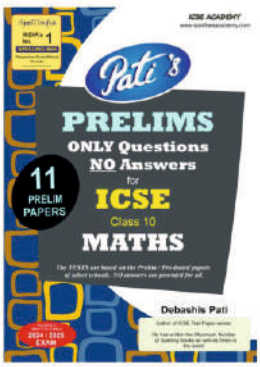


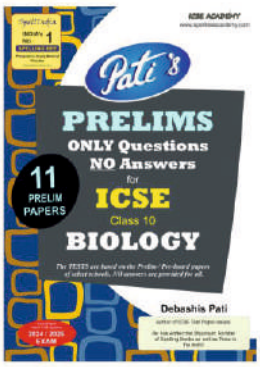


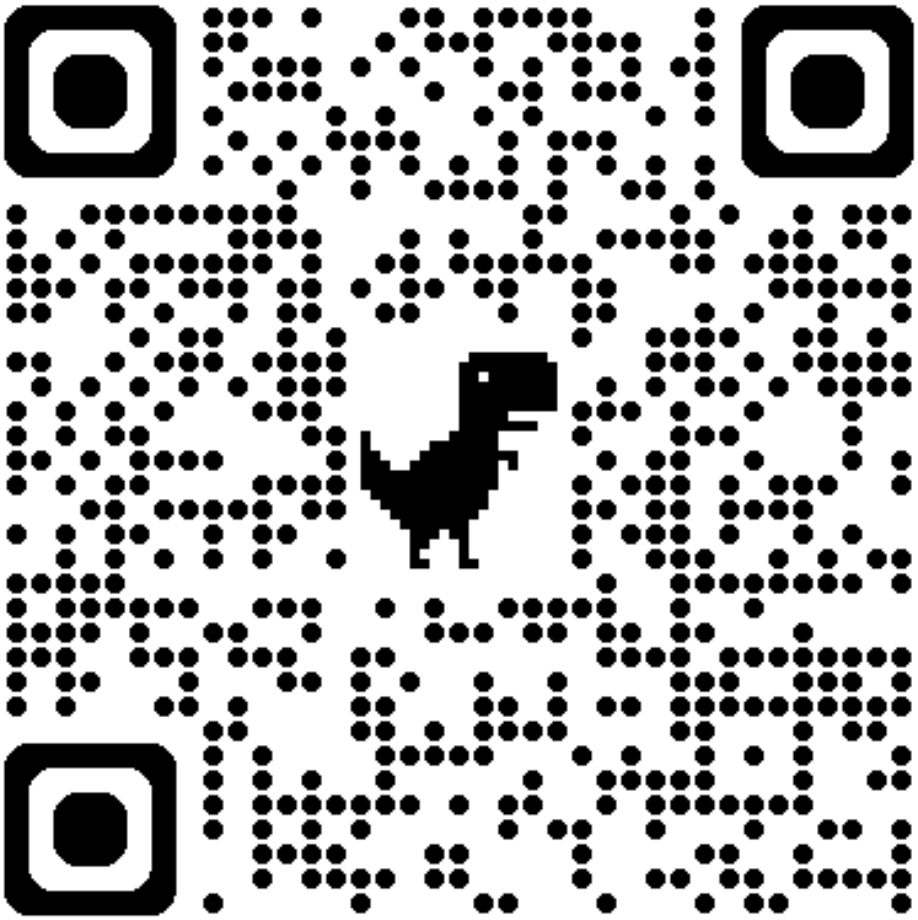


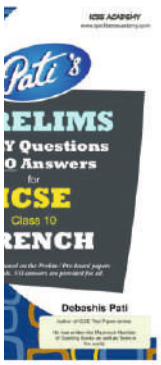








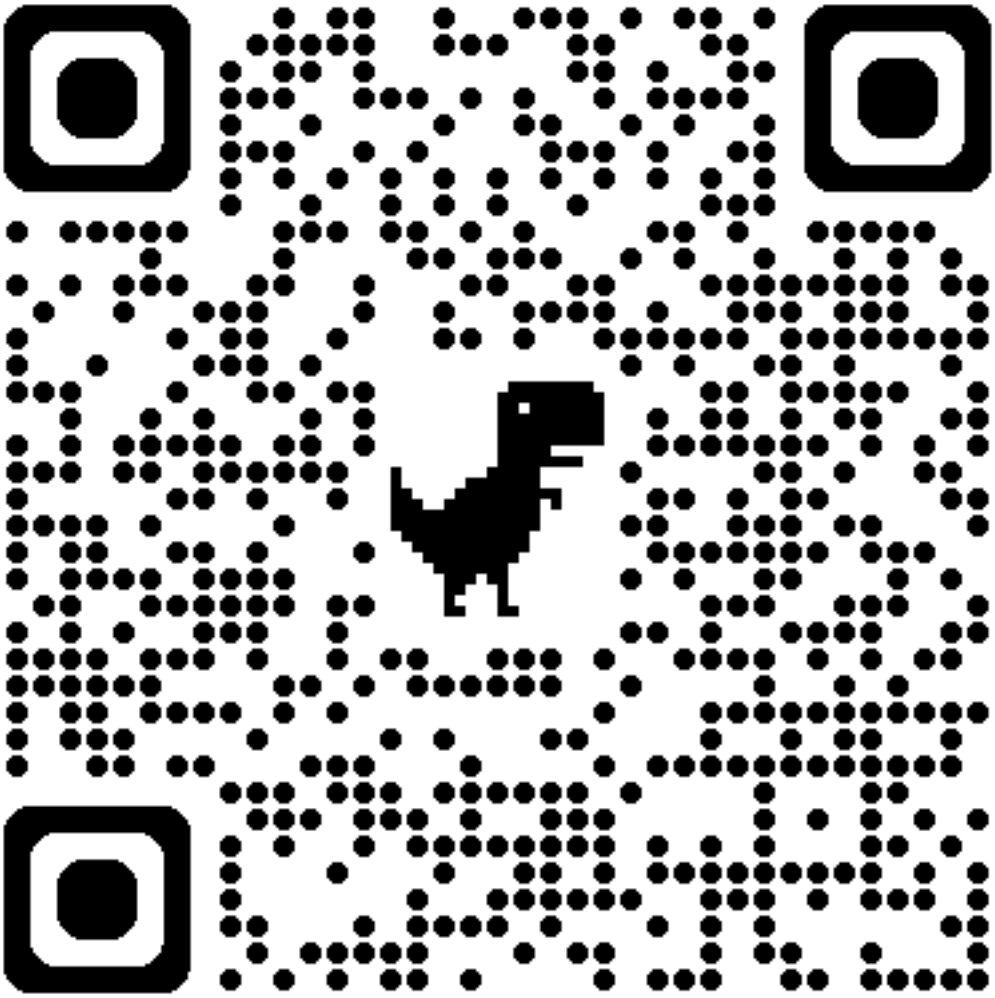




ICSE ACADEMY

Prepare for ICSE CLASS 10
Biology
Free Resources

SCAN QR CODE Now



ICSE ACADEMY

Biology

Locations & Functions

LOCATION & FUNCTION

CELL DIVISION

	Name	Locations	Functions
1.	**Asters of centrosome**	Around centrosome of a cell.	Forms spindle fibers between chromatids during cell division.
2.	**Cell inclusions**	In the cytoplasm of a cell.	Forms: Reserve food, Secretory products and Excretory products
3.	**Cell membrane/ plasma membrane.**	Below the cell wall in plant cells and outer most membrane in animal cell.	Regulates the entry of certain solutes and ions and Provides protection.
4.	**Cell wall (plant cells only)**	Surrounds the plasma membrane in a plant cell.	Gives rigidity, shape and allows substances in solution to enter and leave the cell freely.
5.	**Centriole**	In centrosome near the nucleus in animal cells.	Development of spindle fibers during cell division.
6.	**Centromere**	On the chromosome (sister chromatids).	The centromere serves to attach to the spindle fibres during cell division.
7.	**Centrosome (animal cells only)**	Near the nucleus in animal cells.	Initiates and regulates cell division and Forms spindle fibers, with the help of asters.
8.	**Chromatin fibers/ Chromosomes**	In the nucleoplasm of a cell.	During cell division, the chromatin fibers condenses in to chromosomes bearing the genes which are carriers of hereditary information.

9.	**Chromatin / Chromatin fibre**	In the nucleoplasm of a cell.	They enclose the genetic material DNA.
10.	**Chromosomes**	In the nucleoplasm of a cell.	It carries genes which determine hereditary characters.
11.	**Cytoplasm**	All parts of a cell together inside the cell membrane excluding nucleus.	Site for all **metabolic activities and** acts as a medium for initial steps of respiration.
12.	**Endoplasmic reticulum (ER).**	In the cytoplasm of a cell.	Referred as **circulatory system** of cell, responsible for synthesis, storage and transport of proteins and fats and forms the Supportive framework for the cell.
13.	**Glycogen granule**	In the cytoplasm of a cell.	Stores glycogen as food for the cell.
14.	**Golgi apparatus, golgi complex or golgisome (animal cells)**	In the cytoplasm of a cell.	Site of synthesis and secretion of enzymes, hormones etc. and Responsible for formation of acrosome of sperm, cell plate during cell division and lysosomes.
15.	**Granules**	–	Contains reserve food, secretory products and excretory products.
16.	**Lysosomes (suicide bags)**	In the cytoplasm of the cell.	Site of **intercellular digestion to destroy foreign substances and** rapidly destroys old and injured cells.
17.	**Mitochondria (power house of the cell) (mitochondrion - singular)**	In the cytoplasm of the cell.	Site of **cellular aerobic respiration**, releases and stores energy from pyruvic acid produced in cytoplasm, in the form of ATP and Synthesizes respiratory enzymes.

18.	**Nucleolus**	In the nucleus of a cell.	Participates in protein synthesis by forming and storing RNA.
19.	**Nucleotide**	In the DNA of the chromosomes.	It is carrier of chemical energy & intermediates cellular communication.
20.	**Nucleus (brain of the cell or control center)**	In the cytoplasm of a cell.	Regulates all cellular functions, contains chromosomes which are bearers of genes that control hereditary characters.
21.	**Plastids**	In the cytoplasm of the plant cell.	Contain pigments of food in plant cell.
22.	**Ribosomes (protein factories)**	Attached to the outside of endoplasmic reticulum or scattered in the cytoplasm of a cell.	Site of protein synthesis and stores RNA (ribo-nucleic acid).
23.	**Spindle fibers**	In the nucleus of a dividing cell.	Attaches to centromere of chromosomes and contracts to separate sister chromatids during metaphase and anaphase of cell division.
24.	**Vacuoles**	In the cytoplasm of a cell.	Storage of water- and water-soluble substances and gives turgidity to the plant cell.

ABSORPTION

25.	**Hydathodes**	On the margin of the leaf.	It helps in guttation of the plant body.
26.	**Phloem**	In the central stele of the plant body in root, stem and leaves.	Conducts food & water to downward to all parts of the plant.
27.	**Pulvinus**	At the base of petiole an enlarged section in some plants.	Sensitive to turgor pressure, results in movements of leafs & leaflets.
28.	**Root hair – unit of absorption**	Extension of the epidermal cells of root.	Absorption of water and minerals from the soil.
29.	**Roots**	At the base of stem of the plant body and in the soil.	They hold the plant body firmly to the ground and help in absorbing water.
30.	**Xylem**	In the central stele of the plant body in root, stem and leaves.	It conducts water and minerals upward to the leaves in the plant body.

PHOTOSYNTHESIS

31.	**Chlorophyll**	In the walls of thylakoids of chloroplast.	It traps sunlight for photosynthesis.
32.	**Chloroplasts**	In the cytoplasm of the plant cell and inside the guard cells.	Site of photosynthesis in green plants.
33.	**Grana**	In the chloroplast.	Site of light **dependent** phase of photo-synthesis in green plants.
34.	**Palisade cells**	In the leaf above the spongy mesophyll layer.	It performs photosynthesis.
35.	**Stroma**	In the chloroplasts.	Site of light **independent** phase of photo-synthesis in green plants.
36.	**Thylakoids**	In the stroma of the chloroplast.	They perform the light **dependent** phase of photosynthesis in green plants.

TRANSPIRATION

37.	**Cuticle**	On the upper epidermis of the leaves and stems.	Prevents loss of water by evaporation.
38.	**Guard cells**	On the dorsiventral side of the leaf.	They regulate the opening and closing of the stomata in leaf.
39.	**Lenticels**	On the surface of the old stem and bark of the tree.	They allow diffusion of gases for respiration and photosynthesis.
40.	**Palisade mesophyll tissue**	Between the upper epidermis and spongy mesophyll tissue in the dicot leaf.	Consists of chlorophyll which traps sunlight for photosynthesis.
41.	**Stomata/Stoma**	On the epidermis of the leaves.	Exchange of gases for photosynthesis and respiration.

CHEMICAL COORDINATION IN PLANTS

42.	**Abscisic acid (ABA)**	It is primarily synthesized in terminal bud and abundantly found in fruits and seeds.	i. It acts as plant growth and metabolism inhibitor. ii. It accelerates senescence (ageing) and abscission (falling) of leaves and other plant organs. iii. It stimulates the closure of stomata. iv. It helps seeds to withstand desiccation (extreme dryness) and other factors unfavourable for growth.
43.	**Auxins**	They are primarily synthesized in shoot apex, root apex, lateral meristems, etc.	i. Promotes growth in plants by cell elongation. ii. Delays leaf senescence. iii. Induces apical dominance by supressing growth of lateral buds. iv. Induces formation of parthenocarpic fruits.
44.	**Cytokinins**	They are primarily synthesized in root tips and are transported to other organs through xylem.	i. Promotes cell division or cytokinesis in plant roots and shoots. ii. Inhibits apical dominance and delays leaf senescence. iii. Promotes expansion of cotyledons, chlorophyll synthesis and organ formation. iv. Breaks seed dormancy and promotes seed germination.

45.	**Ethylene**	Synthesized in senescent leaves and flowers, germinating seeds and ripening fruits.	i. Ripening of fruits. ii. Acceleration of senescence (ageing). iii. Initiates flowering in mango. iv. Initiating germination in peanut seeds, sprouting of potato tuber and promotes root growth and root-hair formation.
46.	**Gibberellins**	They are primarily synthesized in shoot-apex, root-apex, buds, seeds, etc.	i. Promotes overall growth and fruit growth by cell elongation. ii. It initiates germination, induces parthenocarpy and promotes growth of internodes by stem elongation. iii. Breaks buds and seed dormancy and delays senescence (ageing). iv. Used commercially to increase the length of grapes, improve the shape of apple and speeds up the malting process in brewing industry.

CIRCULATORY SYSTEM

47.	**Anterior vena cava / superior vena cava / SVC / precaval**	Arises from upper part of the body and goes to the right auricle.	Carries deoxygenated blood from the upper parts of the body like the head and the neck to the right auricle.
48.	**Antibodies**	In the blood and lymph nodes.	To kill or neutralise the germs or the poisons from pathogens.
49.	**Antigen**	In the blood of an infected person.	They help to generate an antibody response in the infected person's body.

50.	**Aorta**	Left ventricle to different parts of the body.	Carries oxygenated blood from left ventricle to all parts of the body.
51.	**Aortic Semilunar valves**	It is located at the base of aorta opening from left ventricle.	It prevents the backflow of oxygenated blood from aorta to left ventricle.
52.	**Artery**	Deep seated, arises from heart and branches to all organs.	It carries oxygenated blood to all parts of the body except the pulmonary artery.
53.	**Atrium/Auricles**	Upper chambers of the heart.	It contracts to pumps the blood into the ventricles.
54.	**Auricular Ventricular Node or AVN**	At the junction of right auricle and right ventricle near the intra auricular septum.	Transmits the heart beat from auricle to ventricle.
55.	**Basophil**	Floats in blood plasma.	It releases histamine.

56.	**Blood**	In the vascular tissues of the body.	i. **Transportation:** of hormones, digested food materials and oxygen to all parts of the body. ii. **Protection:** Phagocytosis, antibody production and blood clotting. ii. **Regulatory:** Regulates body temperature.
57.	**Blood Platelets / Thrombocytes**	Floats in blood plasma.	Initiates blood clotting process.
58.	**Bundle of HIS**	In the inter ventricular septum, inferior to AV node.	Sends electric impulse to contract ventricles.

59.	**Capillaries**	Branches between arterioles to venules.	i. Outward diffusion of oxygen into the intercellular tissue fluid. ii. Inward diffusion of carbon dioxide from the intercellular tissue fluid. iii. Inward and outward diffusion of substances like glucose, amino acids, urea, etc. iv. Allow leukocytes (WBCs) to perform diapedesis.
60.	**Chordae tendinae**	Arises from the papillary muscles of the ventricles to the apices of the cusps, in the heart.	They hold the bicuspid and tricuspid valves in position and prevents their upturning during ventricular contraction.
61.	**Coronary Arteries**	Arises from the base of aorta to the walls of the heart.	Supplies oxygenated blood to the heart muscles.

62.	**Coronary sinus / vein**	It arises from the walls of the heart to the inferior vena cava.	Carries deoxygenated blood from the heart walls to the right auricle.
63.	**Eosinophil**	Floats in blood plasma.	It Secretes anti-toxins.
64.	**Fibrin**	In the blood plasma.	It forms mesh in blood clotting process.
65.	**Haemoglobin**	Present on the RBC of the blood.	It is a carrier of respiratory gases.
66.	**Heart**	In the centre between the two lungs and above the diaphragm.	To pump blood and other circulatory fluids throughout the body.

67.	**Hepatic Portal vein/system**	Connects small intestine and stomach to the liver.	It carries digested food from small intestine and stomach to liver for assimilation.
68.	**Left atrio-ventricular valve / bicuspid / mitral**	At the aperture between the left auricle and left ventricle of the heart.	Left atrio-ventricular valve prevents the backflow of oxygenated blood from left ventricle to left auricle.
69.	**Liver**	In the abdomen, above the right kidney and below the diaphragm.	i. Production of body proteins (albumin, globulin, prothrombin, fibrinogen.) ii. Converts excess glucose to glycogen. ii. Decomposition of red blood cells. iv. Detoxify the food materials. v. Deamination (During production of body proteins, removal of an amine group and converting it into urea for elimination). vi. Production of hormones.

70.	**Lymph**	In the lymph vessels and lymphatic organs such as the spleen and the tonsils.	i. **Nutritive:** Provides nutrition to cells where blood cannot reach. ii. **Drainage:** Drains away excess metabolites from the body. iii. **Defence:** Lymphocytes in lymph produce antibodies to kill the germs, neutralize its toxic effect and localize the infection. iv. **Absorption:** Lacteals in villi absorb fat and pour it into blood circulation.

EXCRETORY SYSTEM

71.	**Bile Juice**	In the gall bladder.	It emulsifies the fat for digestion.
72.	**Bowman's Capsule/ renal corpuscle**	In the cortex of the kidney.	Receives the glomerular filtrate.
73.	**Collecting duct**	In the medulla of the kidney.	It collects urine from the tubules and pours into the pelvis of the kidney.
74.	**Distal convoluted Tubule (DCT)**	Cortex of kidney.	i. Active reabsorption of glucose, Na^+, K^+; ii. Passive reabsorption of water Tubular secretion.
75.	**Glomerulus**	Cortex of kidney.	Ultrafiltration.
76.	**Kidneys (Urinary System)**	On either side of the backbone and protected by the last two ribs.	Performs Excretion and Osmoregulation.
77.	**Loop of Henle**	Medulla of kidney.	i. Active reabsorption of glucose, Na^+, K^+; ii. Passive reabsorption of water.
78.	**Nephron**	In the kidney.	It converts blood urea to urine.
79.	**Pelvis / Renal pelvis**	In the kidney on the front end of the ureter.	Urine from all tubules is collected in pelvis.
80.	**Proximal or First Convoluted Tubule (PCT)**	In the cortex of the kidney.	i. Active reabsorption of glucose, Na^+, K^+; ii. Passive reabsorption of water. iii. Tubular secretion.
81.	**Renal artery**	The blood vessel which enters the kidney is the **renal artery.**	Renal artery carries oxygenated blood to the kidney for purification.

82.	**Renal vein**	The blood vessel which leaves the kidney is the **renal vein.**	Renal vein carries deoxygenated blood from the kidney for oxygenation.
83.	**Ureter**	It arises from the notch (hilum) in the median surface of each kidney and connects to the urinary bladder.	It carries urine from kidney to urinary bladder.
84.	**Urethra**	Arising from the base of urinary bladder.	It carries urine from the urinary bladder to outside of the body.
85.	**Urethral Sphincter**	At the opening of the bladder into the urethra.	This muscle contracts and relaxes at the impulse of the brain.
86.	**Urinary bladder**	In the lower abdomen.	Urinary bladder temporarily stores urine.

NERVOUS SYSTEM

87.	**Acetylcholine**	In the synapse of the neurons.	Sets nerve impulse.
88.	**Afferent neuron/ sensory neurons**	Connects the sense organs to the central nervous system.	It conveys the sensory nerve impulse from the sense organs to the central nervous system (brain and the spinal cord).

89.	**Arachnoid**	Middle layer of the meninges.	It protects the brain.
90.	**Association neuron**	It is located in the gray matter of the spinal cord.	It receives sensory impulse, interprets and generates motor impulse.
91.	**Axon (nerve fiber)**	Slender projection below the cyton of a neuron.	It transmits nerve impulses to different neurons, muscles, and glands of the body.
92.	**Brain**	In the cranium of the skull.	It is the coordinating center of sensation, intellectual and nervous activities.

93.	**Central canal**	It is the center of the spinal cord which runs longitudinally through the entire length and is continuous with cavities of the brain.	It contains cerebrospinal fluid, and protects spine.
94.	**Cerebellum (In hind brain)**	In the hind brain just below cerebrum.	It balances the body and controls and coordinates all the muscular activities of our body.
95.	**Cerebrospinal fluid**	It is in between the membranes of the meninges, ventricles of the brain and central canal of the spinal cord.	i. It protects the brain and spinal cord from mechanical shocks. ii. It serves as a medium for the exchange of food materials, waste products and respiratory gases for neurons.
96.	**Cerebrum**	It is located in forebrain region protected in the cranium of the skull.	It controls all the voluntary activities, seat of intelligence, consciousness, will power and helps to think, memorize, invent.
97.	**Corpus callosum**	In between the 2 cerebral hemispheres.	It transmits impulses from one cerebral hemisphere to the other cerebral hemisphere.

98.	**Dendron**	On the cyton of neuron.	They reach the finest part of the body and conduct nerve impulses to the cyton.
99.	**Dura mater**	Outermost membrane of the meninges.	It protects the brain.
100.	**Gray matter**	In the cerebral **cortex** of the brain.	It helps in muscle control and sensory perception.

101.	**Hypothalamus**	Below thalamus in the brain.	It regulates our body temperature and controls pituitary gland.
102.	**Medulla Oblongata (In hind brain)**	In the hind brain, below the cerebellum and pons.	It controls the involuntary activities of the internal organs like heartbeat, respiration etc.
103.	**Meninges**	On the brain and spinal cord below the skull.	They protect the brain and the spinal cord from mechanical injuries.
104.	**Mesencephalon (mid brain)**	It is located between fore brain and hind brain.	It controls reflexes involving eyes and ears.
105.	**Motor nerves**	Connects the brain and spinal cord to the muscles or glands.	They carry motor impulse from the brain and spinal cord to the respective muscles and or glands.
106.	**Myelin sheath / Medullary sheath**	It is located on the outer layer of axon.	Myelin sheath acts as an insulating layer to prevent the mixing up of impulses.
107.	**Neuro transmitters**	In the terminal end of the axons of a neuron.	It helps to set a new impulse in the dendrites of the adjacent neuron.
108.	**Neuron (or Nerve Cell)**	In the brain and the spinal cord.	They receive, send and interpret the nerve impulses in a body.

109.	**Nissl's granules**	In cyton of neuron.	They are site of protein synthesis in neuron.
110.	**Parasympathetic nervous system**	On the spinal cord on the region above the neck and below the waist.	It is concerned with re-establishing normal conditions after the violent act is over.
111.	**Pia mater**	Innermost membrane of the meninges.	It nourishes the inner layers of brain.

112.	**Pons (Pons Varolii) (In hind brain)**	Inferior to mid brain and above medulla oblongata.	i. Transmits impulses **from** brain to cerebellum and sensory signals **to** thalamus. Transmits signals from one cerebellar hemisphere to the other cerebellar hemisphere to coordinate muscular movements on both the sides of the body.
113.	**Sympathetic nervous system**	On the spinal cord between the neck and the waist region.	It prepares the body for violent action against abnormal conditions.
114.	**Synapse**	It is located between the axon of one neuron and dendrite of another neuron.	It passes an impulse from one neuron to the other by diffusion of a neurotransmitter.
115.	**Spinal Cord**	In the vertebral column.	i. Conducts sensory impulses **to** the brain. ii. Conducts motor responses **from** brain to the whole body. Controls all the reflexes from **below** the neck.
116.	**Thalamus**	Between the cerebral cortex and the mid brain.	It relays pain and pressure impulses to the cerebrum of the brain.

117.	**The cell body (Perikaryon or Cyton)**	On the axon of a neuron.	They receive or send impulse.
118.	**White matter**	In the cerebral **medulla** of the brain.	It is helps to pass messages to CNS and all parts of the body.
119.	**Acetylcholine**	In the synapse of the neurons.	Sets nerve impulse.

SENSE ORGANS

120.	**Aqueous Chamber**	It is the front chamber between the lens and the cornea.	Holds the watery aqueous humour.
121.	**Aqueous humour**	In aqueous chamber in between the lens and cornea.	Keeps the lens moist and protects from mechanical shocks and refracts light.
122.	**Blind Spot / Punctum caecum (The area of no vision)**	Lateral to the yellow spot on the horizontal axis of the eyeball.	Allows optic nerve and blood vessels to leave the eye ball.
123.	**Choroid**	It is located between sclera and retina of the eye.	i. It provides nourishment to the eye. ii. It prevents light rays from reflecting and scattering inside the eye.
124.	**Ciliary body/muscles**	It is situated around the lens at the junction of choroid and iris.	It alters the shape of the lens for near and far vision.
125.	**Cones**	They are located on the yellow spot region of the retina.	Gets stimulated by **bright** light to allows perception of colour.
126.	**Conjunctiva**	It covers the front of the eye ball and inner parts of eyelids.	Allows the light to pass through the eye.
127.	**Cornea**	In front of pupil and beneath the conjunctiva of eye.	Refracts the light rays into the eye ball.

128.	**Eyes**	Located deep inside the orbits or sockets.	Helps in vision.
129.	**Iris**	In front of the lens and around the pupil.	It controls the amount of light entering the eyeball by adjusting the size of the pupil.

130.	**Lens**	It is located just behind the pupil and iris.	It converges and refracts the light rays to form an image on the retina.
131.	**Optic nerve**	Arises from the retina of the eye to the occipital lobe of the brain.	It carries nerve impulses of vision from the retina of the eye to the brain.
132.	**Pupil**	It is in front of the lens between the iris.	Allows the light to pass into the eye ball.
133.	**Retina**	It is located between the choroid layer and the vitreous chamber of the eye.	Site of image formation in the eye.
134.	**Rod Cells**	They are located on the **entire** retina.	Gets stimulated by dim light to regenerate rhodopsin.
135.	**Sclera**	It is outer part of eyeball above the choroid.	It protects the inner parts of the eye from mechanical damage.
136.	**Suspensory ligaments**	It arises from the ciliary body.	It hold the lens in position.
137.	**Tear Glands (Lacrimal gland)**	They are located at the upper sideward portion of the orbit.	Secrets lysozyme which kills the germs; keep front surface of eye clean.
138.	**Vitreous chamber**	It is larger cavity of the eyeball between the lens and retina.	Holds the vitreous humour.
139.	**Vitreous humour**	It is filled in the eye ball between the lens and the retina.	i. It maintains the shape of the eyeball. (Thus, helping accommodation of eye at different distances). It protects the retina and its nerve endings.
140.	**Yellow Spot / fovea centralis / macula lutea (Area of best vision)**	It lies on the retina, at the centre, on the horizontal axis of the eyeball.	Helps in the formation of sharp, bright and colour image.

(EAR)

141.	**Ampulla**	It is located at the base of the end of each semi-circular canal in the inner ear.	It converts motion into nerve impulse.
142.	**Auditory Canal**	It is located between pinna and ear drum.	i. It directs the sound waves inwards. ii. It traps any germs or insects.
143.	**Auditory nerve**	Arises from the inner ear to the temporal lobe of the brain.	It transmits sound and balance nerve impulses from the inner ear to the brain.
144.	**Ear drum / tympanum/ tympanic membrane/ myringa**	At the end of the auditory canal.	It converts sound waves to sound vibrations.
145.	**Ear ossicles/ malleus/incus/ stapes**	It is located in the middle ear.	It amplifies and transmits the vibrations to the inner ear.
146.	**Eustachian tube**	It is located between the middle ear and pharynx.	It equalises the **air pressure** on both sides of the ear drum.
147.	**Oval window/fenestra vestibuli**	An opening between middle ear and vestibule of inner ear.	It increases the frequency of vibrations by 22 times and transmits it to inner ear.
148.	**Pinna (auricle)**	It is located on either side of the head.	To collect sound waves from all direction and transmit it inwards.
149.	**Round window**	It is situated below the oval window and between middle and inner ear.	It stimulates vibrations in the fluids of cochlea.
150.	**Sacculus/Saccule**	On the lower and front part of vestibule of the inner ear.	Contains sensory cells for static balance - detects linear accelerations when head tilts in vertical plane.
151.	**Semi-circular canal**	It is located in the inner ear above vestibule and cochlea.	It maintains the dynamic balance / equilibrium of the body.

152.	**The cochlea**	Embedded in the skull, in the inner ear.	Helps in hearing.
153.	**The inner ear or the membranous labyrinth**	It is embedded in the skull.	It deals with hearing and body balance.
154.	**Utricle/Utriculus**	It is upper larger part of vestibule.	It contains sensory cells for static balance.
155.	**Vestibule**	In the central part of the inner ear.	It maintains static balance / equilibrium of the body.

ENDOCRINE SYSTEM

156.	**(ACTH) Adreno corticotropic Hormone (anterior pituitary, tropic hormone)**	It is attached to the hypothalamus, under the cerebrum in the brain.	Controls the activities of the adrenal cortex.
157.	**(GH) Growth hormone or Somatotropin (anterior pituitary)**	It is attached to the hypothalamus, under the cerebrum in the brain.	It regulates growth and cell metabolism of the whole body.
158.	**(LH) Luteinizing Hormone (anterior pituitary, gonadotropic hormone)**	It is attached to the hypothalamus, under the cerebrum in the brain.	**Male:** Regulates secretion of testosterone. **Female:** Regulates ovulation, Formation of corpus luteum and Secretion of progesterone.
159.	**(TSH) Thyroid stimulating hormone (anterior pituitary, tropic hormone)**	It is attached to the hypothalamus, under the cerebrum in the brain.	Stimulates thyroid gland to secrete thyroxine.
160.	**ADH Anti-diuretic Hormone Vasopressin (posterior pituitary)**	It is attached to the hypothalamus, under the cerebrum in the brain.	Increases the permeability of renal tubules to reabsorb water. Constricts blood vessels with rise in blood pressure

161.	**Adrenal cortex**	On the periphery of the adrenal glands.	To secrete hormones Mineralocorticoids, Glucocorticoids and Sex corticoids.
162.	**Adrenal glands**	The adrenal glands are cap like structure attached above each kidney.	Produces hormones cortisone from cortex and adrenaline from medulla for metabolism and regulates stress response.
163.	**Adrenal Medulla**	In the adrenal gland.	To secrete hormone adrenaline.
164.	**Adrenaline (medulla)**	In the medulla of adrenal gland.	Helps body to prepare for emergency situations.
165.	**Calcitonin**	It is in the front of the neck just below the larynx.	It regulates calcium metabolism.
166.	**Cortical hormones**	In the cortex of the adrenal glands.	Influence fat and protein metabolism and regulates salt and water balance.
167.	**Follicle stimulating hormone (FSH) (anterior pituitary, gonadotropic hormone)**	It is attached to the hypothalamus, under the cerebrum in the brain.	**Male:** Stimulates sperm formation by spermatogenesis. **Female:** Stimulates egg formation by oogenesis and oestrogen secretion.
168.	**Glucagon (alpha cells)**	Scattered in the pancreas.	It increases blood sugar level by converting glycogen to glucose.
169.	**Glucocorticoids (cortex)**	It is outer layer located on the periphery of adrenal glands.	Regulates carbohydrate, protein and fat metabolism.
170.	**Insulin (beta cells)**	Scattered in the pancreas.	It decreases blood sugar level by converting glucose to glycogen and promotes the glucose utilization by the body cells.

171.	**Islets of Langerhans**	Scattered in the pancreas.	They produce three hormones by three different cells: i. Alpha cells – Glucagon. ii. Beta cells – Insulin. Delta cells – Somatostatin.
172.	**Mineralocorticoids / aldosterone (cortex)**	It is outer layer located on the periphery of adrenal glands.	Regulates mineral metabolism specially Na^+ & K^+ ions.
173.	**MSH Melanocyte stimulating Hormone**	It is attached to the hypothalamus, under the cerebrum in the brain.	Stimulates the production of melanocyte in skin cells
174.	**Oxytocin (posterior pituitary)**	It is attached to the hypothalamus, under the cerebrum in the brain.	It causes contraction of uterine muscle during child birth, in a female.
175.	**Pancreas**	In the abdomen below the stomach.	i. It secretes pancreatic juice for digestion. ii. It secretes insulin, glucagon and somatostatin, which collectively regulates the blood sugar levels.
176.	**Pituitary / hypophysis / "Master Gland"**	It is attached to the hypothalamus, under the cerebrum in the brain.	It controls growth, reproduction and secretes tropic hormones to regulate all endocrine glands.

177.	**Prolactin (anterior pituitary, tropic hormone)**	It is attached to the hypothalamus, under the cerebrum in the brain.	Stimulates Lactation process. (Milk production in breasts of female after delivery).

178.	**Sex corticoids (cortex)**	It is outer layer located on the periphery of adrenal glands.	Stimulates the development of reproductive organs during child hood.
179.	**Somatostatin (delta cells)**	It is located in the abdominal cavity below the stomach.	It inhibits the secretion of insulin and glucagon.
180.	**Thyroid**	It is in front of the neck just below the larynx.	To release hormone thyroxine and calcitonin.
181.	**Thyroxine**	It is in the front of the neck just below the larynx.	iii. It regulates the basal **metabolism** of the body. iv. It regulates **mental development.** v. It regulates **ossification** of bones.

REPRODUCTION

182.	**Acrosome**	In the head of the sperm.	Secretes an enzyme called Hyaluronidase, which dissolves the walls of ova for the entry of sperm nucleus.
183.	**Allantois**	It is an outgrowth of the foetal membrane lying below the chorion.	It forms the foetal part of the placenta.
184.	**Amnion**	Amnion is a sac which develops around the embryo even before the formation of allantois.	It protects the growing embryo.

185.	**Amniotic fluid**	It surrounds the embryo and fills the space between the amnion and embryo.	i. Protects the embryo from physical damage and mechanical shocks. ii. Keeps even pressure all around the embryo. iii. Allows the foetus, some restricted movements. Prevents sticking of the embryo/foetus to the amnion.
186.	**Bulbourethral (Cowper's gland)**	Opens into the urethra just before it enters the penis, in a male mammal.	The secretion serves as a lubricant.
187.	**Chorion**	Outermost membrane surrounding the embryo.	It helps in formation of placenta.
188.	**Corpus luteum**	Remnant of follicle after ovulation, in the ovary of a female mammal.	Produces hormone progesterone.
189.	**Endometrium**	On the inner lining of uterus in a female mammal.	It prevents adhesion between the opposed walls of uterine cavity.
190.	**Epididymis**	On the upper pole of testes in male.	To temporarily store sperms for few days till they are matured and motile.
191.	**Follicle**	In the ovary of a female mammal.	It produces matured ova and hormone oestrogen prior to ovulation.
192.	**Graafian Follicle**	In the ovary of a female mammal.	It contains the matured ova.

193.	**Inguinal canal**	On the lower front abdominal wall in a male.	i. It allows the testes to descend in the scrotum sac before birth. ii. It allows the testicle blood vessels and sperm ducts to enter the abdomen.
194.	**Interstitial cells (leydig cells)**	Between the coils of the seminiferous tubules in the testes of male.	It produces the male hormone **testosterone.**
195.	**Oestrogen**		It regulates menstrual cycle and is responsible for developing secondary sexual characteristics.
196.	**Ovaries**	In the lower abdomen below the oviducal funnel of a female.	To produce matured ova by the process of oogenesis and the female hormones progesterone and oestrogen.
197.	**Oviducts / Fallopian tubes / Uterine tubes**	In the lower abdomen, below the oviducal funnel of a female mammal.	It is the site of fertilization.
198.	**Penis**	In front of the scrotum outside the body, in a male mammal.	It serves for the passing out, both the semen and the urine.
199.	**Placenta**	Attached to the fundus of the uterine wall in a female mammal.	i. Placenta allows diffusion of oxygen and nutrients from mother's blood to the foetus blood and disposal of carbon dioxide and wastes from foetus blood to mother's blood. ii. Placenta acts as an endocrine gland and secretes the hormones oestrogen and progesterone.

200.	**Progesterone**		It prepares the uterus for receiving the embryo.
201.	**Prostate gland**	Surrounds the urethra close to its origin from the bladder in a male mammal.	Its **alkaline secretion** neutralizes the acid in female genitalia (so that the sperms can survive) and acts as a medium of transportation of sperms.
202.	**Scrotum/scrotal sac**	Outer covering of testis of a male mammal.	Thermoregulation of testes.
203.	**Seminal vesicles**	Between the posterior surface of the urinary bladder and the rectum.	It secretes a fluid which serves as a medium for the transportation of the sperms.
204.	**Seminiferous tubules**	In the lobule of testes of a male mammal.	Site of sperms (male gamete) production by the process of **spermatogenesis**.
205.	**Sperm Duct/ vas deferens/ ejaculatory duct**	From the epididymis, at the back of the urinary bladder joins the urethra.	It carries sperms from the epididymis to urethra for elimination.
206.	**Testes (singular: testis)**	Contained in scrotum of a male mammal.	To produce sperms by the process of spermatogenesis and hormone testosterone.
207.	**Testosterone**	In the interstitial tissues of the testes of a male mammal.	Male sex hormone responsible for development of secondary sexual characteristics.
208.	**Trophoblast**	Outer layer of blastocyst of the embryo in the uterus of a female mammal.	It provides nutrients to the embryo, helps implantation and develops into large part of placenta.
209.	**Umbilical cord**	Arises from the foetus to the placenta in the uterus of a female mammal.	It connects placenta with foetus.

210.	**Uterus**	In the pelvic cavity between the urinary bladder and the rectum of a female mammal.	It protects and nourishes the growing embryo.
211.	**Vagina**	Arises from the cervix of the uterus up to the outside in a female mammal.	i. The vagina is the region of copulation. The vagina serves as a birth canal.

Pati's

ICSE Academy

Prepare for ICSE CLASS 10
Free Resources

SCAN QR CODE Now

History/Civics

Geography

Maths

Physics

Chemistry

Biology

Hindi

Physical Education

Computer Applications

Pati's

ICSE Academy

Prepare for ICSE CLASS 10
Free Resources

SCAN QR CODE Now

Economics

Commercial Studies

French

Robotics & AI

Home Science

EVS

Marathi

Gujarati

Odiya

Pati's ICSE ACADEMY

Scan QR code for Free Access to
500+ Prelim Papers across 20 subjects