Youth Competition Times

NORCET (PRE & MAINS)/ AIIMS-CRE/RRB/DSSSB

NURSING OFFICER

EXAM FINGERPRINT

CHAPTERWISE SOLVED PAPERS

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Index for Nursing Officer

Nurrsing Officer Exam Papers Analysis Chart

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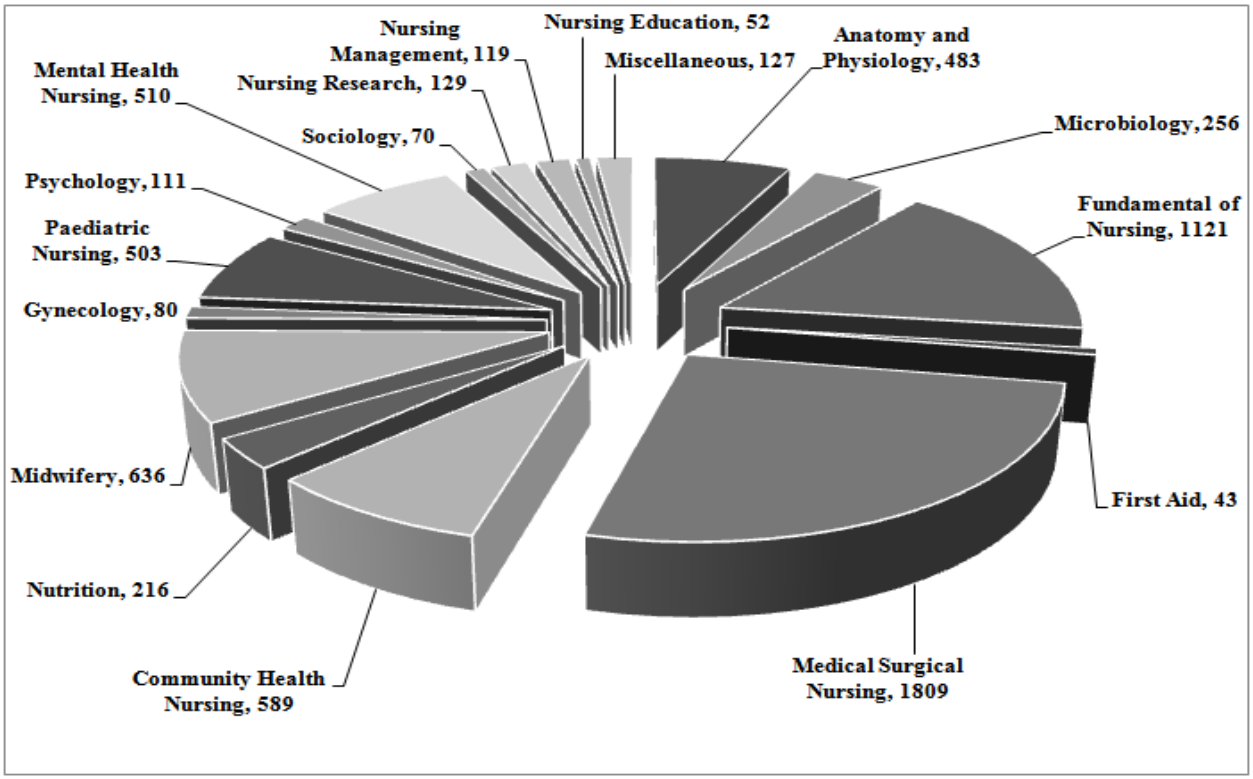
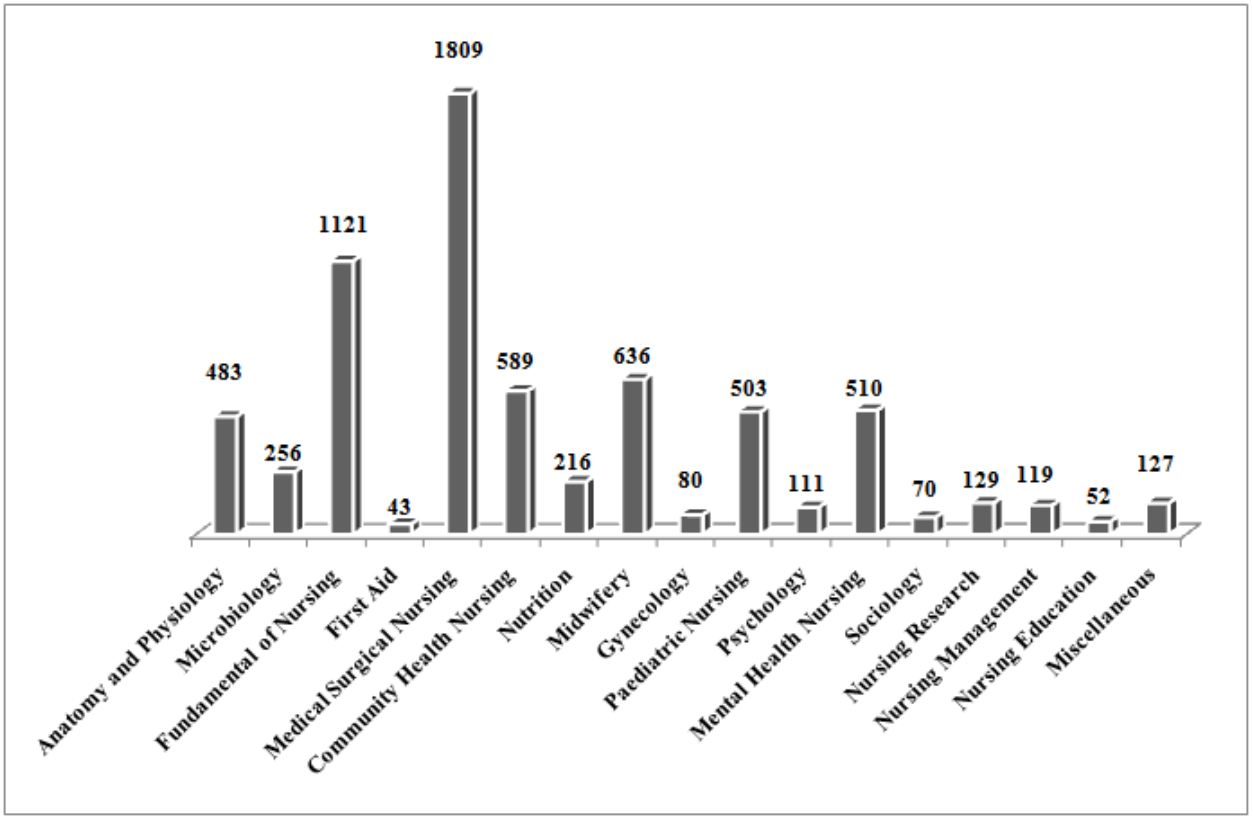




01.

ANATOMY AND PHYSIOLOGY

A. Anatomical Terms and Organization of Human Body

1. Movement of thumb & Little finger towards each other is called?

(a) Opposition (b) Abduction
(c) Adduction (d) Extension

PGIMER Chandigarh Nursing Officer 21.09.2023

Ans. (a) : The movement of the thumb and little finger towards each other is a specific type of movement found in the human hand. This movement is called opposition. It is unique to primates and allows for grasping and manipulating objects effectively.

2. Which plane divides the body into an anterior and posterior (ventral and dorsal) portion?

(a) Sagittal plane (b) Median plane
1(c) Transverse plane (d) Coronal plane

RIMS Hospital Ranchi Nursing Officer 11.09.2022

Ans. (d) : The coronal plane, also known as the frontal plane, divides the body into anterior (front) and posterior (back) parts. This vertical plane runs from side to side, separating the body into front and back section. It is also referred to as the ventral (front) and dorsal (back) division.

3. _____ divides the body into asymmetrical anterior and posterior sections.

(a) Sagittal plane (b) Frontal plane
(c) Oblique plane (d) Transverse plane

WCL Nagpur Nursing Officer 14.10.2022 Shift-II
AIIMS Rishikesh & Jodhpur Nursing Officer 25.03.2017

Ans. (b) : The frontal plane, also known as the coronal plane, is an anatomical plane that divides the body into front and back (anterior and posterior) sections.

4. Movement of body part towards body is known as?

(a) Abduction (b) Adduction
(c) Flexion (d) Extension

AIIMS Delhi Nursing Officer 11.09.2017 Shift-I

Ans. (b) : Adduction is a movement that brings a body part closer to the midline of the body or across the midline.

5. Abduction movement is:

(a) Moving away from the median line
(b) Moving towards the median line
(c) Moving through a circle, in combination
(d) Rolling inwards

DSSSB Nursing Officer 29.08.2019 Shift-II

Ans. (a) : Abduction are two terms used to describe motions or movements toward or away from the midline of the body. Abduction from the midline is an action. For example, moving the shoulders and arms away from the midline of the body.

6. Movement of the sole towards the median plane is known as?

(a) Abduction (b) Eversion
(c) Inversion (d) Extension

AIIMS PRE NORCET 08.09.2020

Ans. (c) : Inversion is the movement of the sole of foot towards the median plane, so that the sole faces inward. The opposite movement, where the sole of foot moves away from the median plane is called eversion.

7. What is it called when you turn the palm of your hand to face upwards?

(a) Inversion (b) Pronation
(c) Supination (d) Supervision

DSSSB Nursing Officer 30.09.2019 Shift-I

Ans. (c) : Supination:- When you turn your palm towards your face, it is called supination. Supination means that when you walk, your weight is more on the outside of your foot.
Pronation – It means that when you walk, your weight is more on the inside of your foot.
Supervision:- It is an unrelated term meaning to watch over someone or something.
Inversion: It refers to the movement of the sole of the foot inwards.

8. A plane that passes through the midline of the body and divides it into equal right and left sides is called

(a) Coronal plane (b) Mid-sagittal plane
(c) Oblique plane (d) Para-sagittal plane

ESIC Nursing Officer 2019 Shift-I

Ans. (b) : The sagittal plane means the plane divides body into right and left sides. The mid-sagittal plane refers to the midline. Therefore the midline divides into equal parts.
•Where is parasagittal plane refers to unequal parts because para means near.

9. The term Cephalocaudal means?

(a) Simple to complex
(b) Center to midline
(c) Infancy to adolescence
(d) Head to tail

AIIMS Mangalagiri Nursing Officer 24.08.2018

Ans. (d) : The term cephalocaudal refers to a principle of growth and development where development progresses from the head towards the tail or feet (head to Toe.). This means that areas closer to the head develop earlier and faster than those further down the body.

B. Structure of The Body

10. Which of the following is a cell cycle-specific drug that targets the M phase?

(a) Paclitaxel (b) Cyclophosphamide
(c) Cisplatin (d) Methotrexate

RRB Nursing Superintendent 29.04.2025 Shift-III

Ans. (a) : The cell cycle specific drug that targets the M phase is paclitaxel. It is a taxane drug that disrupts microtubule function, which is essential for cell division during the M phase of the cell cycle.

11. In which stage of cell division, the primary oocytes arrest until Puberty?

(a) Telophase II and Cytokinesis of Meiosis II
(b) Metaphase I of Meiosis I
(c) Prophase I of Meiosis I
(d) Metaphase I of Meiosis I

RSSB Nursing Officer 13.06.2025

Ans. (c) : During the development of female gametes (oocytes) primary oocytes are formed and enter meiosis. However they become arrested in the prophase. I stage of meiosis and remain there until puberty. At puberty, hormonal signals trigger the resumption of meiosis, allowing the oocytes to progress further.

12. What is the term for the watery fluid that surrounds organelles within a cell?

(a) Plasma membrane
(b) Cytoskeleton
(c) Cytosol
(d) Golgi apparatus

RSSB Nursing Officer 13.06.2025

Ans. (c) : The correct term for the watery fluid that surrounds organelles within a cell is cytosol. Cytosol is the gel like that fills the cell and contains dissolved ions, small molecules, and water soluble macro-molecules like proteins.

13. The most widely distributed connective tissue in the body is

(a) Adipose (b) Areolar
(c) Reticular (d) Osseous

RRB Nursing Superintendent 29.04.2025 Shift-I

Ans. (b): The most widely distributed connective tissue in the body is areolar connective tissue. It is found throughout the body and supports and connects various tissues and organ. This tissue is loose and contains collagen and elastin fibers as well as various types of cells.

14. What is the function of mRNA?

(a) Escorts amino acid to ribosome
(b) Carries message for protein synthesis
(c) Helps form the ribosome's
(d) Bonds with new strand

AIIMS Jodhpur Nursing Officer 02.07.2023

Ans. (b) : Messenger RNA (mRNA) plays a central role in the flow of genetic information with in a cell often summarized by the central dogma of molecular Biology. It carries the genetic message, or code, from the DNA in the necleus to the ribosomes in the cytoplasm, which are the sites of protein synthesis (translation).

15. Which among the following cells of the body are in almost constant mitosis?

(a) Nerve cells (b) Stomach cells
(c) Muscle cells (d) Renal cells

GMCH, Chandigarh 28.08.2022

Ans. (b) : Stomach cell, specifically the epithelial cells lining the stomach undergoing a high rate of mitosis to replace the cells that are constantly being shed due to the acidic environment.

16. The process by which ADP phosphorylated by Pi (inorganic phosphate) to ATP in the electron transport chain is known as :

(a) Oxidative phosphorylation
(b) Oxygenases
(c) Hydroperoxidases
(d) Oxidases

RRB Staff Nurse Exam 20.07.2019 Shift-I

Ans. (a) : Hydrogen ions in the matrix space can only pass through the inner mitochondrial membrane through a membrane protein called ATP synthesis. As protons move through ATP synthesis, ADP is turned into ATP. The production of ATP using the process of chemiosmosis in mitochondria is called oxidative phosphorylation.

17. Prions include :

(a) Only DNA (b) DNA and RNA
(c) Only RNA (d) Proteins

RRB Staff Nurse Exam 20.07.2019 Shift-I

Ans. (d) : A Prion is composed of an abnormally folded protein that cause progressive neurodegenerative conditions, with two of the most notable being Bovine spongiform encephalopathy (BSE or mad cow disease) seen in cattle and livestock and Creutzfeldt-Jakob disease (CJD) seen in human.

18. Which of these epithelium tissues forms the outer layer of skin?

(a) Pseudostratified columnar epithelium
(b) Simple squamous epithelium
(c) Simple cubidal epithelium
(d) Stratified squamous epithelium

WCL Nagpur Nursing Officer 14.10.2022 Shift-II

Ans. (d) : The skin's outermost layer, the epidermis, is composed of epithelial tissue, especially keratinized stratified squamous epithelium. This layer is made up of several sub-layers including the stratum corneum, stratum lucidum, stratum granulosum, stratum basal (or stratum germinativum) the epidermis provides a protective barrier against the external environment and is essential for maintaining skin integrity.

19. Where does the transcription occur in a prokaryotic cell?

(a) Nucleus (b) Cytoplasm
(c) Vacuoles (d) Mitochondria

RIMS Hospital Ranchi Nursing Officer 11.09.2022

Ans. (b) : Transcription in a prokaryotic cell occurs in the cytoplasm, specifically in the region called the nucleoid where the DNA is located. This is because prokaryotes, unlike eukaryotes, lack a membrane-bound nucleus, so transcription (DNA to RNA) and translation (RNA to protein) happen simultaneously in the same cellular compartment.

20. Which of the following is called the main Microtubule Organizing Centre (MTOC) in animal cells?

(a) Mitochondria (b) Centrosome
(c) Ribosomes (d) Golgi bodies

RIMS Hospital Ranchi Nursing Officer 11.09.2022

Ans. (b) : The main Microtubule Organizing Centre (MTOC) in animal cells is called the centrosome. It is a non-membrane-bound organelle that plays a critical role in cell division by organizing the microtubules that form the spindle fibers.

21. In meiosis, how many daughter cells are produced?

(a) 8 (b) 6
(c) 4 (d) 2

GMCH, Chandigarh 28.08.2022

Ans. (c) : Meiosis results in the Production of four daughter cells from a single parent cell. These daughter cells are haploid, meaning they have half the number of chromosomes as the original parent cell.

22. A normal human cell has ..... chromosomes.

(a) 23 (b) 46
(c) 24 (d) 48

GMCH, Chandigarh 28.08.2022

Ans. (b) : A normal human cell have 23 pairs or 46 chromosomes. A chromosome is a strand of DNA that is encoded with genes. that carry the genetic information that's passed form parent to child through heredity.

Chromosomes in human being can be divided into two types:

- Autosomes (body chromosomes)
- Allosome (sex chromosomes)

23. The genetic material, deoxyribonucleic acid (DNA) is contained in?

(a) Chromatin (b) Nucleoli
(c) Chromosome (d) Nucleus

AIIMS Nagpur Nursing Officer 28.02.2020

Ans. (d) : In eukaryotic cells the genetic material DNA is primarily found within the nucleus organized in to structure called chromosomes.

24. What is the correct sequence of mitosis?

(a) Prophase, Metaphase, Anaphase, Telophase
(b) Anaphase, Prophase, Metaphase, Telophase
(c) Telophase, Anaphase, Prophase, Metaphase
(d) Metaphase, Anaphase, Prophase, Telophase

AIIMS Patna Nursing Officer 23.02.2020

Ans. (a) : Mitosis is a type of cell division where one parent cell divides into two identical daughter cells each with the same number and type of chromosomes or the original cell.

Mitosis, the process of cell division, have 5 key phases–

i. Prophase
ii. Prometaphase
iii. Metaphase
iv. Anaphase
v. Telophase

25. A ---------- is a cell that manufactures and stores the protein keratin?

(a) Keraticellyte (b) Keracyte
(c) Keratinocyte (d) Keratinolyte

AIIMS Patna Nursing Officer 23.02.2020

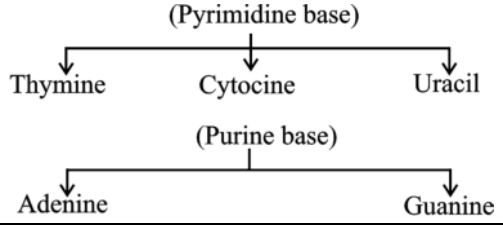
Ans. (c) : Keratinocytes are the primary cell type found in the epidermis the outer most layer of the skin. Their main function is to produce and store keratin a tough fibrous protein that provides structural integrity and protection to the skin hair and nails.

26. The pyrimidine base present in DNA is:

(a) uracil (b) guanine
(c) adenosine (d) thymine

DSSSB Nursing Officer 27.08.2019 Shift-III

Ans. (d) : Thymine is one of the bases present in the nucleic acid of DNA. Thymine is also called 5-methyl uracil, which is a pyrimidine base.



27. Who discovered the double helix structure of deoxyribonucleic acid?

(a) Watson and Crick
(b) Sir Ronald Ross
(c) Louis Pasteur
(d) David Baltimore

DSSSB Nursing Officer 28.08.2019 Shift-III

Ans. (a) : James Watson and Crick discovered the double-helix structure of DNA. In DNA, a nucleotide is formed when a molecule of pentoseribose sugar, a nitrogenous base and a phosphate group are combined.

These nucleotides combine to form a chain, which forms DNA. Both chains are antiparallel to each other. Adenine is connected to thymine through a double bond and guanine is connected to cytosine through a triple bond. Which is $A = T, C \equiv G$ represented by . These are called nitrogenous base pairs.

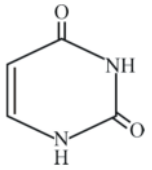
28. The pyrimidine base that is present in RNA is:

(a) Adenine (b) Thymine
(c) Uracil (d) Guanine

DSSSB Nursing Officer 28.08.2019 Shift-II

Ans. (c) : A pyrimidine is a six-membered nitrogenous heterocylic compound. Pyrimidine bases are weak bases. They are stabilized by resonance in the ring, due to which there is partial double bond character. Substituted pyrimidines are compouns of (RNA) Ribonucleic acids and DNA Deoxyribonuncleic acid. The pyrimidine base that is present in RNA is uracil.

The structure of Uracil is



29. Keratin, the simple protein, is present in:

(a) Nose (b) Eyes
(c) Ligament (d) Nails

DSSSB Nursing Officer 28.08.2019 Shift-I

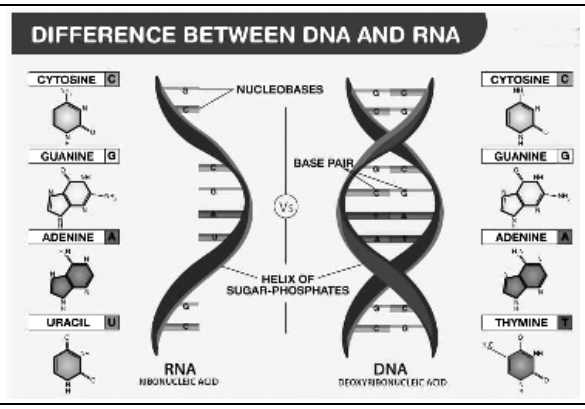
Ans. (d) : Keratin is a group of simple fibrous proteins that form the structural framework of epithelial cells, the cells that line the surfaces and cavities of the body. Keratin proteins are present in tissue made from epithelial cells, such as hair, skin, and nails.

30. The purine base found in RNA and DNA is

(a) Myoglobin (b) Adenine
(c) Thymine (d) Uracil

DSSSB Nursing Officer 28.08.2019 Shift-I

Ans. (b) : A. Nitrogenous base pair of RNA-
(I) Purine bases-
• Adenine
• Guanine
(II) Pyrimidine bases
• Uracil
• Cytosine
B. Nitrogenous base pair of DNA-
(I) Purine bases-
• Adenine
• Guanine
(II) Pyrimidine bases
• Thymine
• Cytosine
Purine base pair has adenine and guanine and pyrimidine base pair has cytosine common to both DNA and RNA. In DNA pyrimidine has thymine and in RNA pyrimidine has uracil.



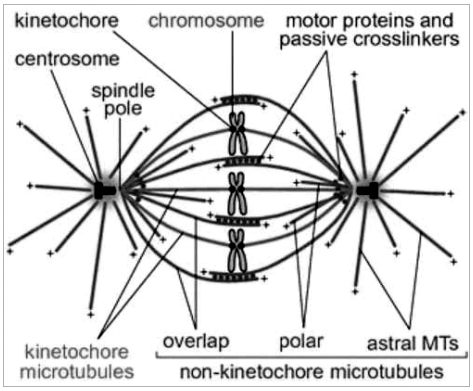
31. Prophase, metaphase, anaphase and telophase are the phases of:

(a) Transcription (b) Translation
(c) Mitosis (d) Meiosis

DSSSB Nursing Officer 29.08.2019 Shift-II

Ans. (c) : Mitosis is the process in which the nucleus in a eukaryotic cell divides. During this process, the chromatids separate from each other and move to opposite poles of the cell. It occurs in four stages called prophase, metaphase, anaphase, and telophase. The main purpose of mitosis is growth and replacing dead cells.

32. The structure which provides an anchor for the mitotic spindle is:



(a) Kinetochore (b) Telomer
(c) Polysome (d) Lysosomes

DSSSB Nursing Officer 29.08.2019 Shift-II

Ans. (a) : The structure that provides an anchor for the mitotic spindle is known as the kinetochore. The kinetochore is a protein complex that assembles at the centromeric region of DNA. It provides the major attachment point for spindle microtubules during mitotic or meiotic division to separate chromosomes. In monocentric chromosomes, the kinetochores of the point centromeres bind a single microtubule and the larger kinetochores of the regional centromeres interact with multiple microtubules.

33. The structure that stores genetic information is the:

(a) DNA (b) RNA
(c) mRNA (d) tRNA 1

DSSSB Nursing Officer 30.08.2019 Shift-I

Ans. (a) : All living beings have a chemical with a special structure which gives them a unique identity. It is called D.N.A.

■ The D.N.A of an animal is identified through its biological parts such as blood, hair, saliva, semen or other cell sources.

34. DNA replication occurs in:

(a) G1 phase (b) G2 phase
(c) S phase (d) M phase

DSSSB Nursing Officer 30.09.2019 Shift-I

Ans. (c) : DNA replication occurs in the S phase

■ DNA replication occurs in the nucleus of eukaryotic cells and in the nucleoid region of prokaryotic cells.

■ DNA replication is the biological process of making two identical copies of DNA from one original DNA molecule by which the double-stranded DNA molecule is copied to produce two identical DNA molecules

■ Replication is an essential process because whenever a cell divides, it results in the formation of two new daughter cells.

35. Which is described as the 'Power house of cells'?

(a) Ribosomes (b) Norepinephrine
(c) Mitochondria (d) Golgi apparatus

RRB Staff Nurse Exam 20.07.2019 Shift-I
AIIMS Nagpur Nursing Officer 14.011.2018

Ans. (c) : Mitochondria is known as powerhouse of cell because it serves as site for synthesis ATP (Adenosine triphosphate), the energy currency of cell, through the process of aerobic cellular respiration. ATP serves as energy currency for different cells activities.

The Ribosome is a complex molecule made of ribosomal RNA molecules and proteins that form a factory for protein synthesis in cells.

Golgi Apparatus is responsible for transporting, modifying and packaging proteins and lipid into vesicles for delivery to targeted destinations.

36. Which among the following do the phagocytic action?

(a) Neutrophils (b) Eosinophils
(c) Polymorphs (d) Basophils

RRB Staff Nurse Exam 21.07.2019 Shift-II

Ans. (a) : Neutrophils are the primary cells responsible for performing significant phagocytic action. Phagocytosis is a critical biological activity through which the host can protect itself from infectious and non-infectious environmental particles and remove unwanted host cells in order to maintain tissue homeostasis. Phagocytosis is an ancient, conserved process that is apparent in all multicellular organisms.

37. The organelles concerned with the metabolic processes are present inside the :

(a) Ribosome
(b) Cytoplasm
(c) Mitochondria
(d) Endoplasmic reticulum

RRB Staff Nurse Exam 21.07.2019 Shift-II

Ans. (b) : Cytoplasmic organelles are small cytoplasmic structures that carry out specific functions. Cytoplasmic organelles are classified as membranous or non-membranous organelles, based on whether a membrane surrounds them. The membranous organelles of cytoplasm are endoplasmic reticulum, Golgi complex, mitochondria, plastids (in animal cells) and lysosomes (in plant cells), while non-membranous organelles of cytoplasm include ribosomes, cytoskeleton and centrioles.

38. These are the basic units or building blocks of living organisms?

(a) Enzyme (b) Proton
(c) Cells (d) Neutron

AIIMS Raipur Nursing Officer Aug. 2019
Nimhans Banglore Nursing Officer 15.03.2021

Ans. (c) : Cell:- The basic structural, functional and biological units of all living organism cells are often called the "building blocks of life".
All living things are composed of one or more cells.

39. A cluster of polar flagella is called?

(a) Lophotrichous (b) Amphitrichous
(c) Monotrichous (d) Peritrichous

VMMC Safdarjung Hospital Delhi Nursing Officer 28.02.2019

Ans. (a) : Lophotrichous:– This term describes bacteria with a tuft or cluster of flagella at one or both poles of the cell.

- **Amphitrichous:–** Bacteria with flagella at both poles of the cell but not necessarily in clusters.
- **Monotrichous:–** Bacteria with a single flagellum at one pole.
- **Peritrichous:–** Bacteria with flagella distributed randomly over the entire cell surface.

40. Depending upon their oxygen requirement and metabolism Cholera species are?

(a) Obligate Aerobes
(b) Facultative Anaerobes
(c) Obligate anaerobes
(d) Microaerophilic

VMMC Safdarjung Hospital Delhi Nursing Officer 28.02.2019

Ans. (b) : Facultative anaerobes can grow with or without oxygen meaning they can survive on both aerobic and anaerobic environments. This is supported by various sources.

41. A cell that takes part in innate immunity by killing virus- infected cells is?

(a) Neutrophil (b) T cell
(c) NK cell (d) Macrophages

ESIC Nursing Officer 2019 Shift-I

Ans. (c) : Natural killer (NK) cells are part of the innate immune system and are capable of directly killing virus-infected cells without prior sensitization or activation. Neutrophils are also part of innate immunity but are primarily photolytic engulfing and destroying pathogens not directly killing virus infected cells.

42. The right genetic exchange process in which DNA is introduced to the recipient by a virus is

(a) Transfusion (b) Transduction
(c) Conjugation (d) Transformation

ESIC Nursing Officer 2019 Shift-I

Ans. (b) : Transduction is a mechanism of genetic exchange in bacteria and other organism where a virus a bacteriophage in bacteria acts as a vector to transfer DNA from one cell to another.

43. The adam's apple is formed by

(a) Thyroid cartilage (b) Cricoid cartilage
(c) Hyoid Bone (d) Epiglottis

ESIC Nursing Officer 2019 Shift-I

Ans. (a) : The Adam's apple in the prominent bulge in the front of the neck formed by the thyroid cartilage its more prominent in males due to hormonal changes during puberty.

44. Inner lining of esophagus is lined with which epithelium?

(a) Non-keratinized
(b) Stratified Squamous
(c) Non- Stratified squamous
(d) Columnar

AIIMS Delhi Nursing Officer 15.09.2019

Ans. (b) : The inner lining of the esophagus, called the mucosa, is made up of non-keratinized stratified squamous epithelium,

45. Which of the following is a long continuous strand of DNA that carries genetic information?

(a) Ribosome (b) Nucleus
(c) Chromosome (d) Mitochondria

AIIMS Jodhpur Nursing Officer (2018) 07.01.2019

Ans. (c) : Chromosomes are structures found inside the nucleus of eukaryotic cells consisting of a long continuous strand of DNA tightly coiled around proteins (histones) and carrying genetic information in the form of genes.

46. The main difference between a prokaryotic cell and a eukaryotic cell is the absence of?

(a) Plasma membrane (b) Mitochondria
(c) True nucleus (d) Flagella

AIIMS Jodhpur Nursing Officer (2018) 07.01.2019

Ans. (c) : Prokaryotic cells, unlike eukaryotic cells, lack a membrane bound nucleus to house their genetic material which is instead located in a region called the nucleoid.

47. Inner most layer of GIT tract formed by

(a) Epithelium Tissues (b) Connective tissues
(c) Nervous tissues (d) Cardiac tissues

AIIMS Delhi Nursing Officer 11.09.2017 Shift-I

Ans. (a) : The inner most layer of the GIT (Gastrointestinal Tract) is formed by epithelium tissue. The wall of the alimentary canal from the esophagus to the rectum consists of four basic layers the mucosa, muscularis external and serosa adventitia. The innermost layer of the mucosa is primarily composed of epithelial tissue, which is specialized for secretion and absorption and forms the lining of the lumen.

48. Which of the following is known as bone forming cells?

(a) Fibrinoblasts (b) Osteocytes
(c) Osteoclasts (d) Osteoblasts

AIIMS Raipur Nursing. Officer 09.09.2017 Shift-III

Ans. (d) : Osteoblasts are specialized cells responsible for the formation of new bone tissue osteoblasts are mature bone cell and osteoclasts are involved in bone resorption.

49. The aqueous component of the cell, within which various organelles and particles are suspended, is?

(a) Cytosol (b) Cytoplasm
(c) Nucleus (d) Cytoblast

AIIMS Raipur Nursing. Officer 09.09.2017 Shift-III

Ans. (b) : Cytoplasm refers to the entire contents within the cell membrane excluding the nucleus. It includes the cytosol the aqueous components and the organelles suspended with it 2.

50. Name of the tissue which is widely and abundantly distributed in human body?

(a) Connective tissue (b) Cartilaginous
(c) Lymph (d) Muscular tissue

AIIMS Raipur Nursing. Officer 09.09.2017 Shift-III

GMCH, Chandigarh 28.08.2022

Ans. (a) : Connective tissue is the most abundant and widely distributed tissue type in the human body. Providing support, protection and binding other tissue together.

Exceptional / Wrong Statement Based Questions

51. Identify the incorrect pair?

(a) Ovary — HCG
(b) Pancreas — Inhibin
(c) Adipose tissue — leptin
(d) Gastric Juice — Secretin

SGPGI Lucknow Nursing Officer 18.02.2023

Ans. (b) : Pancreas - Inhibin is the incorrect pair among the choices because inhibin is secreted by sertoli cells in the testes (in males) and by the granulosa cell and theca cells of the ovary (in females). Which inhibits the secretion of follicle stimulating hormone (FSH) from th pituitary gland. The pancreas produced hormones like insulin and glucagon, but not inhibin.

52. Which of the following is NOT a feature of transcription in Eukaryotes?

(a) Polycistronic mRNA
(b) Addition of 5' cap
(c) Addition of 3' poly-A tail
(d) Splicing of pre-mRNA

WCL Nagpur Nursing Officer 14.10.2022 Shift-II

Ans. (a) : This type of mRNA carries the genetic information for more than one protein. It is characteristics of prokaryotic gene expression, where multiple genes are often transcribed together as a single unit called in operon.

In eukaryotes, transcription typically produces monocristronic mRNA, meaning each mRNA molecule codes for a single protein.

53. The essential amino acid which is NOT synthesized in our body is:

(a) Histidine (b) Tyrosine
(c) Proline (d) Arginine

DSSSB Nursing Officer 29.08.2019 Shift-II

Ans. (a) : This essential amino acid which is not synthesized in our body is called histidine. Histidine is a α-amino acid used in the biosynthesis of proteins. It contains a α-amino group, a positive form of carboxylic acid an imidazole side chain. Its chemical formula is $C_6H_9N_3O_2$.

54. Identify false statement from the following with regard to prokaryotes?

(a) Mitochondria, Golgi apparatus are present
(b) Deoxyribonucleoprotein is absent
(c) One chromosome is present
(d) Muramic acid is present

DSSSB Nursing Officer 29.08.2019 Shift-I

Ans. (a) : Prokariotes are those organisms which do not have any structure like nucleus enclosed in the cell membranes. These organisms are unicellular. The entire process of their life is completed within a cell. They do not have any genetic material. The central material is scattered in the cell fluid. The membraneless nucleus of these cells is called the primitive nucleus. The membraneless nucleus of their cells is called the primitive nucleus. Mitochondria, Golgi bodies etc. are not found in their cellular fluid. It is wrong to say in the context of prokariotes that mitochondria and Golgi apparatus are present in their cytoplasm.

55. Which of the following is NOT assimilated by eukaryotic cells?

(a) Sulfate (b) Glucose
(c) Nitrogen (d) Lactate

ESIC Nursing Officer 2019 Shift-I

Ans. (c) : Nitrogen is part of amino acids proteins, nucleic acid and is often a limiting plant nutrient and many other uses of nitrogen.

- All organisms require nitrogen to live and grow.
- The main availability of nitrogen in the atmosphere which is 80% free nitrogen gas.
- Nitrogen are including two forms inorganic and organic form.

56. Which of the following is NOT a broad mechanism that mediates efficient mechanism that mediates efficient movement of DNA between cells?

(a) Transduction (b) Mutation
(c) Transformation (d) Conjugation

AIIMS Bhubaneswar Sr.Nursing Officer 15.08.2019

Ans. (b) : Transduction, transformation and conjugation are all mechanisms of horizontal gene transfer in bacteria, which involve the movement of DNA between cells, mutation on the other hand, is a change in the DNA sequence within a single cell and does not involve the transfer of DNA between cells.

57. Which cell acts as a phagocytic EXPECT

(a) Monocyte (b) Thrombocyte
(c) Macrophage (d) Neutrophils

AIIMS Delhi Nursing Officer 11.09.2017 Shift-I

Ans. (b) : A phagocyte is a cell that engulfs dead cells Thrombocytes, also known as platelets are primarily involved in blood clotting and wound healing. They do not have the ability to phagocytes, making them the incorrect answer to this question

C. Blood

58. Which of the following is the most abundant type of blood cells?

(a) Lymphocyte (b) Monocyte
(c) Thrombocyte (d) Erythrocyte

RSSB Nursing Officer 13.06.2025
ESIC Nursing Officer 2019 Shift-II

Ans. (d) : Red blood cells (Erythrocytes) are the most abundant type of blood cells. Red blood cells, also known as RBCs make up the majority of cells in the blood responsible for transporting oxygen throughout the body.

59. What is the normal C-reactive protein level in the blood?

(a) Less than 30 mg/L
(b) Less than 100 mg/L
(c) Less than 3 mg/L
(d) Less than 10 mg/L

DSSSB Nursing Officer 27.7.2025 Sift-I

Ans. (c) : A normal C- reactive protein (CRP) level in the blood is typically considered to be less than 3 mg/dl. Elevated levels can indicate inflammation or infection in the body.

60. Which of the following are specialized, porous blood vessels within the liver parenchyma that allow for efficient exchange of substances between the blood and hepatocytes?

(a) Oligodendrocytes (b) Sinusoids
(c) Astrocytes (d) Microglia

DSSSB Nursing grate-A 02.07.2025 Shift-II

Ans. (b) : The specialized porous blood vessels within the liver parenchyma that allow for efficient exchange of substances b/w the blood hepatocytes are called "Hepatic Sinusoids". It is unique blood vessels within the liver that have a highly porous endothelium.

61. What is the name of the phenomenon that arises from the relationship between pH and oxygen's affinity for haemoglobin?

(a) Boyle's effect (b) Bohr effect
(c) Dalton's law (d) Henry's law

UPUMS Nursing Officer 02.07.2024

Ans. (b) : Bohr effect describes the decrease in oxygen affinity of hemoglobin in the presence of increased carbon dioxide or decreased pH.
Bohr effect is a phenomenon first described in 1904 by the Danish physiologist Christian Bohr.

62. Which of the following is the primary site for T-lymphocyte differentiation?

(a) Thalamus (b) Epithalamus
(c) Hypothalamus (d) Thymus

DSSSB Nursing Officers 14.08.2024 Shift-III

Ans. (d) : T lymphocytes, also known as T cells, are a type of white blood cell that play an important role in the immune system. The thymus is a gland in the upper chest where T cells mature and differentiate. The **"T"** in T lymphocyte stands for 'thymus'.

63. Sickle cell RBCs are also known as:

(a) Acanthocytes (b) Drepanocytes
(c) Spherocytes (d) Codocytes

DSSSB Nursing Officers 06.09.2024 Shift-II

Ans. (b) : Sickle cells, also known as drepanocytes in the context of sickle cell disease, are deformed red blood cells, often crescent-shaped, that result from a genetic mutation affecting the hemoglobin protein within the cells.

64. What is the colour of anti-sera, Anti A used in blood group testing?

(a) Yellow (b) Red
(c) Blue (d) White

DSSSB Nursing Officers 06.09.2024 Shift-II

Ans. (c) : Anti A serum used in blood group testing is blue. This colour is obtained by adding methylene blue dye. Anti B serum is yellow and contains acriflavine.

65. The normal blood globulin level is:

(a) 3.5 to 5 g/dL (b) 7.5 to 10 g/dL
(c) 5.5 to 7 g/dL (d) 2.0 to 3.5 g/dL

DSSSB Nursing Officers 06.09.2024 Shift-II

Ans. (d) : The normal blood globulin level is 2.0 to 3.5 g/dL. Globulins are proteins found in the blood that play an important role in the immune system.

66. The normal amount of phosphorous in blood is:

(a) 6.4 to 8.5 mg/dl (b) 2.4 to 4.4 mg/dl
(c) 1.5 to 2 mg/dl (d) 8.4 to 10 mg/dl

DSSSB Nursing Officer 5.9.2024 Shift I

Ans. (b) : The normal amount of phosphorus in the blood is 2.4 to 4.4 mg/dl the normal level for adults is 2.4 to 4.5 mg/dl. Phosphorus levels may be higher in children and teens because they need more phosphorus for their bones to grow.

67. The normal D-dimer level in the blood is:

(a) Above 100 ng/mL (b) Above 250 ng/mL
(c) Below 250 ng/mL (d) Below 100 ng/mL

DSSSB Nursing Officer 5.9.2024 Shift I

Ans. (c) : Normal D-dimer levels in the blood are usually less than 250 ng/ml. D-dimer is a protein fragment present in the blood after a blood clot has broken down. The D-dimer test is used to help diagnose thrombotic disorders.

68. In clotting mechanism, prothrombin is changed into thrombin in the presence of?

(a) Calcium ions and fibrinogen
(b) Thromboplastin and vitamin K
(c) Calcium ion and prothrombinase
(d) Calcium ion and thromboplastin

PGIMER Chandigarh Nursing Officer 21.09.2023

Ans. (d) : In the blood clotting process, prothrombin is converted to thrombin in the presence of calcium ions and thromboplastin. Thromboplastin is an enzyme released by damaged tissue cells or platelets that, along with calcium ions, activates, prothrombin. The conversion is a crucial step in the coagulation cascade.

69. Which of the following is considered as an indication for administering serum albumin?

(a) Formation of WBCs
(b) Maintain of Oncotic pressure
(c) Formation of RBCs
(d) Clotting Factor

PGIMER Chandigarh Nursing Officer 21.09.2023