Assistant Surgeon/Casualty Medical Officer , 2015

1. Which of the following is not a component of rotator cuff?

A. Supraspinatus **B. Infraspinatus**
C. Teres Major **D. Teres Minus**

Solution
Ans. C. Teres Major

- **Rotator cuff muscles are the group of muscles which comes around the shoulder joint which allows various movement around the joint.**
- **The muscles which forms rotator cuff are: Supraspinatus, Infraspinatus, Teres minor & Subscapularis**
- **All the muscles except subscapularis, inserts into greater trochanter of humerus, while subscapularis inserts into lesser trochanter of humerus.**
- **Most commonly injured muscle among this is supraspinatus.**

2. Perichondrium is absent in :

A. Cricoid Cartillage **B. Articular Cartillage**
C. Cuneiform Cartillage **D. Nasal Cartillage**

Solution

Ans. B. Articular Cartillage

- **Perichondrium is an irregular connective tissue structure forming an investing capsule around cartilage, specifically hyaline and elastic cartilage.**
- **It surrounds their entirety except at the junction between cartilage and bone and over the articular surface of synovial joints.**
- **Due to the location, it has been seen that perichondrium gets fused with connective tissue.**
- **Fibrocartilage is not invested by perichondrium.**

3. Nerve supply of Arrector pilorum muscle is :

A. Cholinergic parasympathetic **B. Cholinergic sympathetic**
C. Somatic nerves **D. Adrenergic Sympathetic**

Solution
Ans. D. Adrenergic Sympathetic

- **The arrector pili muscles, also known as hair erector muscles, are small muscles attached to hair follicles in mammals.**
- **Body muscles contract in quick bursts to generate heat and your hypothalamus triggers a rush of adrenaline.**
- **As the tiny muscles attached to each of your hairs tighten, the hairs shoot straight into the air, pulling the skin at their base upward. Goosebumps are born.**
- **Nerve supply of Arrector pilorum muscle is Adrenergic Sympathetic.**

4. Blood brain barrier is absent in :

A. Pineal body **B. Mamillary body**
C. Lateral geniculate body **D. All the above**

Solution
Ans. A. Pineal body

- **The blood-brain barrier (BBB) is a separation of circulating blood from the brain extracellular fluid in the central nervous system (CNS).**
- **Pineal gland, also called the pineal body or epiphysis cerebri, is a tiny gland in your brain that's located beneath the back part of the corpus callosum. It's a part of endocrine system and secretes the hormone melatonin.**
- **Blood brain barrier is absent in Pineal body.**
- **The pineal gland is not covered by the BBB because they secrete hormones into circulation.**

5. Rate limiting enzyme of fatty acid synthesis is

A. Acetyl transacylase **B. Condensing enzyme**
C. Acetyl CoA Carboxylase **D. Malonyl transacylase**

Solution
Ans. C. Acetyl CoA Carboxylase

- **Synthesis of fatty acids is catalyzed by a cytosolic multifunctional fatty acid synthetase complex.**
- **Rate limiting enzyme of fatty acid synthesis is Acetyl CoA Carboxylase.**
- **Acetyl-CoA carboxylases (ACCs) are enzymes that catalyze the carboxylation of acetyl-CoA to produce malonyl-CoA, which in turn is utilized by the fatty acid synthase (FASN) to produce long-chain saturated fatty acids.**
- **It plays intriguing roles in regulating cellular signaling networks.**

6. Sixth carbon atom of Purinerng is derived from:

A. Glycine **B. Respiratory (CO2)**
C. Glutamine **D. Aspartate**

Solution
Ans. B. Respiratory (CO2)

- **Sixth carbon atom of Purinerng is derived from Respiratory \(CO_{2} \)**
- **A purine is a heterocyclic aromatic organic compound containing 4 nitrogen atoms.**
- **It contains two carbon rings, and is made of a pyrimidine ring fused to an imidazole ring.**
- **C4, C5, and N7 are derived from glycine; N3 and N9 are derived from the amide group of glutamine; N1 is derived from aspartate; C2 and C8 come from formyl residues donated by formyl tetrahydrofolate;**
- **C6 is derived from CO2.**

7. Normal Serum Calcium level is

A. 2.1 -2.5 m mol/L **B. 4- 6 m mol/L**
C. 6-8 mg/dl **D. 9-11 mEq/L**

Solution
Ans. A. 2.1 -2.5 m mol/L

- **Normal Serum Calcium level is 2.1 -2.5 m mol/L.**
- **Serum calcium is a blood test to measure the amount of calcium in the blood.**
- **Serum calcium is usually measured to screen for or monitor bone diseases or calcium-regulation disorders (diseases of the parathyroid gland or kidneys).**
- **Hypercalcemia is a condition in which the calcium level in your blood is above normal.**
- **Too much calcium in your blood can weaken your bones, create kidney stones, and interfere with how your heart and brain work.**

8. One milligram of Nicotinic acid is equivalent to :

A. 30 mg of Tryptophan **B. 40 mg of Tryptophan**
C. 50 mg of Tryptophan **D. 60 mg of Tryptophan**

Solution
Ans. D. 60 mg of Tryptophan

- **One milligram of Nicotinic acid is equivalent to 60 mg of Tryptophan.**

- **Niacin, also known as nicotinic acid, is an organic compound and a vitamer of vitamin B3, an essential human nutrient.**
- **It can be manufactured by plants and animals from the amino acid tryptophan.**
- **Tryptophan is an amino acid needed for normal growth in infants and for the production and maintenance of the body's proteins, muscles, enzymes, and neurotransmitters.**

9. Among the listed abnormalities, which is not seen in Cerebellar dysfunction ?

A. Hypotonia **B. Adiadokokinesia**
C. Resting tremor **D. Drunken gait**

Solution
Ans. C. Resting tremor

- **The cerebellum maintains our motor equilibrium and calibration of movements.**
- **It is an essential region of the brain playing a central role in maintaining our gait, stance, and balance, as well as the coordination of goal-directed movements and complex movements.**
- **Dysfunction manifests as clumsiness and "drunken" gait.**
- **Cerebellar dysfunction causes balance problems and gait disorders along with difficulties in coordination resulting in ataxia, uncoordinated movements, imbalance, speech problems(dysarthria), visual problems (nystagmus) and vertigo as a part of the vestibulocerebellar system.**
- **Resting tremor is not seen in Cerebellar dysfunction.**

10. All is true about Duchenne's Muscular Dystrophy , except :

A. It is a metabolic myopathy **B. X -linked and usually fatal by 30 yrs of age**
C. Dystrophin protein is absent from the muscle **D. Dystrophin replaced by Utrophin can be helpful in this condition**

Solution
Ans. A. It is a metabolic myopathy

- **Duchenne muscular dystrophy (DMD) is one of the most severe forms of inherited muscular dystrophies.**
- **Duchenne muscular dystrophy is a genetic disease due to the mutation of the dystrophin gene, located on chromosome Xp21.**
- **In DMD, both dystrophin and DGC proteins are missing, leading to excessive membrane fragility and permeability, dysregulation of calcium homeostasis, oxidative damage.**
- **Utrophin is regarded as the most potent alternative for dystrophin.**

- **utrophin can repair the contractile function of muscle cells and alleviate muscle inflammation in DMD patients.**
- **Duchenne muscular dystrophy is not a metabolic myopathy.**

11. What is true about Pendred's syndrome:

A It is an example of non-syndromic deafness. **B. It causes deafness and goiter**

C. It is due to the mutation of K^+ channel protein. **D. It causes blindness.**

Solution

Ans. B. It causes deafness and goiter

- **Pendred syndrome is a genetic disorder that causes early hearing loss in children.**
- **It can also make thyroid gland enlarged resulting in goitre.**
- **It is caused by changes, or mutations, in a gene called SLC26A4 (formerly known as the PDS gene) on chromosome 7.**

12. The Extrinsic system of clotting mechanism is triggered by the release of :

A. Tissue Thromboplastin **B. Factor VII**

C. Factor XII **D. Ca^{2+}**

Solution

Ans. A. Tissue Thromboplastin

- **The Extrinsic system of clotting mechanism is triggered by the release of Tissue Thromboplastin.**
- **Thromboplastin also known as thrombokinase, aiding blood coagulation through catalyzing the conversion of prothrombin to thrombin.**
- **Thromboplastin is found in brain, lung, and other tissues and especially in blood platelets.**

13. Section 319 of Indian Penal Code (IPC) deals with :

A. Grievous hurt **B. Hurt**

C. Injury **D. Murder**

Solution

Ans. B. Hurt

- **Section 319 of Indian Penal Code (IPC) deals with Hurt.**
- **Section 319 - Whoever causes bodily pain, disease or infirmity to any person is said to cause hurt.**
- **When a person does an act with the intention of causing hurt to somebody or with the knowledge that he likely to cause hurt, he is guilty of causing hurt voluntarily under.**
- **When a person voluntarily causes hurt to somebody, the court can punish him with imprisonment up to 1 year. The court can also levy a fine of maximum Rs. 1,000 in addition to the imprisonment.**

14. The minimum age at which an individual attains criminal responsibility is:

A. 18 years **B. 12 years**
C. 7years **D. 5 years**

Solution
Ans. C. 7years

- **The minimum age at which an individual attains criminal responsibility is 7years.**
- **In India A boy or girl under 18 years of age is a juvenile according to the Juvenile Justice Code Act,2000.**
- **The age of criminal responsibility is 7 years set by Section 82 of The Indian Penal Code 1860.**
- **Neither Capital punishment nor life imprisonment without the possibility of release can be imposed offender below 18.**
- **An offence committed by a child above the age of 7 years but below the age of 12 years will not be punishable if it seems that he does not possess sufficient maturity to judge the consequence of his actions.**

15. The wound which is terminating in a body cavity is termed as :

A. Fabricated wound **B. Penetrating wound**
C. Perforating wound **D. Punctured wound**

Solution
Ans. B. Penetrating wound

- **The wound which is terminating in a body cavity is termed as Penetrating wound.**
- **Penetrating trauma occurs when a foreign object pierces the skin and enters the body creating a wound.**
- **In blunt or non-penetrating trauma the skin is not necessarily broken. In penetrating trauma, the object remains in the tissue or passes through the tissues and exits the body.**

- **Penetrating injuries can have multiple etiologies; the most common are gunshot wounds and sharp instruments.**

16. The term MERMER is related to:

A. Brain fingerprinting **B. DNA fingerprinting**
C. Narco-analysis **D. Polygraph test**

Solution
Ans. A. Brain fingerprinting

- **The term MERMER is related to Brain fingerprinting.**
- **The accuracy and reliability of the memory and encoding related multifaceted electroencephalographic response (MERMER) technique for detecting information related to events subjects have experienced, despite subjects' efforts to conceal that knowledge.**
- **The main component of a MERMER is the P300 brainwave, an evoked response that has been well studied in the scientific literature as a potential indicator of recognition.**
- **Brain fingerprinting detects concealed information stored in the brain by measuring brainwave responses. ***

17. "Side chain theory" of antibody production is proposed by :

A. Paul Ehrlich **B. Lows Pasteur**
C. Joseph Lister **D. Frenkel**

Solution
Ans. A. Paul Ehrlich

- **"Side chain theory" of antibody production is proposed by Paul Ehrlich.**
- **Ehrlich's "side-chain theory" of immunity provided the first general theory for the new science of immunology.**
- **According to the Side chain theory, Antibody producing cells (B — cell) contains different side chains.**
- **When Antigen encounters the Antibody producing cell, it can interact with the side chains and select one of the side chains.**
- **It activates Antibody producing cells and the activated cells then produces Antibodies of selected side chain type.**

18. "Neufeld reaction" is used to demonstrate the presence of :

A. Capsule **B. Flagella**
C. Fimbriae **D. Spore**

Solution
Ans. A. Capsule

- **"Neufeld reaction" is used to demonstrate the presence of Capsule.**
- **The Quellung reaction or Neufeld reaction is the gold standard method for pneumococcal capsular serotyping.**
- **The method involves testing a pneumococcal cell suspension with pooled and specific antisera directed against the capsular polysaccharide.**
- **The antigen-antibody reactions are observed microscopically.**
- **The protocol has three main steps:**
- **1) preparation of a bacterial cell suspension,**
- **2) mixing of cells and antisera on a glass slide, and**
- **3) reading the Quellung reaction using a microscope.**

19. Example of microaerophilie bacteria is :

A. Streptococcus pneumonia **B. Campylobacter jejunii**
C. Citrobacter fruendii **D. Edvardsiella tarda**

Solution
Ans. B. Campylobacter jejunii

- **Example of microaerophilie bacteria is Campylobacter jejunii.**
- **A microaerophile is a microorganism that requires environments containing lower levels of dioxygen than that are present in the atmosphere.**
- **The normal atmosphere consists of about 21% oxygen. This concentration is toxic for microaerophilic bacteria.**
- **They have optimal growth in 5-10% oxygen.**
- **Campylobacter jejunii was the most commonly reported bacteria associated with human intestinal infections.**
- **Campylobacter requires low oxygen concentration, between 2–10 %, for optimal growth.**

20. Which of the following is a diploid cell line?

A. He la **B. WI-38** **C. Mc Coy** **D. BHK-21**

Solution

Ans. B. WI-38

- **WI-38 is a diploid cell line.**
- **A deploid cell line is a cell line having a finite in vitro lifespan in which the chromosomes are paired (euploid) and are structurally identical to those of the species from which they were derived.**
- **WI-38 cell line is the first human diploid cell line to be used in human vaccine preparation.**
- **WI-38 cells were isolated from the lung tissue of a 3-month-old, female, embryo.**
- **WI-38 is used in viruscide testing.**

21. CD 10 is not a marker for which of the following?

A. Burkitt's Lymphoma **B. Lymphoblastic Lymphoma**
C. Mantle cell Lymphoma **D. Endometrial Stromal Sarcoma**

Solution

Ans. C. Mantle cell Lymphoma

- **The cluster of differentiation (CD) is a protocol used for the identification and investigation of cell surface molecules present on leukocytes.**
- **Cells can be immunophenotyped by their CD molecules using fluorescence microscopy.**
- **Mantle cell Lymphoma is a subtype of B-cell lymphoma, due to CD5 positive antigen-naive pregerminal center B-cell within the mantle zone that surrounds normal germinal center follicles.**
- **Mantle cell lymphoma (MCL) is one of the rarer of the non-Hodgkin's lymphomas, comprising about 6% of NHL cases.**

22. Feathery degeneration is characteristic of :

A. Alcoholic liver disease **B. Non-aleoholic steatohepatitis**
C. Chronic Cholestasis **D. Reye's Syndrome**

Solution

Ans. C. Chronic Cholestasis

- **Feathery degeneration is characteristic of Chronic Cholestasis.**
- **Cholestasis is any condition in which the flow of bile from the liver is slowed or blocked.**

- **Chronic cholestasis is defined by a distinctive form of hepatocyte injury with an attendent inflammatory and fibrotic response.**
- **In histopathology, feathery degeneration, formally feathery degeneration of hepatocytes, is a form of liver parenchymal cell (i.e. hepatocyte) death associated with cholestasis.**

23.Increased chromosomal breakage is characteristic of :

A. Fanconi's Syndrome **B. Bloom Syndrome**
C. Dyskeratosis Congenita **D. Schwachman-Diamond Syndrome**

Solution
Ans. B. Bloom Syndrome

- **Increased chromosomal breakage is characteristic of Bloom Syndrome.**
- **Bloom syndrome (congenital telangiectatic erythema) is a rare autosomal recessive disorder.**
- **It was first described in 1954 by David Bloom in a series of patients with telangiectatic erythema on the face and dwarfism.**
- **Bloom syndrome (BSyn) is a rare genetic disorder characterized by short stature; a sun-sensitive, red rash that occurs primarily over the nose and cheeks; mild immune deficiency with increased susceptibility to infections; insulin resistance that resembles type 2 diabetes; and most importantly, a markedly increased susceptibility to many types of cancer, especially leukemia, lymphoma and gastrointestinal tract tumors.**
- **The genetic abnormality in Bloom syndrome causes problems with DNA repair, resulting in a high number of chromosome breaks and rearrangements.**

24. Schiller-Duval bodies are seen in:

A. Embryonal carcinoma **B. Yolk-Sac tumour**
C. Dysgerminoma **D. Immature teratoma**

Solution
Ans. B. Yolk-Sac tumour

- **Schiller-Duval bodies are seen in Yolk-Sac tumour.**
- **Schiller–Duval body is a cellular structure seen by microscope in endodermal sinus tumors (yolk sac tumors) which are the most common testicular cancer in children.**
- **A Schiller Duval body is a cellular structure that is characterized by the presence of a central blood vessel surrounded by layers of tumor cells.**
- **It consists of a fibrovascular core with a single central thin-walled vessel in a hyalinized stroma surrounded by a one or more layers of cuboidal or columnar tumor**

cells with clear cytoplasm. The papillary structure is contained within a cystic space lined by flattened cells.

- **Schiller Duval bodies were first described by Walter Schiller, an American pathologist, and Mathias-Marie Duval, a French professor of anatomy and histology.**

25. The following are prodrugs Except :

A. Captopril **B. Enalapril**
C. Perindopril **D. Ramipril**

Solution
Ans. A. Captopril

- **Prodrugs are bioreversible, inactive drug derivatives, which have the ability to convert into the active parent drug within the human body.**
- **Captopril is an FDA-approved active (non prodrug) medication used in the management of hypertension, left ventricular dysfunction after myocardial infarction, and diabetic nephropathy.**
- **Non prodrug compounds are designed and synthesized as ACTIVE compounds that readily undergo metabolic inactivation to nontoxic products.**

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26. Non selective \(\beta \) blockers are to be avoided in which of the following condition :

A. Glaucoma **B. Hyperthyroidism**
C. Arrvthmia **D. Bronchial Asthma**

Solution
Ans. D. Bronchial Asthma

- **Recurrent episodes of acute shortness of breath, typically occurring at night or in the early morning hours, are the cardinal manifestation of bronchial asthma.**
- **Further symptoms include cough, wheezing, and a feeling of tightness in the chest. Asthmatic symptoms can often arise after physical exercise.**
- **Beta receptors are found in both heart and lung tissue. Beta-blockers are used to treat heart disease or hypertension, but beta-agonists (bronchodilators) are coupled with inhaled steroids for asthma treatment. Instead of blocking the beta receptors, beta-agonists activate the receptors just as epinephrine does, causing the airways to relax.**
- **When beta-blockers work on lung tissue, they cause the airways to narrow or contract, which might make it difficult for you to breathe.**
- **Non selective \(\beta \) blockers are to be avoided in Bronchial Asthma.**

27. The drug having narrow therapeutic index is :

A. Ampicillin **B. Diazepam**
C. Lithium **D. Paracetamol**

Solution
Ans. C. Lithium

- **The drug having narrow therapeutic index is Lithium.**
- **Narrow therapeutic index (NTI) drugs are drugs where small differences in dose or blood concentration may lead to serious therapeutic failures and/or adverse drug reactions that are life-threatening or result in persistent or significant disability or incapacity.**
- **Lithium is used to treat mania that is part of bipolar disorder (manic-depressive illness).**
- **It is also used on a daily basis to reduce the frequency and severity of manic episodes.**
- **Excessive intake or impaired excretion can result in lithium accumulation.**

28. The drug with antiplatelet activity is :

A. Reviparin **B. Clopidogrel**
C. Streptokinase **D. Warfarin**

Solution
Ans. B. Clopidogrel

- **The drug with antiplatelet activity is Clopidogrel.**
- **Antiplatelet drugs prevent platelets from sticking together and decrease your body's ability to form blood clots.**
- **Antiplatelet drugs are used to avoid blood clots, which can cause heart attacks and strokes.**
- **The main risk associated with antiplatelet therapy is excessive bleeding.**
- **Clopidogrel is a Adenosine diphosphate (ADP) receptor inhibitors which make platelets less sticky.**

29. In prevention of accidents wearing helmet is:

A. Primordial prevention **B. Primary prevention**
C. Secondary prevention **D. Tertiary prevention**

Solution
Ans. C. Secondary prevention

- **The individual act of wearing a helmet during a potentially dangerous activity is an example of secondary prevention.**

- **Motorcycle and bicycle helmets are effective methods for head injury prevention.**
- **Primary prevention: removal of circumstances causing injury - eg, traffic speed reduction, fitting stair gates for young children, reducing alcohol consumption.**
- **Secondary prevention: reduces severity of injury should an accident occur - eg, use child safety car seats, bicycle helmets, smoke alarms.**

30. The index case in an out break is :

A. First reported case **B. First incident case**
C. Last reported cage **D. Last incident case**

Solution
Ans. A. First reported case

- **The index case in an out break is First reported case.**
- **The term primary case can only apply to infectious diseases that spread from human to human, and refers to the person who first brings a disease into a group of people—a school class, community, or country.**
- **The index case, however, is the patient in an outbreak who is first noticed by the health authorities, and who makes them aware that an outbreak might be emerging.**
- **The index case or patient zero is the first documented patient in a disease epidemic within a population, or the first documented patient included in an epidemiological study.**

31. The cyclo development phase is seen in the transmission of the agent :

A. P.Vivax **B. Japanese encephalitis virus**
C. W. bancrofti **D. Dengue virus**

Solution
Ans. C. W. bancrofti

- **The cyclo development phase is seen in the transmission of the agent W. bancrofti.**
- **In communicable disease terminology, the word vector means an "arthropod or another invertebrate which transmits infection by inoculation into or through the skin or mucous membrane by biting, or by deposit of infective materials on the skin or on food or other objects".**
- **A mosquito ingests the microfilariae during a blood meal .**
- **After ingestion, the microfilariae lose their sheaths and some of them work their way through the wall of the proventriculus and cardiac portion of the mosquito's midgut and reach the thoracic muscles .**

- **There the microfilariae develop into first-stage larvae and subsequently into third-stage infective larvae .**
- **The third-stage infective larvae migrate through the hemocoel to the mosquito's prosbocis and can infect another human when the mosquito takes a blood meal.**

32. Which of the following is not a hereditary disease?

A. Retinitis Pigmentosa **B. Retinopathy of Prematurity**
C. Stargardt's Disease **D. Lebers Congenital Amaurosis**

Solution
Ans. B. Retinopathy of Prematurity

- **Retinopathy of Prematurity is not a hereditary disease.**
- **A genetic disorder occurs when one or more genes are altered. If this genetic alteration is passed on to offspring, then it is a hereditary genetic disorder.**
- **Retinopathy of prematurity (ROP) is an eye disease that can happen in babies who are premature (born early) — or who weigh less than 3 pounds at birth.**
- **ROP happens when abnormal blood vessels grow in the retina (the light-sensitive layer of tissue in the back of your eye).**
- **The first stage of ROP is seen as a line on the retina that separates normal retina from premature retina.**
- **Stage 2 ROP is when a ridge which has height and thickness forms on the retina.**
- **Stage 3 is when there is growth of fragile new abnormal blood vessels on the retina.**

33. Lisch nodules are seen in :

A. Tuberous Sclerosis **B. Retinoblastoma**
C. Granulomatous Uveitis **D. Neurofibromat0sis**

Solution
Ans. D. Neurofibromat0sis

- **Lisch nodules are seen in Neurofibromatosis.**
- **Lisch nodule, also known as iris hamartoma, is a pigmented hamartomatous nodular aggregate of dendritic melanocytes affecting the iris.**
- **Lisch nodules are often associated with neurofibromatosis (NF) I.**
- **They are usually elevated and tan in appearance.**
- **Their incidence in NF1 increases with age and their prevalence raises by about 10% per year of life, up to age 9.**

34. Most useful route of administration of antibiotics in the management of Post cataract surgery endopthalmitis is :

A. Intravitreal **B. Intravenous**
C. Subconjunctival **D. Topical**

Solution
Ans. A. Intravitreal

- **Most useful route of administration of antibiotics in the management of Post cataract surgery endopthalmitis is Intravitreal.**
- **Postoperative endophthalmitis is a serious complication that can happen after cataract surgery.**
- **It occurs mainly due to invasion of the globe by microbial flora, bacteria, or fungi from the adnexa and environment during the time of surgery.**
- **Amore effective way to achieve a high concentration of an antimicrobial substance within the eye and the infected tissue is intravitreal drug application.**
- **Therefore, the intravitreal injection of antibiotics has become the primary method of administration in the treatment of exogenous endophthalmitis.**

35. Which of the following corneal dystrophies are primarily endothelial?

A. Reis buckler **B. Lattice**
C. Fuch's **D. Granular**

Solution
Ans. C. Fuch's

- **Fuchs endothelial corneal dystrophy (FECD) is the most common primary corneal endothelial dystrophy.**
- **Fuchs' endothelial dystrophy is a non-inflammatory, sporadic or autosomal dominant, dystrophy involving the endothelial layer of the cornea.**
- **With Fuchs' dystrophy the cornea begins to swell causing glare, halo, and reduced visual acuity.**
- **The damage to the cornea in Fuchs' endothelial dystrophy can be so severe as to cause corneal blindness.**

36. Ozaena is related to:

A. Rhinosporidiosis **B. Rhinophyma**
C. Atrophic rhinitis **D. Rhinitis Medicamentosa**

Solution
Ans. C. Atrophic rhinitis

- **Ozaena is related to Atrophic rhinitis.**
- **Ozena is a disease of the nose in which the bony ridges and mucous membranes of the nose waste away.**
- **Primary atrophic rhinitis (ATR) is characterized by chronic progressive atrophy of the mucosa and greenish crusts responsible for foul odor (ozaena).**
- **Atrophic rhinitis is a chronic condition affecting the nasal cavities, caused by progressing atrophy of nasal mucosa and the underlying bones.**
- **In atrophic rhinitis, a long-term infection by Klebsiella ozaenae often occurs simultaneously on the mucosae of the nose and paranasal sinuses.**

37.Gradenigo's syndrome is related to;

A. Petrositis **B. Oedema and discoloration over mastoid area**
C. Bell's palsy **D. CSF otorrhea**

Solution

Ans. A. Petrositis

- **Gradenigo's syndrome is related to Petrositis.**
- **Gradenigo's syndrome (GS) is a triad (otorrhea, abducens nerve palsy, and pain in the trigeminal nerve distribution).**
- **Petrositis is a rare complication involving inflammation of the petrous apex mastoid air cells.**
- **Petrositis most often refers to infection of the petrous portion of the temporal bone, the bone in the skull that surrounds the ear.**
- **This infection goes deep to the inner ear.**
- **It is associated with otitis media (a middle ear infection).**

38. Reinke's space is seen in :

A. Middle Meatus **B. Larynx**
C. Periton-Sillar region **D. Middle Ear**

Solution
Ans. B. Larynx

- **Reinke's space is seen in Larynx.**
- **The Reinke's space is a gelatinous layer of the vocal cord located underneath the outer cells of the vocal cord.**
- **When a person speaks, the Reinke's space vibrates to allow for sound to be produced (phonation).**
- **LAYRYNX is the area of the throat containing the vocal cords and used for breathing, swallowing, and talking. Also called voice box.**

39. Eagle's syndrome is related to :

A. Herpes zoster **B. Facial palsy**
C. Trigeminal pain **D. Stylalgia**

Solution
Ans. D. Stylalgia

- **Eagle's syndrome is related to Stylalgia.**
- **Stylalgia is a pain syndrome occurring in connection with on elongated or malpositioned styloid piocess and is more common than generally thought.**
- **Eagle syndrome is characterized by recurrent pain in the oropharynx and face due to an elongated styloid process or calcified stylohyoid ligament.**
- **Stylalgia is an important cause of paroxysmal dull pain in the throat and ear.**
- **Enlarged styloid process is the ossification stylohyoid ligament.**
- **Pain is aggravated by the act of deglutition.**

40. What will be the blood volume in a healthy male person weighing 60 kg?

A. 2500 ml B. 3000 ml C. 3500 ml D. 4000 ml

Solution
Ans. D. 4000 ml

- **The blood volume in a healthy male person weighing 60 kg is 4000 ml.**
- **Average blood volume = Patient weight (kg) * (Average blood volume in mL/kg).**
- **The average blood volume is 70 ml/kg body weight in adult males, 65 ml/kg in adult females and 70-75 ml/kg in children (1 year old and over).**
- **Hypovolemia, also known as volume depletion or volume contraction, is a state of abnormally low extracellular fluid in the body. This may be due to either a loss of both salt and water or a decrease in blood volume.**

- **Hypervolemia, also known as fluid overload, is a condition where you have too much fluid volume in your body.**

41. 45 yr old male comes with profuse watery diarrhoea and recurrent vomiting following food intake from a restaurant 5 hours back. What is the likely organism that is responsible for his illness?

A. Enterotoxin producing microorganisms
B. Enteroadberent bacteria
C. Cytotoxin producing bacteria
D. Enteroinvasive microorganism

Solution
Ans. A. Enterotoxin producing microorganisms

- **An enterotoxin is a substance that is harmful to your digestive system.**
- **It is produced by certain bacteria.**
- **Enterotoxins are frequently cytotoxic and kill cells by altering the apical membrane permeability of the mucosal (epithelial) cells of the intestinal wall.**
- **The enterotoxin enters your stomach and intestines if you eat contaminated food or water.**
- **This causes symptoms such as cramps, nausea, vomiting, or diarrhea.**

42. Which of the following is the cause of hyperkalemic distal renal tubular acidosis?

A. Amylodosis
B. Hyper para thyroidism
C. SLE
D. Addisons disease

Solution
Ans. D. Addisons disease

- **Addisons disease is the cause of hyperkalemic distal renal tubular acidosis.**
- **Hyperkalemic distal renal tubular acidosis (RTA type 4) Renal tubular acidosis (RTA) is characterized by metabolic acidosis, a severe disturbance of extracellular pH homeostasis, due to renal impaired acid excretion.**
- **Addison's disease, also called adrenal insufficiency, is an uncommon illness that occurs when the body doesn't make enough of certain hormones.**
- **In Addison's disease, the adrenal glands make too little cortisol and, often, too little of another hormone, aldosterone.**

43. A 45 yrs old man involved in a car accident and admitted in ICU following an emergency laparotomy developed irrelevant talk, altered sensorium and agitation on the third post operative day. On examination, he has disorientation and impaired recent memory along with visual hallucinations. The most probable diagnosis in this patient is :

A. Substance induced psychosis **B. Claustrophohia**
C. Alcohol withdrawal delirium **D. Post traumatic stress disorder**

Solution
Ans. C. Alcohol withdrawal delirium

- **Some patients exhibit symptoms of severe alcohol withdrawal with profound confusion, autonomic hyperactivity, and cardiovascular collapse. This is defined as alcohol withdrawal delirium, more commonly known as delirium tremens (DT).**
- **Delirium tremens (DTs) is the most severe form of ethanol withdrawal, manifested by altered mental status (global confusion) and sympathetic overdrive (autonomic hyperactivity), which can progress to cardiovascular collapse.**
- **Minor alcohol withdrawal is characterized by tremor, anxiety, nausea, vomiting, and insomnia.**
- **Delirium tremens usually starts two to five days after the last drink and it can be fatal.**
- **Shaking, confusion, high blood pressure, fever and hallucinations are some symptoms.**

44. Which of the following drugs is not used in the treatment of attention deficit hyperactivity disorder in children?

A. Atomoxetine **B. Clonidine**
C. Methyl phenidate **D. Phenobarbitone**

Solution
Ans. D. Phenobarbitone

- **Tomoxetine is indicated for treating attention deficit hyperactivity disorder (ADHD) in adults and children over six years.**
- **Clonidine extended-release tablets are used to treat symptoms of attention deficit hyperactivity disorder (ADHD).**
- **Methylphenidate is FDA-approved for treating attention deficit hyperactivity disorder (ADHD) in children and adults and as a second-line treatment for narcolepsy in adults.**
- **Phenobarbitone is not used in the treatment of attention deficit hyperactivity disorder in children.**
- **Phenobarbitone is a class C-IV control substance, and it is used for its sedative and anti-seizure properties in patients with status epileptics and alcohol withdrawal management.**

45. Which one of the following statement is false regarding suicide?

A. Suicidality runs in family
B. These who commit suicide will never communicate suicidal ideas
C. 10% of schizophrenics die by suicide
D. ECT is indicated in severely depressed with suicidal risk

Solution
Ans. B. These who commit suicide will never communicate suicidal ideas

- **These who commit suicide will never communicate suicidal ideas is false regarding suicide.**
- **SUICIDE is defined as the act or an instance of taking one's own life voluntarily and intentionally.**
- **Among younger children, suicide attempts are often impulsive. They may be associated with feelings of sadness, confusion, anger, or problems with attention and hyperactivity.**
- **Family history of suicide attempts are also one of the risk factor.**
- **Suicide is a major cause of death among patients with schizophrenia. Research indicates that at least 5–13% of schizophrenic patients die by suicide.**
- **Electroconvulsive therapy (ECT) is indicated for severe depression, including depression with psychosis, catatonia, and/or an elevated suicide risk.**

46. Mean head to body delivery time in normal birth is :

A. 50 seconds **B. 79 seconds**
C. 24 seconds **D. 42 seconds**

Solution

- **Mean head to body delivery time in normal birth is 24 seconds.**
- **In the broadest definition, normal childbirth includes a labour that begins spontaneously, usually between 37 and 42 weeks of pregnancy.**
- **Normal birth also includes skin-to-skin holding after delivery, and breastfeeding within the first hour after delivery.**

47. Karyotype in partial mole :

A. 46 xxy **B. 69 xx** **C. 69 xxy** **D. 46 xy**

Solution

Ans. C. 69 xxy

- **A karyotype is an individual's complete set of chromosomes.**
- **The term also refers to a laboratory-produced image of a person's chromosomes isolated from an individual cell and arranged in numerical order.**
- **A karyotype may be used to look for abnormalities in chromosome number or structure.**
- **In a partial molar pregnancy, the ovum is fertilized by two sperms or duplication of paternal haploid chromosomes.**
- **Partial mole is triploid with 69 XXY, 69 XXX, and 69 XYY karyotypes, and both paternal and maternal chromosomes are expressed.**

48. Heparin belongs to FDA category :

A. A B. B C. C D. D

Solution

Ans. C. C

- **Heparin belongs to FDA category - C.**
- **In 1979, the FDA established five letter risk categories - A, B, C, D or X - to indicate the potential of a drug to cause birth defects if used during pregnancy.**
- **The categories were determined by assessing the reliability of documentation and the risk to benefit ratio. * Category A**
- **Adequate and well-controlled studies have failed to demonstrate a risk to the fetus in the first trimester of pregnancy (and there is no evidence of risk in later trimesters).**

*** Category B**

- **Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women.**

*** Category C**

- **Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.**

*** Category D**

- **There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.**

*** Category X**

- **Studies in animals or humans have demonstrated fetal abnormalities and/or there is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience, and the risks involved in use of the drug in pregnant women clearly outweigh potential benefits.**

49. Spinnelli's operation is done in :

A. Traumatic PPH **B. Chronic Puerperal Inversion**
C. Placenta Accrete **D. Atonic PPH**

Solution
Ans. B. Chronic Puerperal Inversion

- **Spinnelli's operation is done in Chronic Puerperal Inversion.**
- **Uterine inversion is a condition in which the uterus turns inside out with prolapse of the fundus through the cervix.**
- **It is a rare complication of mismanaged labour.**
- **Inversion varies in degree from a mere dimpling of the fundus to involvement of the whole uterus and cervix.**
- **Spinelli operation - an operation splitting the anterior wall of the prolapsed uterus and reversing the organ preliminary to reduction.**

50. Molluscum contagiosum is caused hy :

A. Pox virus **B. Herpes virus**
C. Human papilloma virus **D. Adeno virus**

Solution

A. Pox virus

- **Molluscum contagiosum is caused by Pox virus.**
- **Molluscum contagiosum is an infection caused by a poxvirus (molluscum contagiosum virus).**
- **The result of the infection is usually a benign, mild skin disease characterized by lesions (growths) that may appear anywhere on the body.**
- **Poxviruses are brick or oval-shaped viruses with large double-stranded DNA genomes.**
- **Poxvirus infections typically result in the formation of lesions, skin nodules, or disseminated rash.**

- **Infection in humans usually occurs due to contact with contaminated animals, people, or materials.**

51. Ecthyma gangrenosum 1s the cutaneous manifestation of septicaemia due to -

A. Pseudomonas aeruginosa **B. Staphylococcus aureus**
C. Tryponems pallidum **D. Haemophilus ducreyi**

Solution

A. Pseudomonas aeruginosa

- **Ecthyma gangrenosum is a skin manifestation of systemic sepsis commonly caused by Pseudomonas aeruginosa in patients with neutropenia or underlying immune deficiency.**
- **It is present in people with skin lesions that begin as an erythematous nodule or hemorrhagic vesicle, which evolves into a necrotic ulcer with eschar.**
- **Pseudomonas aeruginosa is a gram-negative, aerobic, non-spore forming rod that is capable of causing a variety of infections in both immunocompetent and immunocompromised hosts.**

52. Dimple sign is seen in :

A. Psoriasis **B. Lichen planus**
C. Dermatofibroma **D. Lupus vulgaris**

Solution
Ans. C. Dermatofibroma

- **Dimple sign is to differentiate dermatofibroma, a benign lesion, from nodular melanoma, which it may mimic.**
- **On application of lateral pressure with the thumb and index finger, the dermatofibroma becomes dimpled or indented, whereas melanomas, melanocytic nevi, and normal skin protrude above the initial plane.**
- **Dermatofibromas are referred to as benign fibrous histiocytomas of the skin, superficial/cutaneous benign fibrous histiocytomas, or common fibrous histiocytoma.**

53. Koebner phenomenon is seen in all of these diseases except :

A. Psoriasis **B. Lichen nitidus**
C. Vitiligo **D. Neurofibroma**

Solution
Ans. D. Neurofibroma

- **The Koebner phenomenon describes the appearance of new skin lesions of a pre-existing dermatosis on areas of cutaneous injury in otherwise healthy skin.**
- **Skin conditions that regularly manifest Koebner phenomenon are psoriasis, vitiligo and lichen planus.**
- **Neurofibromas are the most common peripheral nerve sheath tumor and lesions appear as soft, skin-colored papules or small subcutaneous nodules.**

54. Sistrunk's operation is done for :

A. Benign parotid tumor **B. Branchial cyst**
C. Thyroglossal fistula **D. Fistula-in-ano**

Solution
Ans. C. Thyroglossal fistula

- **Thyroglossal fistula is either secondary to infection or drainage of a misdiagnosed abscess.**
- **Thyroglosal cyst or fistula treatment involves a Sistrunk surgery that involves removing cyst or hyoid bone fistulas.**
- **The rationale for this procedure is that cure of the thyroglossal duct cysts will be unsuccessful unless the epithelium-lined tract (extending from the cyst to the foramen cecum of the tongue) is completely removed and that the attempt of dissecting the tract above the hyoid bone will, in many cases, result in breaking off the duct between the hyoid bone and the foramen cecum.**

55. About Pheochromocytoma all the following statements are true except :

A. It is found in about 2% of patients with hypertension
B. It may be associated with MEN 2a syndrome
C. Most Pheochromoeytomas occur sporadically
D. Cytologic findings cannot be used to differentiate benign from malignant pheochromocytoma

Solution
Ans. A. It is found in about 2% of patients with hypertension

- **Pheochromocytoma is a type of neuroendocrine tumor that grows from cells called chromaffin cells.**
- **If you have a pheochromocytoma, the tumor releases hormones that may cause high blood pressure, headache, sweating and symptoms of a panic attack.**
- **In most patients, pheochromocytomas/paragangliomas occur randomly for unknown reasons (sporadically).**
- **There are no reliable histological features allowing a distinction of a benign from a malignant pheochromoctoma.**
- **Multiple endocrine neoplasia type 2A (MEN 2A) is an autosomal-dominant syndrome characterised by the presence of two or more specific endocrine tumours in a single individual, namely medullary thyroid carcinoma (MTC), pheochromocytoma and/or parathyroid adenoma/hyperplasia.**

56. The Thyroiditis which mimic carcinoma thyroid is :

A. Acute suppurative thyroiditis **B. Subacute thyroiditis**
C. Hashimoto's thyroiditis **D. Riedel's thyroiditis**

Solution
Ans. D. Riedel's thyroiditis

- **Riedel fibrosing thyroiditis is a rare disease characterized by chronic inflammation and fibrosis of the thyroid gland.**
- **It is a rare form of thyroiditis, leading to a gradual parenchymal transformation to connective tissue.**
- **Clinically this is a hard, palpable goiter, which could cause pain, compressive symptoms, and affect adjacent structures as the parathyroid glands, musculature in the neck and cause vocal cord paralysis.**
- **Thyroid cancer is a growth of cells that starts in the thyroid.**
- **Thyroid cancer might not cause any symptoms at first but as it grows, it can cause signs and symptoms, such as swelling in your neck, voice changes and difficulty swallowing.**

57. Holstein Levis syndrome is associated with :

A. Axillary nerve **B. Ulnar nerve**
C. Radial nerve **D. Median nerve**

Solution

Ans. C. Radial nerve

- **Holstein-Lewis fractures represent a special type of humeral shaft fracture.**
- **It is a simple spiral fracture of the distal humerus with a radial displacement of the distal fragment.**
- **These fractures are reported to have a higher rate of radial nerve palsy when compared to other humeral shaft fractures.**
- **The radial nerve courses near the humeral shaft and is not protected by interposed muscle inferolaterally across the posterior aspect of the arm before going through the lateral intermuscular septum into the anterior compartment.**

58. Pavlik Harness is used in the treatment of

A. Slipped capital femoral epiphysis **B. Perthes disease**
C. CTEV **D. DDH**

Solution

Ans. D. DDH

- **DDH or Developmental dysplasia of the hip (DDH) is a condition where the "ball and socket" joint of the hip does not properly form in babies and young children.**
- **The Pavlik harness is a soft splint.**
- **It is most often used for treating infants with developmental dysplasia of the hip (DDH).**
- **It helps keep the infant's hips and knees bent and the thighs spread apart.**
- **It can also help promote healing in babies with broken thighbones (femurs).**

59. "Fallen fragment sign" seen in :

A. Simple Bone cyst **B. Giant cell tumour**
C. Aneurysmal Bone cyst **D. Osteochondroma**

Solution

Ans. A. Simple Bone cyst

- **The fallen fragment sign refers to the presence of a bone fracture fragment resting dependently in a cystic bone lesion.**
- **This finding was once thought to be pathognomonic for a simple (unicameral) bone cyst following a pathological fracture, although it has occasionally been reported with other cystic lesions, e.g. eosinophilic granuloma or aneurysmal bone cyst.**
- **The finding exists because a simple bone cyst is fluid-filled, and therefore a bony fragment may descend through the fluid uninhibited.**

60. In a PTB (Patellar Tendon Bearing) socket, all of the following are pressure tolerant areas except :

A. Patellar tendon **B. Sartorius**
C. Fibular head **D. Medial tibial flare**

Solution
Ans. C. Fibular head

- **The patellar tendon-bearing (PTB) socket consists of a laminated or molded plastic socket.**
- **The weight bearing takes place below the patella, at the patellar tendon.**
- **The suspension is generated by a belt that is tightened around the distal part of the thigh.**
- **The pressure tolerant areas include the anterior compartment, the medial tibial flare, and the patellar ligament (hence the name PTB).**
- **Areas that are not pressure tolerant include the fibular head, the hamstring tendons, and the tibial crest**

61. In a middle aged man with Achilles Enthesitis the following footwear modification may be most useful :

A. Inner soft MCR heel insert **B. Soft cushion heel with relief**
C. Medial arch **D. Heel lift**

Solution
Ans. D. Heel lift

- **In a middle aged man with Achilles Enthesitis the following footwear modification may be most useful in Heel lift.**
- **Achilles enthesitis was defined as tenderness on firm palpation at the insertion of the Achilles tendon.**
- **Achilles enthesitis is caused by chronic traction (pulling) of the Achilles tendon where it attaches to the heel bone.**
- **Contracted or shortened calf muscles caused by being sedentary and overweight or caused by athletic overuse increase the risk.**
- **Heel lifts should be used to decrease tendon stress during weight bearing and relieve pain.**
- **Even if the pain is only in one heel, heel lifts should be used bilaterally to prevent gait disturbance and possible secondary (compensatory) hip and or low back pain.**

62. A 60 year old man presented with numbness which radiated from his right thigh to the ball of his toe. He noticed pain within 20 minutes of standing which was relieved with sitting. He has a history of Adult onset diabetes mellitus which is well controlled. Physical examination revealed brisk tendon reflexes, normal vitals, down going plantar responses, no muscle atrophy and he was able to walk on his toes and heel. Strength was normal except for right toe raises. His NCVs revealed normal sensory latencies, right tibial CMAP was 40% lower than left, right paraspinals EMG revealed mild abnormality, his right H reflex was 3 ms slower than the left, the most appropriate diagnosis would be :

A. Diabetic amyotrophy **B. Hereditary sensory motor neuropathy**
C. Spinal canal stenosis with 81 radiculopathy **D. Demyelinating motor neuropathy**

Solution
Ans. C. Spinal canal stenosis with 81 radiculopathy

- **Spinal canal stenosis with 81 radiculopathy.**
- **Spinal stenosis (progressive narrowing of the spinal canal) is part of the aging process.**
- **Spinal stenosis happens when the spaces in the spine narrow and create pressure on the spinal cord and nerve roots.**
- **Radiculopathy is injury or damage to nerve roots in the area where they leave the spine.**
- **The spinal cord is a bundle of nerves that comes out of the base of the brain and runs down the center of the spine.**
- **The nerve roots branch out from the cord.**
- **The narrowing usually occurs over time and involves one or more areas of the spine.**
- **Treatment - Needle-like tools inserted through the skin can remove some of the ligament.**
- **This can create more space in the spinal canal to reduce pressure on nerve roots.**

63. A 26 vear old young man presented to your rehab unit 3 weeks after traumatic brain injury, he had 2 episodes of seizures following the trauma, he was on tracheostomy, Foleys catheter and Ryles tube. He has generalized response to pain and occasional eve opening only, his MRI brain revealed features of Diffuse Axonal injury and resolving SAH. What would be the most appropriate rehab measures for this young man, in addition to general supportive care, basic ROM exercises and tilting?

A. Glascow outcome scale, Phenobarbitone and body unweighted treadmill training
B. Glascow outcome scale, Carbamazepine and sensory motor stimulation
C. Hanchos los Amigos scale, Carbamazepine and body unweighted treadmill training
D. Ranchos los Amigos scale, Clonazepam and sensory motor stimulation

Solution
Ans. B. Glascow outcome scale, Carbamazepine and sensory motor stimulation

- **The most appropriate measures for the patients are Glascow outcome scale, Carbamazepine and sensorymotor stimulation.**
- **The Glasgow Outcome Score (GOS) is a scale of patients with brain injuries, such as cerebral traumas that groups victims by the objective degree of recovery.**
- **Carbamazepine: medicine to treat epilepsy and nerve pain.**
- **The goals of sensorimotor stimulation are to initiate desired movement, facilitate weak movement and inhibit undesired movement for purposeful and coordinated motor behavior.**
- **In sensorimotor stimulation therapy, interventions rely on the use of exterocepters and proprioceptors.**

64. 'World cancer day' is on;

A. 7 April B. 4 February C. 31 May D. 1 December

Solution
Ans. B. 4 February

- **'World cancer day' is on 4 February.**
- **World Cancer Day aims to prevent millions of deaths each year by raising awareness about cancer, and pressing governments and individuals across the world to take action against the disease.**
- **It encourages prevention, detection, and treatment of Cancer.**
- **World Cancer Day is led by the Union for International Cancer Control to support the goals of the World Cancer Declaration, written in 2008.**
- **In 2023, the theme of World Cancer Day is "Close the care gap".**

65. Which of the following malignancy is mostly associated with Human Papilloma virus and can be prevented by vaccine?

A. carcinoma thyroid **B. carcinoma breast**
C. carcinoma lung **D. carcinoma cervix**

Solution

- **Carcinoma cervix is mostly associated with Human Papilloma virus and can be prevented by vaccine.**

- **Cervical cancer is a type of cancer that occurs in the cells of the cervix — the lower part of the uterus that connects to the vagina.**
- **Two human papillomavirus (HPV) types (16 and 18) are responsible for nearly 50% of high grade cervical pre-cancers**
- **HPV is mainly transmitted through sexual contact and most people are infected with HPV shortly after the onset of sexual activity.**
- **Vaccination against HPV and screening and treatment of pre-cancer lesions is a cost-effective way to prevent cervical cancer.**

66. All of the following statements are correct regarding the mechanism of radiation cell kill, except :

A. Radiation causes breals in the DNA
B. Radiation generates free radicals from cell water that may damage cell organelles
C. Sulfhydryl compounds produced by radiation augment cell damage
D. Augmentation of oxygen is the basis for radiation sensitization

Solution
Ans. C. Sulfhydryl compounds produced by radiation augment cell damage

- **Sulfhydryl compounds produced by radiation augment cell damage - This is wrong.**
- **Sulfhydryls play an important role in biochemistry, as disulfide bonds connect necessary amino acids together for functional purpose in secondary, tertiary, or quaternary proteins structures.**
- **Sulfhydryl compound - A sulfur atom (S) bonded to a hydrogen (H) atom is a sulfhydryl group. A sulfhydryl compound contains one or more sulfhydryl groups. Examples include vitamin B-1 and the amino acid cysteine.**
- **Compounds which contain sulfhydryl (SH) groups are efficient radioprotectors.**

67. Radionuclide used to treat thyroid cancer is :

A. Iodine 131 B. Strontium 89 C. Samarium 153 D. Iridium 192

Solution
Ans. A. Iodine 131

- **Radionuclide used to treat thyroid cancer is Iodine 131.**
- **Thyroid cancer is a disease in which malignant (cancer) cells form in the tissues of the thyroid gland.**
- **Radioactive iodine (radioiodine) therapy can be used for Thyroid cancer.**

- **The thyroid absorbs almost all iodine that enters a body.**
- **Therefore, a type of radiation therapy called radioactive iodine (also called Iodine -131 or RAI) can find and destroy thyroid cells not removed by surgery and those that have spread beyond the thyroid.**

68. All of the following are devices for oxygen therapy except :

A. Nasal prongs **B. Nasopharyngeal airway**
C. Face mask **D. Venturi mask**

Solution
Ans. B. Nasopharyngeal airway

- **Nasopharyngeal airway is not used as a device for oxygen therapy.**
- **Oxygen therapy is a treatment that provides you with extra oxygen to breathe in. It is also called supplemental oxygen.**
- **A nasopharyngeal airway (NPA) is a thin, clear, flexible tube that is inserted into a patient's nostril.**
- **The purpose of the NPA is to bypass upper airway obstruction at the level of the nose, nasopharynx or base of the tongue.**
- **It also prevents the tongue falling backward on the pharyngeal wall to prevent obstruction.**

69. Spot the incorrect one regarding latest recommendations in CPCR :

A. The initial sequence of events has changed from Airway — Breathing — Circulation to Circulation-Airway-Breathing
B. Chest compression rate should be atleast 100/minute
C. The compression depth should be upto 2 inches
D. Look listen and feel is no longer recommended

Solution
Ans. C. The compression depth should be upto 2 inches

- **The compression depth should be upto 2 inches is incorrect regarding latest recommendations in CPCR.**
- **Cardiopulmonary cerebral resuscitation (CPCR) is the treatment to establish effective perfusion to the heart and brain with the ultimate goal of returning the patient to a normal life.**

- **Place the heel of your hand on the centre of the person's chest, then place the palm of your other hand on top and press down by 5 to 6cm (2 to 2.5 inches) at a steady rate of 100 to 120 compressions a minute.**
- **Compression depth - Push hard to a depth of at least 2 inches (5 cm).**

70. Which one of the following is not a supraglottic airway device?

A. Laryngeal Mask Airway **B. I Gel**
C. Cobra PLA **D. Cuffed endotracheal tube**

Solution
Ans. D. Cuffed endotracheal tube

- **Cuffed endotracheal tube is not a supraglottic airway device.**
- **Supraglottic airways (SGAs) are a group of airway devices that can be inserted into the pharynx to allow ventilation, oxygenation, and administration of anesthetic gases, without the need for endotracheal intubation.**
- **For anesthesia, these devices are used for primary airway management, for rescue ventilation when facemask ventilation is difficult, and as a conduit for endotracheal intubation.**
- **The cuffed endotracheal tube (ETT) is designed to provide a seal within the airway, allowing airflow through the ETT but preventing passage of air or fluids around the ETT.**
- **Cuffed endotracheal tubes may be of advantage in special situations like laparoscopic surgery and in surgical conditions at risk of aspiration.**

71. Which one of the following intravenous anaesthetic agent is used in day care anaesthesia?

A. Propofol B. Ketamine C. Etomidate D. Thiopentone sodium

Solution

A. Propofol

- **Propofol is used in day care anaesthesia.**
- **The term 'day-care surgery', or 'ambulatory surgery', refers to the practice of admitting, on the day of surgery, carefully selected and prepared patients for a planned, non-emergency surgical procedure and their discharge within 24 h of that surgery.**

- **Anesthesia for day-care (ambulatory anesthesia) surgeries may require administration of general, regional, and local anesthesia or monitored anesthesia care supplemented with sedation.**
- **Day-care anesthesia requires anesthetic agents with a rapid onset, adequate depth, rapid recovery, minimal side effects, and with a lower cost.**
- **Propofol (25-50 mcg/kg/min) is the most commonly used drug for day-care surgery.**

72. What is the ET tube size to be used in a 1.5 kg baby :

A 2.5 B. 3 C. 3.5 D. 4

Solution
Ans. B. 3

- **The ET tube size to be used in a 1.5 kg baby - 3 mm.**
- **The endotracheal tube is a tube constructed of polyvinyl chloride that is placed between the vocal cords through the trachea.**
- **It serves to provide oxygen and inhaled gases to the lungs and protects the lungs from contamination, such as gastric contents or blood.**
- **An accurate means of assessing the appropriate size tube is using a combination of gestational age (GA) and weight.**
- **For Baby weighing 1.1 kg to 1.8 kg, 3 mm ETT is being used.**

73. Jaundice in newborn at birth or within 24 hours is commonly due to :

A. Physiological B. Biliary atresia
C. Criglernajjar D. Erythroblastosis

Solution
Ans. D. Erythroblastosis

- **Jaundice in newborn at birth or within 24 hours is commonly due to Erythroblastosis.**
- **Infant jaundice occurs because the baby's blood contains an excess of bilirubin, a yellow pigment of red blood cells.**
- **Infant jaundice is a common condition, particularly in babies born before 38 weeks' gestation (preterm babies) and some breast-fed babies.**
- **The most common cause is physiologic jaundice.**
- **Physiologic jaundice presents around day 2 or 3 with serum bilirubin of less than 12 mg/dL, mainly unconjugated.**
- **It commonly disappears by the end of the first week and happens in 60% of term and 80% of preterm infants because of limited ability to conjugate bilirubin.**

74. Fetal stem cell transplantation is considered in all of the following except :

A. Thalassemia
B. Iso immune thrombocytopenia
C. Chronic granulomatous disease of newborn
D. Severe combined immnuno deficiency

Solution
Ans. B. Iso immune thrombocytopenia

- **Fetal stem cell transplantation is not considered in Iso immune thrombocytopenia.**
- **Stem cell transplant is a medical procedure by which healthy stem cells are transplanted into your bone marrow or your blood.**
- **Isoimmune neonatal thrombocytopenia purpura (INTP) is a disease caused by platelet destruction by maternally derived antibody.**
- **Platelet transfusion is the treatment of choice.**
- **Transfusion is indicated in term neonates with signs of bleeding or if the platelet count is < 30,000/µL during the first 24 hours of life.**
- **In preterm infants or those with evidence of ICH, transfusion should be considered at a higher platelet count.**

75. The following is true of bone age estimation except;

A. Tanner Whitehouse staging is used
B. Fifteen ossification centres are used in the Tanner Whitehouse system
C. X ray shoulder is most useful during early infancy
D. The last carpal bone to ossify is the pisiform at the age of 12 years

Solution
Ans. B. Fifteen ossification centres are used in the Tanner Whitehouse system

- **Fifteen ossification centres are used in the Tanner Whitehouse system is not true of bone age estimation.**
- **The Tanner-Whitehouse (TW) method is a way of assessing the bone age of children. There are several variations of this method, but all use a DP radiograph of the left hand and wrist to assess the relative maturity of the bones of the patient.**
- **The Tanner-Whitehouse (TW) method consiste of 3 variations.**

1. **RUS (radius-ulna-short bones): 13 bones including the radius, ulna and short bones of the thumb, middle and little fingers**

2. **carpus: 7 carpal bones**
3. **20-bones method: combines the two**