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5th Edition



# NURSING

## Solved Question Papers for BSc Nursing

## 1st Year

## 2022–2017

I Clement

JAYPEE

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# 2022

# ANATOMY AND PHYSIOLOGY

## ANATOMY

### LONG ESSAY

1. Describe the gross anatomy of heart in detail.

### SHORT ESSAYS

2. Classify epithelium; describe in detail the stratified squamous epithelium with diagram.
3. Explain the structure of cerebellum in detail.
4. Describe urinary bladder in detail.

### SHORT ANSWERS

5. Draw the structure of cell.
6. Define two types of skeleton.
7. Name the parts of central nervous system.
8. Name three layers of wall of blood vessel.
9. Describe pancreas.
10. Draw a diagram on the structure of uterus.

## PHYSIOLOGY

### LONG ESSAY

1. Describe the stages of Erythropoiesis, name the factors influencing it.

### SHORT ESSAYS

2. Enumerate the cranial nerve and list down functions of any five cranial nerves.
3. Explain the mechanism of oxygen transport in blood.
4. Explain the composition and functions of gastric juice.
5. Explain formation of urine.

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## SHORT ANSWERS

6. What is lordosis?
7. What is presbycusis?
8. What is cretinism?
9. What are the functions of ovary?

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# ANATOMY

## LONG ESSAY

### 1. Describe the gross anatomy of heart in detail.

*See Question No. 1, Anatomy Section, Paper 2017.*

## SHORT ESSAYS

### 2. Classify epithelium; describe in detail the stratified squamous epithelium with diagram.

Epithelial tissue is one of the four main types of body tissue found in the organs and covers internal and external surfaces in the body. It has several different structures and functions depending on where it is in the body.

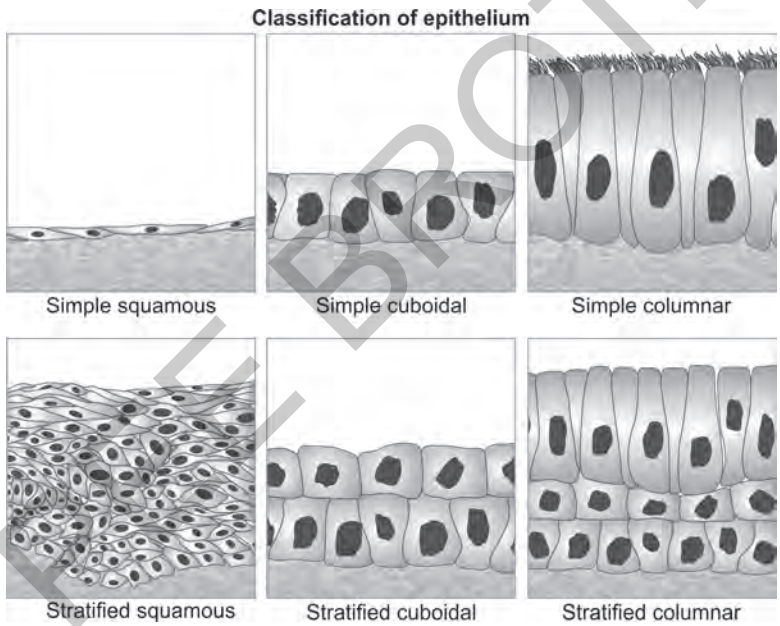



**Fig. 1:** Types of epithelium

1. **Simple squamous epithelium:** This type of epithelium typically lines blood vessels and body cavities and regulates the passage of substances into the underlying tissue.
2. **Simple cuboidal epithelium:** This type of epithelium is typically found in glandular (secreting) tissue and kidney tubules.
3. **Simple columnar epithelium:** This type of epithelium is often specialized for absorption and usually has apical cilia or microvilli. These cells line the stomach and intestines.
4. **Stratified squamous epithelium:** This type of epithelium usually has protective functions, including protection against microorganisms from invading underlying tissue and/or protection against water loss. The outer layer of your skin (the epidermis) is made of stratified squamous epithelial cells.

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5. **Stratified cuboidal epithelium:** This type of epithelium is not as common and is found in the excretory ducts of the salivary and sweats glands.
6. **Stratified columnar epithelium:** This type of epithelium is not as common and is seen in the mucous membrane (conjunctiva) lining the eyelids, where it's both protective and secreting.
7. **Pseudostratified columnar epithelium:** This type of epithelium lines the upper respiratory tract and usually has a lot of cilia.

## Stratified Squamous Epithelium

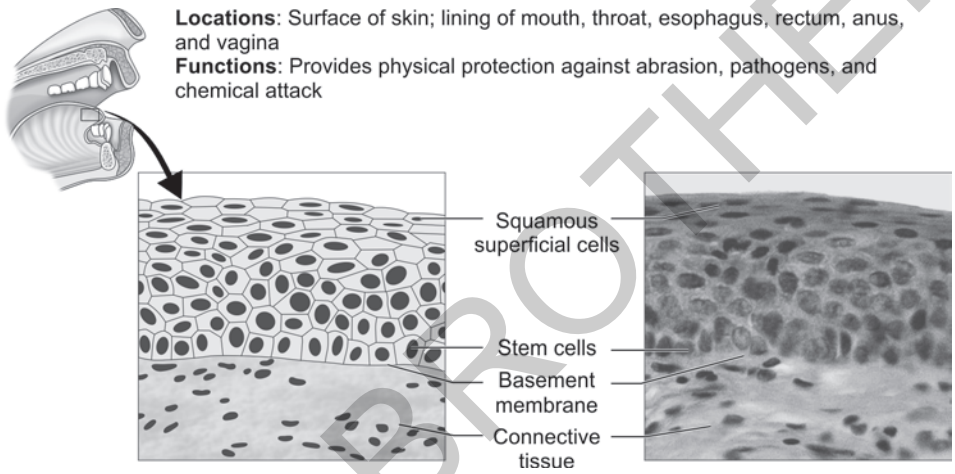



**Fig. 2:** Stratified squamous epithelium.

## Stratified Squamous Epithelium with Diagram

Keratinized stratified squamous epithelium is a type of stratified epithelium that contains numerous layers of squamous cells, called keratinocytes, in which the superficial layer of cells is keratinized. This type of epithelium comprises the epidermis of the skin.

**Definition:** A type of stratified epithelium that contains numerous layers of keratinocytes, in which the superficial layer of cells are degenerated and shed off.

This epithelium contains five layers:

1. Stratum basale (stratum germinativum)—contains the stem cells of the epidermis.
2. Stratum spinosum (prickle cell layer)—contains cells that have migrated from the stratum basale.
3. Stratum granulosum—contains cells rich in keratohyalin granules.
4. Stratum lucidum—only found in thick skin (palm of hand, sole of foot).
5. Stratum corneum—contains keratinized cells, dead cells lacking nuclei and filled with keratin filaments.

## Features of Stratified Squamous Epithelium

1. The most common type of stratified epithelium.
2. The basal layer is cuboidal or columnar, and apical layers are squamous.

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3. The top layer may be dead cells filled with keratin.
4. Found in the skin (keratinized) and mouth (non-keratinized).

## 3. Explain the structure of cerebellum in detail.

*See Question No. 1, Anatomy Section, Paper 2019.*

## 4. Describe urinary bladder in detail.

The bladder is an organ of the urinary system. It plays two main roles:

1. **Temporary storage of urine:** The bladder is a hollow organ with distensible walls. It has a folded internal lining (known as rugae), which allows it to accommodate up to 400-600ml of urine in healthy adults.
2. **Assists in the expulsion of urine:** The musculature of the bladder contracts during micturition, with concomitant relaxation of the sphincters.

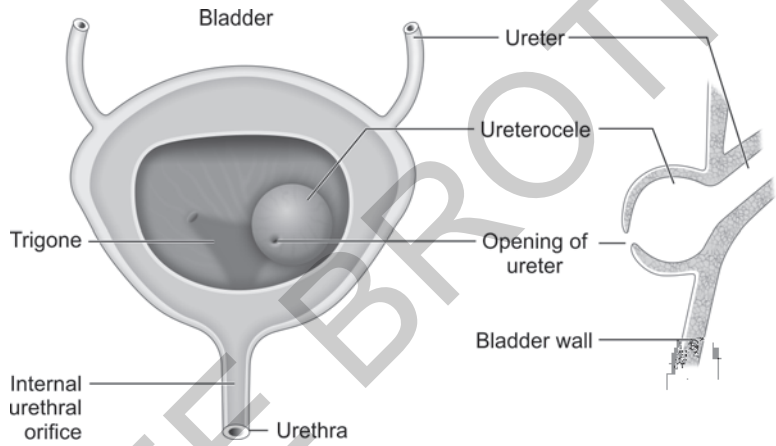



**Fig. 3:** Structure of urinary bladder.

### Shape of the Bladder

The appearance of the bladder varies depending on the amount of urine stored. When full, it exhibits an oval shape, and when empty it is flattened by the overlying bowel. The external features of the bladder are:

1. **Apex—**located superiorly, pointing toward the pubic symphysis. It is connected to the umbilicus by the median umbilical ligament (a remnant of the urachus).
2. **Body—**main part of the bladder, located between the apex and the fundus.
3. **Fundus (or base)—**located posteriorly. It is triangular-shaped, with the tip of the triangle pointing backwards.
4. **Neck—**formed by the convergence of the fundus and the two inferolateral surfaces. It is continuous with the urethra.

Urine enters the bladder through the left and right ureters, and exits via the urethra. Internally, these orifices are marked by the trigone – a triangular area located within the fundus. In contrast to the rest of the internal bladder, the trigone has smooth walls (this is explained by the different embryological origin: the trigone is developed by the integration of two mesonephric ducts at the base of the bladder).

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## Musculature

The musculature of the bladder plays a key role in the storage and emptying of urine. In order to contract during micturition, the bladder wall contains specialized smooth muscle – known as detrusor muscle. Its fibres are orientated in multiple directions, thus retaining structural integrity when stretched. It receives innervation from both the sympathetic and parasympathetic nervous systems.

The fibers of the detrusor muscle often become hypertrophic (presenting as prominent trabeculae) in order to compensate for increased workload of the bladder emptying. This is very common in conditions that obstruct the urine outflow such as benign prostatic hyperplasia. There are also two muscular sphincters located in the urethra:

Internal urethral sphincter

1. **Male—**consists of circular smooth fibres, which are under autonomic control. It is thought to prevent seminal regurgitation during ejaculation.
2. **Females—**thought to be a functional sphincter (i.e. no sphincteric muscle present). It is formed by the anatomy of the bladder neck and proximal urethra.

**External urethral sphincter—**has the same structure in both sexes. It is skeletal muscle, and under voluntary control. However, in males the external sphincteric mechanism is more complex, as it correlates with fibers of the rectourethralis muscle and the levator ani muscle.

## Vasculature

1. The vasculature of the bladder is primarily derived from the internal iliac vessels.
2. Arterial supply is via the superior vesical branch of the internal iliac artery. In males, this is supplemented by the inferior vesical artery and in females by the vaginal arteries. In both sexes, the obturator and inferior gluteal arteries may also contribute small branches.
3. Venous drainage is achieved by the vesical venous plexus, which empties into the internal iliac veins. The vesical plexus in males is in continuity at the retropubic space with the prostate venous plexus (plexus of Santorini), which also receives blood from the dorsal vein of the penis.

## Lymphatics

The superolateral aspect of the bladder drains into the **external iliac** lymph nodes. The neck and fundus drain into the internal iliac, sacral and common iliac nodes.

## Nervous Supply

Neurological control is complex, with the bladder receiving input from both the autonomic (sympathetic and parasympathetic) and somatic arms of the nervous system:

1. **Sympathetic—hypogastric nerve (T12–L2).** It causes relaxation of the detrusor muscle, promoting urine retention.
2. **Parasympathetic—pelvic nerve (S2–S4).** Increased signals from this nerve causes contraction of the detrusor muscle, stimulating micturition.
3. **Somatic—pudendal nerve (S2–4).** It innervates the external urethral sphincter, providing voluntary control over micturition.

In addition to the efferent nerves supplying the bladder, there are **sensory (afferent) nerves** that report to the brain. They are found in the bladder wall and signal the need to urinate when the bladder becomes full.

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### The Bladder Stretch Reflex

The bladder stretch reflex is a **primitive spinal reflex**, in which micturition is stimulated in response to stretch of the bladder wall. It is analogous to a muscle spinal reflex, such as the patella reflex.

During toilet training in infants, this spinal reflex is **overridden** by the higher centers of the brain, to give voluntary control over micturition.

1. Bladder fills with urine, and the bladder walls stretch. Sensory nerves detect stretch and transmit this information to the spinal cord.
2. Interneurons within the spinal cord relay the signal to the parasympathetic efferents (the pelvic nerve).
3. The pelvic nerve acts to contract the detrusor muscle, and stimulate micturition.

Although it is non-functional post childhood, the bladder stretch reflex needs to be considered in spinal injuries (where the descending inhibition cannot reach the bladder), and in neurodegenerative diseases (where the brain is unable to generate inhibition).

## SHORT ANSWERS

### 5. Draw the structure of cell.

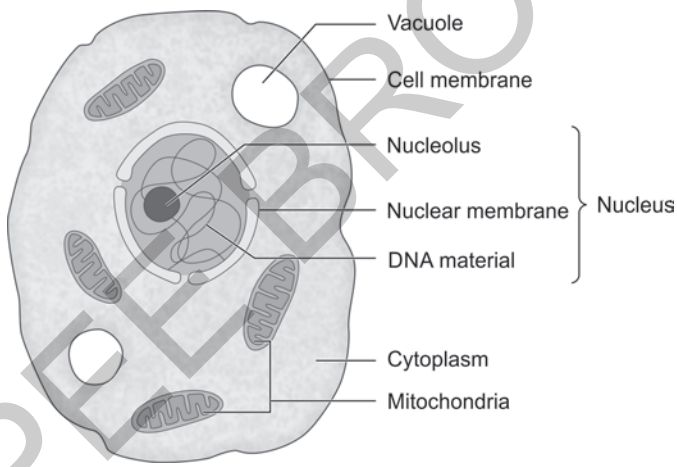



**Fig. 4:** Structure of Cell.

### 6. Define two types of skeleton.

1. The axial skeleton consists of the braincase (cranium) and the backbone and ribs, and it serves primarily to protect the central nervous system. The limbs and their girdles constitute the appendicular skeleton.
2. The appendicular skeleton is one of two major bone groups in the body, the other being the axial skeleton. The appendicular skeleton is comprised of the upper and lower extremities, which include the shoulder girdle and pelvis.

### 7. Name the parts of central nervous system.

The central nervous system (defined as the brain and spinal cord) is usually considered to have seven basic parts—the spinal cord, the medulla, the pons, the cerebellum, the midbrain, the diencephalon, and the cerebral hemispheres.

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## 8. Name three layers of wall of blood vessel.

1. **Tunica intima:** The inner layer surrounds the blood as it flows through the body. It regulates blood pressure, prevents blood clots and keeps toxins out of your blood. It keeps the blood flowing smoothly.
2. **Media:** The middle layer contains elastic fibers that keep the blood flowing in one direction. The media also helps vessels expand and contract.
3. **Adventitia:** The outer layer contains nerves and tiny vessels. It delivers oxygen and nutrients from the blood to the cells and helps remove waste. It also gives blood vessels their structure and support.

## 9. Describe pancreas.

*See Question No. 3, Anatomy Section, Paper 2019.*

## 10. Draw a diagram on the structure of uterus.

The uterus is a secondary sex organ. Secondary sex organs are components of the reproductive tract that mature during puberty under the influence of sex hormones produced from primary sex organs (the ovaries in females and the testes in males). They are responsible for the maintenance and transportation of gametes.

### Anatomical Structure

The uterus is a thick-walled muscular organ capable of expansion to accommodate a growing fetus. It is connected distally to the vagina, and laterally to the uterine tubes.

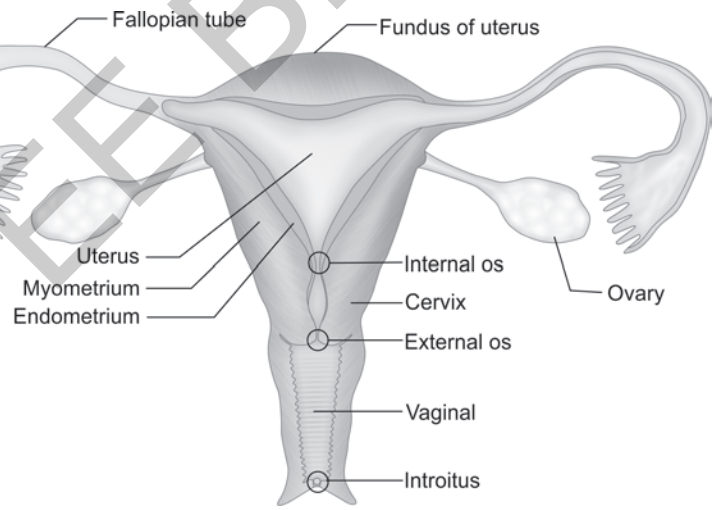



**Fig. 5:** Uterus: Anatomical structure.

The uterus has three parts:

**Fundus:** Top of the uterus, above the entry point of the uterine tubes.

**Body:** Usual site for implantation of the blastocyst.

**Cervix:** Lower part of uterus linking it with the vagina. This part is structurally and functionally different to the rest of the uterus.

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## Anatomical Position

The exact anatomical location of the uterus varies with the degree of distension of the bladder. In the normal adult uterus, it can be described as anteverted with respect to the vagina, and anteflexed with respect to the cervix:

**Anteverted:** Rotated forward, towards the anterior surface of the body.

**Anteflexed:** Flexed, towards the anterior surface of the body.

Thus, the uterus normally lies immediately posterosuperior to the bladder, and anterior to the rectum.

## Histological Structure

The fundus and body of the uterus are composed of three tissue layers:

**Peritoneum:** A double layered membrane, continuous with the abdominal peritoneum. Also known as the perimetrium.

**Myometrium:** Thick smooth muscle layer. Cells of this layer undergo hypertrophy and hyperplasia during pregnancy in preparation to expel the fetus at birth.

**Endometrium:** Inner mucous membrane lining the uterus. It can be further subdivided into 2 parts:

1. **Deep stratum basalis**: Changes little throughout the menstrual cycle and is not shed at menstruation.
2. **Superficial stratum functionalis**: Proliferates in response to estrogens, and becomes secretory in response to progesterone. It is shed during menstruation and regenerates from cells in the stratum basalis layer.

## Ligaments

The tone of the pelvic floor provides the primary support for the uterus. Some ligaments provide further support, securing the uterus in place.

They are:

**Broad ligament:** This is a double layer of peritoneum attaching the sides of the uterus to the pelvis. It acts as a mesentery for the uterus and contributes to maintaining it in position.

**Round ligament:** A remnant of the gubernaculum extending from the uterine horns to the labia majora via the inguinal canal. It functions to maintain the anteverted position of the uterus.

**Ovarian ligament:** Joins the ovaries to the uterus.

**Cardinal ligament:** Located at the base of the broad ligament, the cardinal ligament extends from the cervix to the lateral pelvic walls. It contains the uterine artery and vein in addition to providing support to the uterus.

**Uterosacral ligament:** Extends from the cervix to the sacrum. It provides support to the uterus.

## Vascular Supply and Lymphatics

The blood supply to the uterus is via the uterine artery. Venous drainage is via a plexus in the broad ligament that drains into the uterine veins.

Lymphatic drainage of the uterus is via the iliac, sacral, aortic and inguinal lymph nodes.

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### Innervation

Sympathetic nerve fibers of the uterus arise from the uterovaginal plexus. This largely comprises the anterior and intermediate parts of the inferior hypogastric plexus.

Parasympathetic fibers of the uterus are derived from the pelvic splanchnic nerves (S2-S4).

The cervix is largely innervated by the inferior nerve fibers of the uterovaginal plexus.

The afferent fibers mostly ascend through the inferior hypogastric plexus to enter the spinal cord via T10-T12 and L1 nerve fibers.

## PHYSIOLOGY

## LONG ESSAY

### 1. Describe the stages of Erythropoiesis, name the factors influencing it.

The term erythropoiesis is used to describe the process of RBC formation or production. In humans, erythropoiesis occurs almost exclusively in the red bone marrow (the yellow bone marrow is primarily composed of fat, but, in response to a greater need for RBC production, the yellow bone marrow can turn to red marrow).

The red bone marrow of essentially all bones produces RBCs from birth to about five years of age. Between the ages of 5 and 20, the long bones slowly lose their ability to produce RBCs. Above age 20; most RBCs are produced primarily in the marrow of the vertebrae, the sternum, the ribs and the pelvis.

The organ responsible for "turning on the faucet" of RBC production is the kidney. The kidneys can detect low levels of oxygen in the blood. When this happens, the kidneys respond by releasing

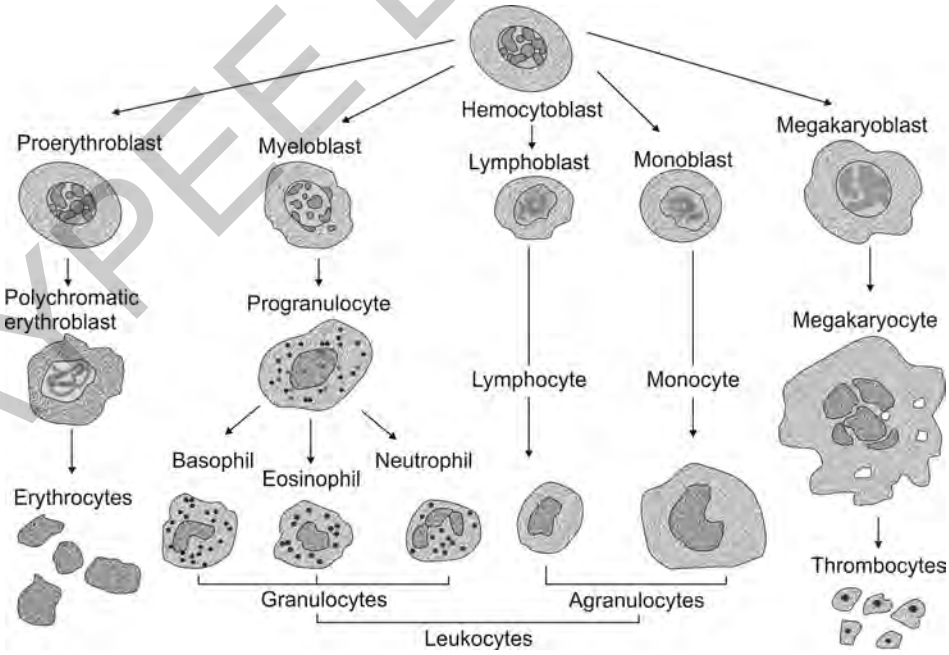



**Fig. 6:** Stages of erythropoiesis.

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a hormone called erythropoietin, which then travels to the red bone marrow to stimulate the marrow to begin RBC production.

### Erythropoiesis

**Steps:**

1. Formation of pleuripotent stem cell.
2. PSC divides and gives rise to CSC of myeloid series.
3. Formation of two types of progenitor cells for RBC—BFU-E and CFU-E.
4. Formation of pronormoblast from the progenitor cells, which is the first morphologically recognizable cell in the erythroid series: Features of pronormoblast: (i) The cell is large with a big nucleus, which is strongly basophilic, (ii) scanty, basophilic cytoplasm, (iii) NoHb, (iv) mitosis present.
5. Formation of early normoblast from pronormoblast. *Features*: (i) Smaller than pronormoblast, (ii) nucleus, smaller than that of pronormoblast, (iii) scanty, basophilic cytoplasm, (iv) NoHb, (iv) mitosis present.
6. Formation of intermediate normoblast. *Features*: (i) Smaller than early normoblast, (ii) cytoplasm—moderate and polychromatophilic due to the presence of Hb, (iii) mitosis present.
7. Formation of late normoblast. *Features*: (i) Nucleus very small and deeply stained, (ii) cytoplasm— plenty and eosinophilic, (iii) Hb present, (iv) no mitosis (i.e. the cell cannot divide further).
8. Formation of reticulocyte. *Features*: (i) nucleus absent, (ii) some DNA is still present where no mitosis appears as "reticulum", (iii) Hb present.
9. Formation of mature erythrocyte.

**Features:** (i) 7.5 mm diameter, (ii) nucleus absent, (iii) Hb present, (iv) no mitosis.

### Factors Influencing Erythropoiesis

1. **Erythropoietin:** It is the most important hemopoietic growth factor which is required for erythropoiesis. It is a glycoprotein produced by kidney, in response to hypoxia, as in conditions like chronic lung disease, high altitudes, anemia, etc.
2. **Vitamins:** Vitamin B12, folic acid, pyridoxine or vitamin B6 and vitamin C are required for erythropoiesis. These vitamins are essential for the synthesis of DNA and hence, for the multiplication and differentiation of the blast cells. So their deficiency will result in reduced number of mature cells and more large precursor cells with immature nuclei (megaloblasts).
3. **Minerals:** Iron and traces of copper, zinc and cobalt are necessary. Iron is necessary for the formation of hem.
4. **Hormones:** Androgens-like testosterone stimulate erythropoietin and promotes red cell proliferation in the bone marrow. Hence, RBC count is higher in males than females.

## SHORT ESSAYS

### 2. Enumerate the cranial nerve and list down functions of any five cranial nerves.

The cranial nerves are a set of 12 paired nerves in the back of the brain. Cranial nerves send electrical signals between the brain, face, neck and torso. 12 cranial nerves each have a specific function.

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Experts categorize the cranial nerves based on number and function:

## Cranial Nerves

Twelve cranial nerves leave the brain as part of the Peripheral Nervous System and primarily serve the head and neck. Cranial nerves are numbered based on their position (from anterior to posterior).

| Nerve | Type | Origin | Course/Location | Function |
|---|---|---|---|---|
| 1. Olfactory | Sensory | Olfactory Epithelium | Through cribiform plate to olfactory bulbs | Sense of smell |
| 2. Optic | Sensory | Retina | Through optic foramen to chiasma to optic tract to thalamus | Sense of sight |
| 3. Oculomotor | Motor | Midbrain | Superior orbital fissure of eye | Controls lens shape, iris diameter, movement of inferior oblique and rectus m. |
| 4. Trochlear | Motor | Midbrain | Superior orbital fissure of eye | Movement of superior oblique m. |
| 5. Trigeminal | Mixed | Pons (then divides into 3 parts) | Mandible–foramen ovule; Maxilla–foramen rotundum; Opthalmic–superior orbital fissure | Motor–masitication and floor of mouth<br>Sense for face, skin, mouth, nose, eyes |
| 6. Abducens | Motor | Pons | Superior orbital fissure of eye | Movement of lateral rectus m. |
| 7. Facial | Mixed | Pons | Through temporal bone to facial region | Motor–muscles of facial expression, salivation<br>Sensory–taste anterior 2/3 of tongue |
| 8. Vestibulocochlear | Sensory | Cochlea and Semi-circular canals | Internal auditory meatus to medulla oblongata | Sensory–equilibrium and hearing |
| 9. Glossopharyngeal | Mixed | Medulla Oblongata | Jugular foramen to throat | Motor–pharyngeal muscles for gagging, swallowing, uvula, salivation<br>Sensory–taste posterior 1/3 of tongue |
| 10. Vagus | Mixed | Medulla Oblongata | Jugular foramen through neck to thoracic and abdominal viscera | Motor/sensory–pharynx and larynx<br>Motor–heart<br>Motor/sensory–abdominal viscera |
| 11. Accessory | Mixed | Medulla Oblongata | Jugular foramen to muscles of neck and back | Proprioception in soft palate, pharynx, larynx, head and shoulders<br>Motor–movement of sternocleidomastoid, trapezius |
| 12. Hypoglossal | Motor | Medulla Oblongata | From skull to tongue | Motor–tongue |

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1. **Olfactory nerve:** Sense of smell.
2. **Optic nerve:** Ability to see.
3. **Oculomotor nerve:** Ability to move and blink your eyes.
4. **Trochlear nerve:** Ability to move your eyes up and down or back and forth.
5. **Trigeminal nerve:** Sensations in your face and cheeks, taste and jaw movements.
6. **Abducens nerve:** Ability to move your eyes.
7. **Facial nerve:** Facial expressions and sense of taste.
8. **Auditory/vestibular nerve:** Sense of hearing and balance.
9. **Glossopharyngeal nerve:** Ability to taste and swallow.
10. **Vagus nerve:** Digestion and heart rate.
11. **Accessory nerve (or spinal accessory nerve):** Shoulder and neck muscle movement.
12. **Hypoglossal nerve:** Ability to move your tongue.

## Olfactory Nerve

1. The olfactory nerve transmits information regarding a person's sense of smell to the brain.
2. When an individual inhales fragrant molecules, olfactory receptors within the nasal passage the impulses to the cranial cavity, which then travel to the olfactory bulb.
3. Specialized olfactory neurons and nerve fibers meet with other nerves, which pass into the olfactory tract.
4. The olfactory tract then travels to the frontal lobe and other areas of the brain that have a role in memory and the notation of different smells.

## Optic Nerve

1. The optic nerve transmits information to the brain regarding a person's vision.
2. When light enters the eye, it hits the retina, which contains rods and cones. These are photoreceptors that signals from light into visual information for the brain.
3. These cones sit within the central retina and have a role in color vision. Conversely, the rods in the peripheral retina are responsible for noncolor vision.
4. The photoreceptors carry signal impulses along nerve cells to form the optic nerve. Most of the fibers of the optic nerve cross into a structure called the optic chiasm. The optic tract then projects to the primary visual cortex in the occipital lobe at the back of the brain. The occipital lobe is where the brain handles visual information.

## Oculomotor Nerve

1. The oculomotor nerve helps control muscle movements of the eyes.
2. The oculomotor nerve movement to most of the muscles that move the eyeball and upper eyelid, known as extraocular muscles.
3. The oculomotor nerve also helps with involuntary functions of the eye. For example, the sphincter pupillae muscle automatically constricts the pupil to allow less light into the eye in bright light conditions. When it is dark, the muscle relaxes to allow more light to enter.
4. Another function is when the ciliary muscles help the lens adjust to short-range and long-range vision. This happens automatically when a person looks at near or far objects.

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### Trochlear Nerve

1. The trochlear nerve also has a role in eye movement.
2. The trochlear nerve, like the oculomotor nerve, originates in the midbrain. It powers the contralateral superior oblique muscle that allows the eye to point downward and inward.

### Trigeminal Nerve

The trigeminal nerve is the largest cranial nerve and has both motor and sensory functions. Its motor functions help a person to chew and clench the teeth. It also gives sensation to muscles in the tympanic membrane of the ear.

Its sensory division has three parts that connect to sensory receptor sites on the face:

1. The ophthalmic part gives sensation to parts of the eyes, including the cornea, mucosa in the nose, and skin on the nose, the eyelid, and the forehead.
2. The maxillary part gives sensation to the middle third of the face, side of the nose, upper teeth, and lower eyelid.
3. The mandibular part gives sensation to the lower third of the face, the tongue, mucosa in the mouth, and lower teeth.

## 3. Explain the mechanism of oxygen transport in blood.

The primary function of hemoglobin (Hb) is to transport oxygen. Since oxygen is not very soluble in water (the major constituent of blood), an oxygen transport protein must be used to allow oxygen to be 'soluble'. Hemoglobin (Hb) is the oxygen transport protein used in the blood of vertebrates. Below is a wireframe diagram of a hemoglobin molecule. It is composed of four polypeptide chains (represented in this diagram by different colors. Each chain contains one heme group (colored orange), each of which contains one iron ion (not shown). The iron is the site of oxygen binding; each iron can bind one $O_2$ molecule thus, each hemoglobin molecule is capable of binding a total to four (4) $O_2$ molecules. In humans, the average hemoglobin concentration is 16 g/100 mL.

## 4. Explain the composition and functions of gastric juice.

The gastric juice contains three principal enzymes or digestive principles. These are hydrochloric acid, pepsin, and rennet. The hydrochloric acid and the pepsin are secreted by different cells, and could be considered as separate digestive juices, but as the action of one is dependent upon the other, I will consider these actions as one. Pepsin, in the presence of hydrochloric acid, acts on proteids, and changes them into proteoses and peptone. Comparatively, little food is completely peptonized in gastric digestion. Proteoses are intermediate products between food proteids and peptone, being the principal product of the action of the gastric juice. Thus, it is seen that this stomach-action is only preparatory for the digestive processes of the intestines.

Each component of gastric juice has an important role. Hydrochloric acid lowers the pH of the stomach, breakdown nutrients and kills bacteria. Pepsinogen helps breakdown proteins, gastric lipase breakdown fats and amylase breakdown carbohydrates. Intrinsic factor helps the body absorb vitamin B12. Mucus is secreted by the neck cells and coats the stomach lining to protect it from all the acids. The stomach muscles squeeze and churn to combine the chewed food with the gastric juices to create a mixture called chyme. After a period of time, the stomach squeezes the chyme into the small intestine, which further digests and absorbs the food.

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### 5. Explain the of formation of urine.

*See Question No. 7, Physiology Section, Paper 2018.*

## SHORT ANSWERS

### 6. What is lordosis?

1. An excessive curvature of the back that results in a "swayback" appearance like the picture on the left. Some lordosis is normal in the spine at the neck and low back areas. It is when this curvature becomes excessive that it can cause problems.
2. Lordosis can affect people of any age. Conservative treatment for the condition may include medication, physical therapy, braces and weight loss. Surgery may be needed if the curvature is severe and causing other symptoms.

### 7. What is presbycusis?

1. Presbycusis is the loss of hearing that gradually occurs in most individuals as they grow older. Hearing loss is a common disorder associated with aging. About 30-35 percent of adults age 65 and older have a hearing loss. It is estimated that 40-50 percent of people 75 and older have a hearing loss.
2. It is evident that the previously advanced concept of four predominant pathologic types of presbycusis is valid, these being sensory, neural, strial, and cochlear conductive.

### 8. What is cretinism?

1. Cretinism refers to the congenital hypothyroidism or underactivity of thyroid glands during early childhood leading to stunted growth and mental retardation.
2. Cretinism is a disease caused by hypothyroidism. Iodine deficiency in diet during pregnancy is the major cause of cretinism. Hypothyroidism leads to impaired development of the growing fetus and leads to mental retardation and stunted growth.

### 9. What are the functions of ovary?

1. The main function of the ovaries is to produce the female gamete or ovum or oocytes by the process of oogenesis. The ovary also acts as an endocrine gland and secretes female sex hormones.
2. Paired ovaries serve the following functions, first, they cyclical produce gametes, second they cyclically secrete hormones principally estrogen and progestins that prepare the reproductive tract for oocyte transport fertilization, implantation and pregnancy third quickly secrete hormones principally estrogens and progestins that condition the mammary glands for lactation and fourth they control the hypothalamic-pituitary unit through negative and positive feedback mechanisms.

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