

Assistant Surgeon/Casualty Medical Officer ,2018

1. Hassall's corpuscles are found in

- A)Spleen B)Thymus
C)Tonsil D)Lymph node

ANSWER - B

Solution

- Hassall's corpuscles are groups of epithelial cells within the thymic medulla.
- Hassall's corpuscles were first described in the human thymus by the English microscopist Arthur Hill Hassall in 1846.
- It provide developing thymocytes with paracrine and juxtacrine signals to ensure their proper functional maturation during the intrathymic lymphopoiesis

2. Rate limiting enzyme of fatty acid synthesis is

- A)Acetyl transacylase B)Condensing enzyme
C)Acetyl CoA Carboxylase D)Malonyl transacylase

ANSWER - C

Solution

- 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 signalling networks.

3. Which of the following is not supplied by oculomotor nerve ?

- A)Levator palpebrae superioris B)Superior rectus
C)Inferior oblique D)Lateral rectus

ANSWER -D

Solution

- The lateral rectus is a flat-shaped muscle, and it is wider in its anterior part.
- The lateral rectus muscle is an abductor and moves the eye laterally, and side to side along with the medial rectus, which is an adductor.

abducens nerve

- The lateral rectus is the only muscle supplied by cranial nerve VI, the abducens nerve, via the tectospinal tract.

4. Internal spermatic fascia is derived from :

- | | |
|--------------------------------|---------------------------|
| A)External oblique aponeurosis | B)Internal oblique muscle |
| C)Transversus abdominis muscle | D)Transversalis fascia |

ANSWER -D

Solution

- The transversalis fascia (or transverse fascia) is a thin aponeurotic membrane of the abdomen.
- It lies between the inner surface of the transverse abdominal muscle and the parietal peritoneum.
- It forms part of the general layer of fascia lining the abdominal parietes.
- It is directly continuous with the iliac fascia, the internal spermatic fascia, and pelvic fasciae.

5. Which of the following arteries does not supply an internal capsule ?

- | | |
|----------------------|-----------------------|
| A)Anterior cerebral | B)Middle cerebral |
| C)Anterior choroidal | D)Posterior choroidal |

ANSWER -D

Solution

- A)Malic enzyme
C)Carbamoyl phosphate synthase I

- B)Propionyl CoA carboxylase
D)Carbamoyl phosphate synthase II

ANSWER -B

Solution

- Propionyl-CoA carboxylase (PCC) is the enzyme which catalyzes the carboxylation of propionyl-CoA to methylmalonyl-CoA and is encoded by the genes PCCA and PCCB to form a hetero-dodecamer.
- Propionyl-CoA carboxylase plays a role in the normal processing of proteins. It carries out a particular step in the breakdown of several protein building blocks (amino acids) called isoleucine, methionine, threonine, and valine.
- Propionyl-CoA carboxylase, the enzyme responsible for catalyzing the formation of D-methylmalonyl-CoA, requires the coenzyme biotin.
- Malonate decarboxylases, which catalyze the conversion of malonate to acetate, can be classified into biotin-dependent and biotin-independent enzymes.

8. All the following are components of Garrod's tetrad except :

- A)Albinism
C)Phenyl ketonuria

- B)Alkaptonuria
D)Essential pentosuria

ANSWER -C

Solution

- Phenylketonuria
- A birth defect that causes an amino acid called phenylalanine to build up in the body.
- Newborns should be screened for PKU.
- Untreated phenylketonuria can lead to brain damage, intellectual disabilities, behavioural symptoms or seizures.
- Treatment includes a strict diet with limited protein.
- In medicine, Garrod's tetrad is a term named for British physician Archibald Garrod, who introduced the phrase "inborn errors of metabolism" in a lecture in 1908. The tetrad comprises four inherited metabolic diseases: albinism, alkaptonuria, cystinuria, and pentosuria.

9. In Hemophilia which of the factor is deficient ?

- | | |
|---------------|--------------|
| A)Factor V111 | B)Factor V11 |
| C)Factor V1 | D)Factor X |

ANSWER -A

Solution

- Factor VIII is the clotting factor that is deficient in people suffering from haemophilia A.
- Factor V, Factor VI, and Factor IX are not deficient in people suffering from haemophilia A.
- Hemophilia is a rare disorder in which the blood doesn't clot in the typical way because it doesn't have enough blood-clotting proteins (clotting factors).
- Haemophilia is a genetic disease, carried by females but only affecting their sons.
- Queen Victoria was a famous carrier.
- The main treatment for severe hemophilia involves replacing the clotting factor you need through a tube in a vein.
- Replacement clotting factor can be made from donated blood. Similar products, called recombinant clotting factors, are made in a laboratory, not from human blood.

10. P wave in ECG is produced by :

- | | |
|------------------------------|-------------------------|
| A)Ventricular depolarization | B)Atrial depolarization |
| C)Ventricular repolarization | D)Atrial repolarization |

ANSWER -B

Solution

- An electrocardiogram (ECG) is a simple test that can be used to check your heart's rhythm and electrical activity. Sensors attached to the skin are used to detect the electrical signals produced by your heart each time it beats.
- The P wave and PR segment is an integral part of an electrocardiogram (ECG).
- It represents the electrical depolarization of the atria of the heart.

- It is typically a small positive deflection from the isoelectric baseline that occurs just before the QRS complex.
- Normal ECG values for waves and intervals are as follows: RR interval: 0.6-1.2 seconds. P wave: 80 milliseconds. PR interval: 120-200 milliseconds.

11. ADH facilitates water reabsorption in which part of the renal tubule ?

- | | |
|-------------------------------------|------------------------------------|
| A) Proximal convoluted tubule | B) Ascending limb of loop of Henle |
| C) Descending limb of loop of Henle | D) Collecting duct |

ANSWER -D

Solution

- The collecting duct system of the kidney consists of a series of tubules and ducts that physically connect nephrons to a minor calyx or directly to the renal pelvis.
- The collecting duct system is the last part of nephron and participates in electrolyte and fluid balance through reabsorption and excretion, processes regulated by the hormones aldosterone and vasopressin (antidiuretic hormone).
- There are several components of the collecting duct system, including the connecting tubules, cortical collecting ducts, and medullary collecting ducts.

12. Pancreatic secretion contains :

- | | |
|--------------------|------------|
| A) Enter peptidase | B) Pepsin |
| C) Trypsin | D) Motilin |

ANSWER -C

Solution

- The pancreas performs both exocrine and endocrine functions.
- Acinar cells comprise 75-90% of the glandular mass, and release digestive enzymes into ducts which empty into the duodenum.
- Pancreatic duct cells secrete fluid and bicarbonate ions, which neutralize the acidity of gastric contents that enter the duodenum.

- Trypsin is an enzyme that helps us digest protein. In the small intestine, trypsin breaks down proteins, continuing the process of digestion that began in the stomach.
- Trypsin is secreted by the pancreas.

13. 'La Bandera' is the method of torture by suspending a person :

- | | |
|----------------|-------------|
| A)by head down | B)by wrists |
| C)by arms | D)by ankles |

ANSWER -B

Solution

La Bandera is the method of torture by suspending a person : by wrists.

- La Bandera is a type of torture which consists of tying both wrists behind the back of the victim and then suspending the victim by the hands, which is intensely painful; once muscle fatigue ensues, the victim's shoulders dislocate, damaging the brachial plexi.

14. The special samples to be taken for chemical analysis during an exhumation process is :

- | | |
|-----------|----------------|
| A)clothes | B)earth |
| C)viscera | D)soft tissues |

ANSWER -B

Solution

- The special samples to be taken for chemical analysis during an exhumation process is :earth
- Exhumation means the lawful disinterment or digging out a body from a grave, which has already been buried. (176 of Criminal Procedure Code (Cr.P.C.).
- In exhumation special samples such as samples of earth in a quantity of about 500 grams are collected from above, below and sides of the coffin and control

samples at some distance from it in separate clean, dry, glass bottles for chemical analysis.

- It is advisable to be cognizant of the nature or geological layout of the cemetery and direction of any water drainage.
- If the grave is waterlogged, samples of water should also be taken.

15. As per the 'Wallace Rule' the head and neck covers about :

- A)7% of body surface B)8% of body surface
C)9% of body surface D)10% of body surface

ANSWER -C

Solution

As per the 'Wallace Rule' the head and neck covers about : 9% of body surface

- The Wallace rule of nines is a tool used in pre-hospital and emergency medicine to estimate the total body surface area (BSA) affected by a burn.
- The rule of nines was devised by Pulaski and Tennison in 1947, and published by Alexander Burns Wallace in 1951.

Body Part	Estimated BSA	
	Adults	Children
Entire left arm	9%	9%
Entire right arm	9%	9%
Head & neck	9%	18%
Entire chest	9%	9%
Entire abdomen	9%+ 1% (Genitals)	9%
Entire back	18%	18%
Entire left leg	18%	14%
Entire right leg	18%	14%

16. Optic nerve toxicity is classically seen in poisoning with :

- A)barbiturates B)cocaine
C)methyl alcohol D)zinc phosphide

ANSWER -C

Solution

- Toxic optic neuropathy (TON) refers to visual impairment due to optic nerve damage caused by a toxin.
- Toxic optic neuropathy is characterized by bilateral, usually symmetric vision loss, papillomacular bundle damage, central or cecentral scotoma, and reduced color vision.
- Any toxins, including drugs, metals, organic solvents, methanol (Methyl Alcohol), carbon dioxide, and tobacco leads to optic nerve toxicity.
- Methyl alcohol is an organic chemical and the simplest aliphatic alcohol, with the formula CH_3OH . It is a light, volatile, colorless and flammable liquid with a distinctive alcoholic odour similar to that of ethanol.

17. Which of the following viruses have a dsRNA as their nucleic acid ?

- A)Rhabdoviruses B)Paramyxoviruses
C)Retroviruses D)Reoviruses

ANSWER -D

Solution

- Double-stranded RNA (dsRNA) is associated with most viral infections — it either constitutes the viral genome (in the case of dsRNA viruses) or is generated in host cells during viral replication.
- Double-stranded RNA viruses (dsRNA viruses) are a polyphyletic group of viruses that have double-stranded genomes made of ribonucleic acid.
- A distinguishing feature of the dsRNA viruses is their ability to carry out transcription of the dsRNA segments within the capsid, and the required enzymes are part of the virion structure.
- Reoviruses are medium-sized viruses with a double-stranded, segmented RNA genome.

- Reovirus particles are composed of an inner protein shell (ie, core) of a diameter of 60 nm, which is surrounded by an outer protein shell (ie, outer capsid) that measures 81 nm in diameter.

18. All of the following are acute phase reactants except :

- | | |
|-------------------|-----------------|
| A)Serum amyloid A | B)TNF- α |
| C)CRP | D)Haptoglobin |

ANSWER -B

Solution

- Tumor necrosis factor is an adipokine and a cytokine.
- TNF is a member of the TNF superfamily, which consists of various transmembrane proteins with a homologous TNF domain.
- As an adipokine, TNF promotes insulin resistance, and is associated with obesity-induced type 2 diabetes.
- Acute-phase reactants are a heterogeneous group of plasma proteins that increase or decrease in response to inflammatory stimuli such as infections, trauma, acute arthritis, systemic autoimmune disorders, and neoplasms. The response is proportional to the severity of the inflammatory stimulus and is mediated by proinflammatory cytokines such as interleukin (IL)-6, IL-1, tumor necrosis factor-alpha, and interferon gamma.
- Positive acute phase reactants are those whose concentration increases with inflammation. These include: C-reactive protein (CRP) Fibrinogen Ferritin Hepcidin Haptoglobin Caeruloplasmin Complement proteins C3 / C4 Serum amyloid A

19. Which of the following is the gold standard for HIV diagnosis ?

- A)Western blot
C)p24 antigen detection
- B)ELISA
D)Viral RNA detection

ANSWER -D

Solution

- In higher vertebrates, recognition of the non-self signature of invading viruses by genome-encoded pattern recognition receptors initiates antiviral innate immunity.
- Retinoic acid-inducible gene I (RIG-I)-like receptors (RLRs) detect viral RNA as a non-self pattern in the cytoplasm and activate downstream signaling.
- Detection of viral RNA also activates stress responses resulting in stress granule-like aggregates, which facilitate RLR-mediated antiviral immunity.
- An HIV viral load test measures the genetic material of the HIV virus, also called RNA.
- This test can find HIV in the blood about 9-11 days after the person is infected with the virus.

20.Which of the following are used for the disinfection of contact lens ?

- A)Hydrogen peroxide
C)Isopropyl alcohol
- B)Ethanol
D)Chlorhexidine

ANSWER -A

Solution

- Hydrogen peroxide-based systems clean, disinfect, and store contact lenses.
- An eye care provider may prescribe this care system if you have an allergy to ingredients in multipurpose solution that causes redness or irritation of the eye.
- Hydrogen peroxide is a weak acid.
- Hydrogen peroxide helps to clean and disinfect contact lenses by breaking up and removing trapped debris, protein, and fatty deposits.

21. Which is NOT a feature of Atypical Meningioma ?

- A)4/ more mitosis per HPF
C)Sheet like growth of cells and necrosis
- B)Hyper cellularity
D)Macronuclei

ANSWER -A

Solution

- Grade II atypical meningiomas are mid-grade tumors.
- This means the tumors have a higher chance of coming back after being removed.
- The subtypes include choroid and clear cell meningioma.
- Grade III anaplastic meningiomas are malignant (cancerous). This means they are fast-growing tumors.
- Atypical meningiomas are diagnosed in the presence of:
 - (1) three or more of the following minor atypical criteria: increased cellularity, small cells with a high nuclear/cytoplasmic ratio, prominent nucleoli, sheeting, and foci of spontaneous or geographic necrosis;
 - (2) mitotic count ≥ 4 mitoses per 10 HPF (high mitotic index);
 - (3) brain invasion.

22. The IHC marker useful in diagnosis of Endometrial Stromal Sarcoma.

- A)CD 10
C)EMA
- B)CD 20
D)SMA

ANSWER -A

Solution

- Endometrial stromal sarcoma (ESS) is a rare malignant tumor of the endometrium, occurring in the age group of 40–50 years.
- This is a case of low-grade ESS presenting as rapid enlargement of a fibroid uterus. Because of her secondary infertility, she was planned for myomectomy.
- CD10 is a sensitive and diagnostically useful immunohistochemical marker of normal endometrial stroma and of endometrial stromal neoplasms.

23. Rheumatoid arthritis is characterized by all of the following except :

- A)Synovial hyperplasia with prominent lymph plasmocytic infiltration
B)Pannus formation
C)Fibrin deposition

D) Intra articular loose body (rice body) formation

ANSWER -D

Solution

- Rheumatoid arthritis, or RA, is an autoimmune and inflammatory disease, which means that your immune system attacks healthy cells in your body by mistake, causing inflammation (painful swelling) in the affected parts of the body.
- Rice bodies are multiple small loose intra-articular bodies that macroscopically resemble polished grains of white rice.
- They are located in the synovial fluid, bursae or tendon sheaths.
- Formation of rice bodies is most also associated with rheumatoid arthritis (RA), tuberculosis (TB), juvenile arthritides, seronegative arthritis, osteoarthritis, septic joint, trauma, and chronic bursitis .

24. Which of the following is a feature of Pilocytic Astrocytoma ?

- A) Monotonous population of small uniform tumor cells
- B) Endothelial proliferation
- C) Rosette formation
- D) Rosenthal fibers and eosinophilic granular bodies

ANSWER -D

Solution

- Pilocytic astrocytoma is the most common childhood brain tumor and most often found in the posterior fossa.
- Complete resection usually cures the patient; however, the patient can present with brainstem compression and hydrocephalus, which are both potentially life-threatening.
- Rosenthal fibers are homogeneous eosinophilic structures commonly seen in central nervous system lesions, such as pilocytic astrocytoma, or in the gliotic tissues adjacent to slowly growing neoplasms and some congenital malformations.

25. Antidepressant among the following is :

- A) Lev milnacipran
C) Lorcaserin
- B) Lacosamide
D) Lomitapide

ANSWER -A

Solution

- Lev milnacipran is a prescription medicine used to treat a certain type of depression called Major Depressive Disorder (MDD) in adults.
- Milnacipran is a dual serotonin and norepinephrine reuptake inhibitor (SNRI) that is more selective for norepinephrine reuptake.
- Antidepressants are a type of medicine used to treat clinical depression. They can also be used to treat a number of other conditions, including: obsessive compulsive disorder (OCD) generalised anxiety disorder. post-traumatic stress disorder (PTSD)
- They work by correcting chemical imbalances of neurotransmitters in the brain.

26. Heparin induced thrombocytopenia is treated with :

- A) Abciximab
C) Argatroban
- B) Atosiban
D) Aprepitant

ANSWER -C

Solution

- Heparin-induced thrombocytopenia (HIT) is a potentially devastating immune mediated adverse drug reaction caused by the emergence of antibodies that activate platelets in the presence of heparin.
- Argatroban is a medication used to manage heparin-induced thrombocytopenia (HIT), which is a rare, life-threatening complication of heparin therapy.
- It is a direct thrombin inhibitor, a class of anticoagulant drugs.

27. Ezetimibe is used to treat :

- A) Epilepsy
C) Diabetes insipidus
- B) Diabetes mellitus
D) Hyperlipidemia

ANSWER -D

Solution

- Hyperlipidemia, in particular elevated LDL (hypercholesterolemia), is one of the most prevalent risk factors contributing to the evolution of atherosclerosis and consequent vascular disease.
- It is simply defined as elevated concentrations of lipids or fats within the blood.
- Ezetimibe is a dyslipidemic agent used to treat people with hyperlipidemia. It was FDA-approved in 2002. Ezetimibe is the most commonly used non statin agent, which lowers LDL-C levels by 13% to 20%.
- Ezetimibe is an inhibitor of intestinal cholesterol absorption.

28. All are true about Quinupristin-Dalfopristin except :

- A)it is administered intravenously
- B)they are combined in 70/30 ratio
- C)dose adjustment not needed in renal failure
- D)can cause myalgia-arthralgia syndrome

ANSWER -B

Solution

- Quinupristin/dalfopristin, or quinupristin-dalfopristin, is a combination of two antibiotics used to treat infections by staphylococci and by vancomycin-resistant *Enterococcus faecium*.
- Quinupristin and dalfopristin are both streptogramin antibiotics, derived from pristinamycin.
- Quinupristin and dalfopristin are water-soluble injectable streptogramin B (SB) and SA antibiotics, respectively, whose combination in a 30:70 (wt/wt) ratio acts synergistically on gram-positive bacteria.

29. The Ottawa Charter is concerned with :

- A)Health Promotion
- B)Specific Protection
- C)Early Diagnosis and Treatment
- D)Rehabilitation

ANSWER -A

Solution

- The first International Conference on Health Promotion, meeting in Ottawa this 21st day of November 1986, hereby presents this CHARTER for action to achieve Health for All by the year 2000 and beyond.
- This conference was primarily a response to growing expectations for a new public health movement around the world. Discussions focused on the needs in industrialized countries, but took into account similar concerns in all other regions.
- It built on the progress made through the Declaration on Primary Health Care at Alma-Ata, the World Health Organization's Targets for Health for All document, and the recent debate at the World Health Assembly on intersectoral action for health.

30. Which of the criteria for judging causality is shown by Relative Risk ?

- A) Temporal association B) Coherence of Association
C) Strength of Association D) Specificity of Association

ANSWER - C

Solution

Many factors can be associated with outcomes but few are meaningful causes. In Epidemiology, the following criteria due to Bradford-Hill are used as evidence to support a causal association:

- Plausibility (reasonable pathway to link outcome to exposure)
- Consistency (same results if repeat in different time, place person)
- Temporality (exposure precedes outcome)
- Strength (with or without a dose response relationship)
- Specificity (causal factor relates only to the outcome in question - not often)
- Change in risk factor (i.e. incidence drops if risk factor removed)

31. Which is the drug recommended for treatment of Plasmodium Falciparum Malaria in the first trimester of Pregnancy ?

- A) ACT B) Primaquine
C) Lumefantrine D) Quinine

ANSWER -D

Solution

- Malaria infection during pregnancy can have adverse effects on both mother and fetus, including maternal anemia, fetal loss, premature delivery, intrauterine growth retardation, and delivery of low birth-weight infants (<2500 g or <5.5 pounds), a risk factor for death.
- Currently, quinine and clindamycin is the recommended treatment for women in the first trimester of pregnancy
- Quinine has rapid schizonticidal action against intra-erythrocytic malaria parasites.
- It is also gametocytocidal for Plasmodium vivax and Plasmodium malariae, but not for Plasmodium falciparum.
- Quinine also has analgesic, but not antipyretic properties.

32. All of the following are more in breast milk during the first month of lactation than cow's milk except :

- | | |
|-----------|-----------------|
| A)Casein | B)Linoleic acid |
| C)Lactose | D)Vitamin C |

ANSWER -A

Solution

- Casein, the chief protein in milk and the essential ingredient of cheese.
- In pure form, it is an amorphous white solid, tasteless and odourless, while its commercial type is yellowish with a pleasing odour.
- Cow's milk contains about 3 percent casein.
- Casein forms micelles along with calcium, magnesium, and phosphate, allowing a large amount of these minerals to be incorporated into milk compared to the aqueous solution.

33. Colour vision is tested using all the following methods except :

- | | |
|-----------------------|------------------------------|
| A)Pelli Robson charts | B) Hardy Rand Rittler charts |
| C) Anomaloscope | D)FM 100 test |

ANSWER -A

Solution

- The Pelli-Robson (PR) chart is widely used to measure clinical contrast sensitivity (CS).
- Unlike other similar products, The Original Pelli-Robson Chart has been trusted for decades in research and clinical trials.
- Acuity Level 40M (20/320) at 1 Meter.

PELLI-ROBSON CONTRAST SENSITIVITY CHART

V R S K D R

N H C S O K

S C N O Z V

C N H Z O K

N O D V H R

C D N Z S V

K C H O D K

R S Z H V R

ITRI

34. Magician's forceps phenomenon is seen in :

- A)Accommodative esotropia
- B)Intermittent exotropia
- C)Duane's retraction syndrome
- D)Double elevator palsy

ANSWER -B

Solution

- Magician's forceps phenomenon - When a slight adductive force was applied to the straight or the master eye, active discharge from the lateral rectus of the associate eye disappeared in all patients, and this eye moved in the direction of

orthophorisation. The discharge reappeared when the master eye was released from the forced adduction.

- Intermittent exotropia is the most common type of strabismus where we can find Magician's forceps Phenomenon.
- It is characterized by occasional outward deviation of one or alternate eyes.
- Frequency, duration of deviation, and control vary from individual to individual.

35. Tear drop sign in CT Scan Orbit is suggestive of :

A) Blow in fracture

B) Le Fort fracture

C) Fracture roof of orbit

D) Blow out fracture

ANSWER -D

Solution

- The teardrop sign refers to the appearance of herniated intraorbital fat (+/- inferior rectus muscle) which has protruded through a fracture of the inferior orbital wall.
- This typically occurs following a "blow-out" fracture during a punch to the orbit.

36. 'Scrambled egg' appearance in the fundus is typical of :

A) Age related macular degeneration

B) Cone dystrophy

C) Best's disease

D) Diabetic maculopathy

ANSWER -C

Solution

- Best disease is an inherited disease that affects the retinas of your eyes.
- It causes the macula, which is the central part of the retina, to degrade.
- This means that you can have problems with your central vision, or seeing things that are right in front of you.
- Best disease may not affect peripheral (side) vision.

- Best's vitelliform macular dystrophy (BVMD), an autosomal dominant hereditary retinal dystrophy that affects the retinal pigment epithelium.
- The classic description for BVMD is the bilateral yellow egg-yolk appearance of the macula.

37. Thornwaldt's cyst arises from persistence of :

- | | |
|-----------------------------------|--------------------|
| A)Rathke's pouch | B)Pharyngeal pouch |
| C)Anterior pouch of von Troeltsch | D)None of these |

ANSWER -D

Solution

- Thornwaldt's cyst is a benign cyst located in the upper posterior nasopharynx.
- It is a relatively rare lesion and most are small and asymptomatic whereas some cause nasal obstruction, postnasal drip, occipital headache or eustachian tube dysfunction.
- Thornwaldt's cyst represents a persistent communication between the roof of the nasopharynx and the notochord.

38. The non-syndromic hearing loss of DFNB1 is a type of :

- A)Autosomal dominant hearing loss
- B)Autosomal recessive hearing loss
- C)Mitochondrial disorder with hearing loss
- D)X linked hereditary hearing loss

ANSWER -B

Solution

- DFNB1 nonsyndromic hearing loss and deafness is an inherited condition in which an individual has mild to severe hearing loss, usually, from birth.
- It is caused by mutations in GJB2 (which encodes the protein connexin 26) and GJB6 (which encodes connexin 30).
- As one of the most common genetic causes of hearing loss, GJB2-related hearing loss is an autosomal recessive genetic disorder because the mutations only cause deafness in individuals who inherit two copies of the mutated gene, one from each parent.

39. The Schaefer classification is used in :

- A)Laryngeal trauma B)Juvenile Nasopharyngeal Angiofibroma
C)Nasopharyngeal carcinoma D)Subglottic stenosis

ANSWER -A

Solution

- Laryngotracheal wounds are rare; however, they have a significant mortality rate.
- These wounds can be blunt or penetrating. Usually, the larynx is protected from blunt trauma by the sternum and jaw.
- A "clothesline" injury happens when the exposed neck is struck by a hard object, such as a wall wire or tree branch, or when an attack is intended to damage the larynx

Severity of laryngeal injury (Schaefer Fuhrman's classification)

Group	Injury
I	Minor endolaryngeal hematoma without detectable fracture
II	Edema, hematoma, minor mucosal disruption without exposed cartilage, and nondisplaced fractures
III	Massive edema, mucosal disruption, exposed cartilage, vocal fold immobility, and displaced fracture
IV	Group with disruption of anterior larynx, unstable fractures, two or more fracture lines, or massive trauma to laryngeal mucosa
V	Complete laryngotracheal separation

40. Large Vestibular aqueduct is most commonly associated with :

- A)Alport's syndrome B)Jervell and Lange Nielsen Syndrome
C)Pendred syndrome D)Usher syndrome

ANSWER -C

Solution

- Pendred syndrome is a genetic disorder that causes early hearing loss in children.
- It also can affect the thyroid gland and sometimes creates problems with balance.
- The syndrome is named after Vaughan Pendred, the physician who first described people with the disorder.
- Pendred syndrome / nonsyndromic enlarged vestibular aqueduct (PDS/NSEVA) comprises a phenotypic spectrum of sensorineural hearing loss (SNHL), vestibular dysfunction, and temporal bone abnormalities.

41. OVLT is an organ concerned with the regulation of :

- A) Respiration
- B) Blood Pressure
- C) Temperature
- D) Hunger

ANSWER -C

Solution

- Circumventricular organs (CVOs) lack a blood brain barrier and are also called “brain windows”.
- CVOs are located around the third and the fourth ventricles and are rich in fenestrated capillaries with high vascular permeability.
- Therefore, they function as communication sites between the blood, brain parenchyma, and cerebrospinal fluid, and are thought to be involved in water and energy metabolism, as well as immunomodulation.
- Among them, the OVLT is a sensory organ, which is an osmotic regulator involved in the release of vasopressin.
- The body temperature is regulated by elevation of the thermoregulatory set-point located in the organum vasculosum of the lamina terminalis (OVLT) in the anterior hypothalamus (thermoregulatory center).

42. Definition of AIDS is CD4 cell count less than :

- A) 800
- B) 600

C)400

D)200

ANSWER -D

Solution

- Stage 1 (HIV infection): The CD4+ cell count is at least 500 cells per microliter.
- Stage 2 (HIV infection): The CD4+ cell count is 350 to 499.
- Stage 3 (advanced HIV disease, or AHD): The CD4+ cell count is 200 to 349.
- As Per the Center for Disease Control and Prevention (CDC), one of the indications for the diagnosis of AIDS is when CD4 cell count drops below 200 cells/mm³.

43. Multifocal atrial tachycardia is commonly associated with :

A)Ischemic heart Disease

B)Respiratory Disease

C)Hypokalemia

D)Hyperkalemia

ANSWER -B

Solution

- Multifocal (or multiform) atrial tachycardia (MAT) is an abnormal heart rhythm, specifically a type of supraventricular tachycardia, that is particularly common in older people and is associated with exacerbations of chronic obstructive pulmonary disease (COPD).
- Normally, the heart rate is controlled by a cluster of cells called the sinoatrial node (SA node).
- When a number of different clusters of cells outside the SA node take over control of the heart rate, and the rate exceeds 100 beats per minute, this is called multifocal atrial tachycardia (if the heart rate is ≤ 100 , this is technically not a tachycardia and it is then termed multifocal atrial rhythm).

44. The disease which produce macrocytic anemia is :

A)Multiple Myeloma

B)Acromegaly

C)Hypothyroidism

D)Rheumatoid Arthritis

ANSWER -C

Solution

- Macrocytic anemia is a blood disorder that happens when bone marrow produces abnormally large red blood cells.
- These abnormal blood cells lack nutrients red blood cells need to function normally.
- Macrocytic anemia isn't a serious illness but it can cause serious medical issues if left untreated.
- Macrocytosis is found in up to 55% patients with hypothyroidism and may result from the insufficiency of the thyroid hormones themselves without nutritive deficit.
- Hypothyroidism and primary bone marrow disease account for more cases of macrocytic anemia in older patients.

45. Nihilistic delusion is associated with :

- | | |
|---------------------|---------------------------|
| A)Cotard's syndrome | B)Ek bom syndrome |
| C)Capgras syndrome | D)De Clerambault syndrome |

ANSWER -A

Solution

- Cotard's syndrome is a relatively rare condition that was first described by Dr. Jules Cotard in 1882.
- Cotard's syndrome comprises any one of a series of delusions that range from a belief that one has lost organs, blood, or body parts to insisting that one has lost one's soul or is dead.
- Nihilistic delusions are specific psychopathological entities characterized by the delusional belief of being dead, decomposed or annihilated, having lost one's own internal organs or even not existing entirely as a human being.
- People with Cotard delusion feel as if they're dead or rotting away. In some cases, they might feel like they've never existed.

46. A 16 year old boy, on seeing sharp objects gets repeated urge to pick it up and stab others. He does not wish to carry it out and does not act on it. He has significant distress and tries to resist the urge. Most likely diagnosis is :

- A)Conduct disorder
B)Hypomania
C)Obsessive compulsive disorder
D)Impulse control disorder

ANSWER -C

Solution

- ICD-10 code F42 for Obsessive-compulsive disorder is a medical classification as listed by WHO under the range - Mental, Behavioral and Neurodevelopmental disorders .
- Obsessive-compulsive disorder (OCD) is a common, chronic, and long-lasting disorder in which a person has uncontrollable, reoccurring thoughts ("obsessions") and/or behaviors ("compulsions") that he or she feels the urge to repeat over and over.
- Treatments for OCD
 - Exposure Therapy.
 - Imaginal Exposure.
 - Habit Reversal Training.
 - Cognitive Therapy.

47. The drug of abuse 'ECSTASY' is :

- A)Phencyclidine
B)Cocaine
C)MDMA
D)LSD

ANSWER -C

Solution

- 3,4-Methylenedioxymethamphetamine (MDMA), commonly known as ecstasy (tablet form); and molly or mandy (crystal form), is a potent empathogen-entactogen with stimulant properties primarily used for recreational purposes.
- The desired effects include altered sensations, increased energy, empathy, and pleasure.
- It is chemically similar to both stimulants and hallucinogens, producing feelings of increased energy, pleasure, emotional warmth, and distorted sensory and time perception.

48. The neuropeptide transmitter implicated in narcolepsy is :

- A)Histamine Melatonin B)Acetyl
C)Choline D)Hypocretin

ANSWER -D

Solution

- Neuropeptides are auxiliary messenger molecules that always co-exist in nerve cells with one or more small molecule (classic) neurotransmitters.
- Neuropeptides act both as transmitters and trophic factors, and play a role particularly when the nervous system is challenged, as by injury, pain or stress.
- Narcolepsy is a chronic neurological disorder that affects the brain's ability to control sleep-wake cycles. People with narcolepsy may feel rested after waking, but then feel very sleepy throughout much of the day.
- Orexins (also known as hypocretins) are the receptors in the lateral hypothalamic area. They are mainly regarded as key modulators of the sleep/wakefulness cycle.

49. Lambda sign in obstetric ultrasound is indicative of :

- A)Hydrops foetalis
B)Dichorionic diamniotic twins
C)Monochorionic diamniotic twins
D)Monochorionic monoamniotic twins

ANSWER -B

Solution

- The twin peak sign, also known as the lambda (λ) sign, is the triangular appearance of the chorion insinuating between the layers of the intertwin membrane and strongly suggests a dichorionic diamniotic twin pregnancy.
- The term dichorionic refers to multiple gestations with two distinct placental disks (or two chorions), and the term diamniotic describes a pregnancy with two distinct amniotic cavities.
- A dichorionic diamniotic twin pregnancy is a twin pregnancy in which each fetus has its own placenta and amniotic sac.

50. Mc Roberts maneuver is considered as the first line treatment for :

- A)Breech delivery
C)Shoulder dystocia
- B)Transverse lie
D)Abruptio placenta

ANSWER -C

Solution

- Shoulder dystocia is, by definition, a mechanical problem occurring during a vaginal delivery characterized by one of the following parameters: failure to deliver the fetal shoulders using solely gentle downward traction requirement of additional delivery maneuvers are needed to successfully deliver the baby.
- The McRoberts maneuver is an obstetrical maneuver used to assist in childbirth.
- It is named after William A. McRoberts, Jr.
- It is employed in case of shoulder dystocia during childbirth and involves hyperflexing the mother's legs tightly to her abdomen.

51. The most common gynaecological cancer in India is :

- A)Endometrial cancer
C)Cervical cancer
- B)Ovarian cancer
D)Vulval cancer

ANSWER -C

Solution

- 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.
- Various strains of the human papillomavirus (HPV), a sexually transmitted infection, play a role in causing most cervical cancer.
- Cervical cancer starts in the cervix and occurs most often in women over 40.
- It is the most common gynecologic cancer, and some types can be prevented by HPV vaccine.

52. The hormone content in long acting reversible contraceptive device is :

- A)Levonorgestrel
C)Testosterone
- B)Oestrogen
D)Misoprostol

ANSWER -A

Solution

- Levonorgestrel, also known as the morning-after pill, is a first-line oral emergency contraceptive pill with approval from the World Health Organization to prevent pregnancy.
- Levonorgestrel is a hormonal medication which is used in a number of birth control methods.
- It is combined with an estrogen to make combination birth control pills.
- As an emergency birth control, sold under the brand name Plan B One-Step among others, it is useful within 72 hours of unprotected sex.

53.The following statements in vitiligo are true except :

- A)An acquired pigment anomaly of skin
- B)Due to defect in Tyrosinase activity
- C)Progressive loss of melanocytes in skin
- D)Segmental distribution of skin lesions can occur

ANSWER -B

Solution

- A mutation in the tyrosinase gene resulting in impaired tyrosinase production leads to type I oculocutaneous albinism, a hereditary disorder that affects one in every 20,000 people.
- Tyrosinase activity is very important.
- If uncontrolled during the synthesis of melanin, it results in increased melanin synthesis.

54. Characteristic primary lesion in Acne vulgaris is :

- A)Pustules
- B)Papules
- C)Nodule
- D)Comedones

ANSWER -D

Solution

- Acne vulgaris is an inflammatory disorder of pilosebaceous unit, which runs a chronic course and it is self-limiting.
- Acne vulgaris is triggered by propionibacterium acnes in adolescence, under the influence of normal circulating dehydroepiandrosterone.
- It is a very common skin disorder which can present with inflammatory and non-inflammatory lesions.
- The primary lesion of acne vulgaris is the comedo, or blackhead, which consists of a plug of sebum (the fatty substance secreted by a sebaceous gland), cell debris, and microorganisms (especially the bacterium Propionibacterium acnes) filling up a hair follicle.

55. Nail changes which can occur in Lichen planus are the following except :

- | | |
|------------------------------|------------------------------|
| A) Longitudinal grooves | B) Longitudinal melanonychia |
| C) Pterygium inversum unguis | D) Trachyonychia |

ANSWER -C

Solution

- Lichen planus is a benign, chronic, mucocutaneous disorder that affects the skin, mucosae, and nails.
- Dorsal pterygium is an irreversible and classic finding in nail lichen planus.
- Pterygium inversum unguis (PIU) is a rare nail abnormality in which the distal nail bed adheres to the ventral surface of the nail plate, with obliteration of the distal groove.



56. Necrolytic acral erythema is a specific feature of infection with :

- A) Epstein - Barr virus
B) Hepatitis C virus
C) Herpes simplex virus
D) Human immunodeficiency virus

ANSWER -B

Solution

- Necrolytic acral erythema is a rare skin disease associated with hepatitis C virus infection.
- It is characterized, in the initial phases, by erythematous or violaceous papules, bullae and erosions.
- In the late phase, there is onset of well-delimited plaques with erythema on their outer rim, lichenification, secondary hyperpigmentation and fine desquamation on the surface.

57. The Amsterdam criteria II is used for assessing :

- A) Gastro intestinal stromal tumour
B) Pendred's Syndrome
C) Choledochal Cyst
D) Lynch Syndrome

ANSWER -D

Solution

- The Amsterdam criteria are a set of diagnostic criteria used by doctors to help identify families which are likely to have Lynch syndrome, also known as hereditary nonpolyposis colorectal cancer (HNPCC).
- Lynch syndrome, also known as hereditary non-polyposis colorectal cancer (HNPCC), is the most common cause of hereditary colorectal (colon) cancer.
- People with Lynch syndrome are more likely to get colorectal cancer and other cancers, and at a younger age (before 50).

58. The Boaris operation is indicated in :

- A) Carcinoma of Kidney
B) Cholangio carcinoma
C) Injury to ureter
D) Injury to common bile duct

ANSWER -C

Solution

- People with ureteral injuries may complain simply of pain in the abdomen or the area between the ribs and the hip (flank), or they may notice urine leaking from their wound. Fever may accompany an infection caused by persistent urinary leakage. Blood may appear in the urine.
- Iatrogenic injury to the ureter is a potentially devastating complication of modern surgery.
- A Boari flap: a flap of bladder is fashioned into a tube and an anastomosis is created between it and the proximal ureter.
- The bladder flap appeared too narrow and thick and was therefore unsuitable for the creation of a tube.
- It was therefore turned upwards and left in the wound as a buried strip with the upper ureteral stump submucosally implanted in the upper end of the flap.

59. In the management of deep vein thrombosis with oral anticoagulants, the INR must be maintained between :

- A) 1.5 to 2.5 B) 2.5 to 3.5
C) 3.5 to 4.5 D) > 4.5

ANSWER -B

Solution

- Oral anticoagulants, also called vitamin K antagonists (VKAs), are used to prevent the occurrence or increase of unwanted blood clots.
- For normal patients who are not on anticoagulation, the INR is usually 1.0 regardless of the ISI or the particular performing laboratory.
- For patients who are on anticoagulant therapy, the therapeutic INR ranges between 2.0 to 3.0.
- INR levels above 4.9 are considered critical values and increase the risk of bleeding.

60. The Vitamin deficiency normally seen after Gastrectomy :

- A) Vit. B12 B) Vit. B6
C) Vit. B1 D) Vit. D

ANSWER -A

Solution

- After gastric bypass, there is a lack of calcium in the diet causing a decrease in the absorption of calcium. This is due to bypassing the part of the bowel where calcium is preferentially absorbed, and malabsorption of vitamin D. Which can result in calcium deficiency and bone disease.
- Calcium absorption also occurs principally in the duodenum and upper jejunum and is impaired by intestinal hurry and loss of duodenal continuity.
- In addition, the presence of steatorrhoea, calcium absorption is further impaired by the formation of insoluble calcium soaps.
- As a result of all these factors, postgastrectomy patients may develop iron deficiency anaemia, vitamin B12 deficiency, vitamin D deficiency and osteomalacia, or osteoporosis in excess of normal ageing.

61. The least constraint knee joint prosthesis among the following is :

A)CR type of knee

B)PS type of knee

C)TC3 knee

D)Hinged knee

ANSWER -B

Solution

- Total PS is the only truly custom-made posterior stabilized total knee replacement, designed with: Customized femoral and tibial fit to avoid overhang, under-coverage, and sizing compromises.
- Customized shape designed to provide stability through range of motion and to restore kinematics.

- **ADVANTAGES OF PS TYPE OF KNEE**

Posterior-stabilized
Easier in ligament balancing
Conforming articulation
Better knee flexion
More predictable kinematics and reproducible rollback
Lower range of axial rotation and condylar translation
Avoiding risk of progressive PCL insufficiency

62. “Lift off test” is used to test the functional status of which muscle ?

- A)Supraspinatus
- B)Infraspinatus
- C)Teres major
- D)Subscapularis

ANSWER -D

Solution

- The Lift-Off Sign or Lift-Off Test is an orthopedic test to assess the muscle strength of the subscapularis muscle in case of a suspected full-thickness rupture of the subscapularis muscle-tendon complex.
- The subscapularis is one of the four muscles which compose the rotator cuff apparatus.
- The other three are the supraspinatus, infraspinatus, and teres minor muscles.
- The subscapularis muscle's primary function is internal rotation but can also aid in adducting the humerus.
- The subscapularis nerve innervates the muscle.

63. All are features of synovial sarcoma except :

- A)Usually seen in the age group of less than 50 years.
- B)More common at extra articular site.
- C)Originate from synovial lining.
- D)Knee and foot are commonly involved

ANSWER -C

Solution

- Synovial sarcoma (SS) is a malignant mesenchymal neoplasm with variable epithelial differentiation, with a propensity to occur in young adults and which can arise at almost any site.
- It is generally viewed and treated as a high-grade sarcoma.
- Synovial sarcoma primarily occurs in young adults, most commonly in the lower extremities; presents as a large, noninfiltrative, well-circumscribed mass adjacent to joints, often with punctuate calcifications.
- Synovial sarcoma can come from different types of soft tissue, such as muscle or ligaments.

64. A joint is innervated by the articular branch of the nerve, which supply the muscle which moves the joint. This law is known as :

A)Wolff's law
C)Hilton's law

B)Blount's law
D)Cushing's law

ANSWER -C

Solution

- Hilton's law, espoused by John Hilton in a series of medical lectures given in 1860–1862, is the observation that in the study of anatomy, the nerve supplying the muscles extending directly across and acting at a given joint not only supplies the muscle, but also innervates the joint and the skin overlying the muscle.

65. Choose the best sequence of Rehabilitation measures for a Spastic Diplegic child with crouch gait.

- A)Antispastic Drugs, Dorsiflexor strengthening, Articulated AFOs
B)Antispastic Drugs, Quadriceps strengthening, Calcaneal osteotomy and static AFO
C)Antispastic Drugs, Tendo Achilles lengthening, Articulated AFO
D)Botulinium toxin injection to Gastronemius, static AFO and Dorsiflexor strengthening

ANSWER -B

Solution

- Spastic diplegia is a form of cerebral palsy marked by stiff limbs. The legs are usually more affected than the arms.
- People with spastic diplegia might have difficulty walking because tight hip and leg muscles cause their legs to pull together, turn inward, and cross at the knees (also known as scissoring).
- The diversity of gait deviations observed in children with Cerebral Palsy has led to repeated efforts to develop a valid and reliable gait classification system to assist in the diagnostic process, clinical decision making and the communication of a child's presentation between clinicians.
- The best sequence of Rehabilitation measures for a Spastic Diplegic child with crouch gait - Antispastic Drugs, Quadriceps strengthening, Calcaneal osteotomy and static AFO

66. One of the following is not a poor prognostic factor for Brachial plexus injury :

- A)Positive SNAP in NCV with absent sensation
- B)Serratus Anterior Paralysis
- C)Horner's Syndrome
- D)Partial involvement of Myotomes

ANSWER -D

Solution

- The brachial plexus is the network of nerves that sends signals from the spinal cord to the shoulder, arm and hand.
- A brachial plexus injury occurs when these nerves are stretched, compressed, or in the most serious cases, ripped apart or torn away from the spinal cord.
- A myotome is defined as a group of muscles which is innervated by single spinal nerve root.
- The brachial plexus originates from the anterior rami of spinal nerves C5-T1, which form the roots of the brachial plexus. The roots quickly merge to form trunks, which subsequently split into divisions.

67. One of the following Rehab professional is not part of the Rehabilitation Team for an Amputee :

A)Physiatrist
C)Speech therapist

B)Prosthetist
D)Occupational therapist

ANSWER -C
Solution

- A physical therapist works with you on muscle strength, flexibility and coordination, and trains you in how to use your prosthesis if one is part of your recovery.
- A prosthetist, or orthotic expert, creates a customized prosthesis if one will be used.

68. One of the following is an important Component of Person's with Disabilities Act.

A)All Public Buildings must be made Disabled Friendly
B)Person's with 20% Disability are considered for income tax exemption
C)3% of all education seats are reserved for Learning Disability only
D)30% of employees in Govt. Institutions are reserved for Locomotor Disability

ANSWER -A
Solution

- The Act replaces the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995.
- It fulfills the obligations to the United National Convention on the Rights of Persons with Disabilities (UNCRPD), to which India is a signatory.
- Section 45 of the Rights of Persons with Disabilities Act, 2016 [RpwDA] mandates to make all public buildings (government buildings plus buildings run by the private sector used for public) accessible to persons with disabilities within 5 years of implementation of such rules.
- These rules called the Harmonised Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disabilities and Elderly Persons, issued by the Ministry of Housing and Urban Affairs, were notified in June 2017.

69. Polyoma virus is associated with the aetiology of the following cancer :

A)Hepatocellular Carcinoma

B)Merckel cell carcinom

C)Castlemans Disease

D)Anogenital cancer

ANSWER - B

Solution

- Polyomaviruses are small, nonenveloped DNA viruses, which are widespread in nature.
- In immunocompetent hosts, the viruses remain latent after primary infection.
- With few exceptions, illnesses associated with these viruses occur in times of immune compromise, especially in conditions that bring about T cell deficiency.
- Merkel cell polyomavirus (MCPyV) causes the highly aggressive and relatively rare skin cancer known as Merkel cell carcinoma (MCC).
- MCPyV also causes a lifelong yet relatively innocuous infection and is one of 14 distinct human polyomaviruses species.

70. The following is not true about “BLEOMYCIN” :

A)Bleomycin is cell cycle specific and its main effects mediates in S phase.

B)Dose limiting toxicity of Bleomycin is pulmonary toxicity.

C)60%-70% of Bleomycin is excreted unchanged in urine

D)Bleomycin is absorbed rapidly after in injections

ANSWER -A

Solution

- Bleomycin is a type of antibiotic that is only used in cancer chemotherapy. It slows or stops the growth of cancer cells in your body.
- Bleomycin has approval for adult use in treating squamous cell cancer of head and neck regions, Hodgkin's lymphoma, testicular carcinoma.
- It is also used as a sclerosing agent for malignant pleural effusions.
- Bleomycin is a cell-cycle specific drug that causes accumulation of cells in the G2 phase of the cell cycle.

71. Following not included in MEN 2B :

- | | |
|--------------------|------------------------|
| A)Pheochromocytoma | B)Hyperparathyroidism |
| C)Mega colon | D)Skeletal abnormality |

ANSWER -B

Solution

- A rare, genetic disorder that affects the endocrine glands and causes a type of thyroid cancer called medullary thyroid cancer, pheochromocytoma, and parathyroid gland cancer.
- Multiple endocrine neoplasia 2b (MEN2B) is a rare inherited disorder characterised by the certain development of medullary thyroid cancer, plus the possible development of phaeochromocytomas and characteristic tumours (mucosal neuromas) of the lips, tongue and bowels.
- All patients with MEN 2B have megacolon.
- Most of the patients with MEN 2B have skeletal abnormalities.
- Parathyroid disease is extremely rare in MEN2B.

72. The following statements regards Carcinoma Oropharynx is true :

- A)The epithelial covering on nasopharyngeal side is respiratory epithelium
- B)20-25% of tonsilar tumours are lymphomas
- C)Surgery is the treatment of choice in BOT lesions
- D)Medical pterigoid involvement is T3b

ANSWER -A

Solution

- Oropharyngeal cancer is a disease in which malignant (cancer) cells form in the tissues of the oropharynx.
- Smoking or being infected with human papillomavirus (HPV) can increase the risk of oropharyngeal cancer.

- Signs and symptoms of oropharyngeal cancer include a lump in the neck and a sore throat.
- Oropharyngeal squamous cell carcinoma, commonly known as throat cancer or tonsil cancer, is a type of head and neck cancer that refers to the cancer of the base and posterior one-third of the tongue, the tonsils, soft palate, and posterior and lateral pharyngeal walls.
- T4a tumours show invasion of the larynx, deep/extrinsic muscles of the tongue, medial pterygoid muscle, hard palate and mandible.

73. Inhalation anesthetic agent which causes greatest magnitude of Carbon Monoxide production :

- | | |
|--------------|---------------|
| A)Desflurane | B)Sevoflurane |
| C)Isoflurane | D)Halothane |

ANSWER -A

Solution

- Desflurane is an ether inhalational general anesthetic agent, which is clear, nonflammable liquid with a “strong” odor at room temperature.
- It is a structurally identical to isoflurane except for the substitution of a fluorine atom for the chlorine atom on the α -ethyl carbon.
- Carbon monoxide can be formed when volatile anaesthetic agents desflurane is used with anaesthetic breathing systems containing carbon dioxide absorbents.

74. Concerning Dexmedetomidine choose the incorrect statement :

- A)Dexmedetomidine is the S - enantiomer of medetomidine
- B)Delirium in ICU is significantly lower when used for sedation
- C)Induces sedation through GABA system
- D)Pharmacokinetics is not influenced by renal impairment

ANSWER -C

Solution

- Dexmedetomidine is the active dextro-isomer of medetomidine and is a highly selective α_2 -adrenergic receptor agonist.

- It exhibits a high ratio of specificity for the α_2 - versus α_1 -receptor and has eight times the potency as clonidine at the α_2 -receptor.
- It is therefore considered a full agonist at the α_2 -receptor.
- Unlike sedative drugs such as propofol and the benzodiazepines, dexmedetomidine does not act at the gamma-aminobutyric acid (GABA) receptors.

75. The most common side effect of neuraxial opioid is :

- | | |
|----------------------|---------------------------|
| A) Sedation | B) Respiratory depression |
| C) Urinary retention | D) Pruritis |

ANSWER -D

Solution

- Neuraxial opioid analgesia refers to the epidural or spinal administration of opioids, including single injection, continuous or intermittent infusion, and patient-controlled analgesia.
- The most common side effects of neuraxial opioids are pruritus, nausea and vomiting.
- Several opioids, including morphine, diamorphine, hydromorphone, fentanyl, sufentanil and methadone, have been administered by the neuraxial route to manage pain.

76. Factors which cause exaggerated bradycardia (heart rate less than 40-50 beats/min) following spinal anaesthesia include all except :

- A) Baseline heart rate less than 60 beats/min
- B) Male gender
- C) Older age
- D) Non emergency surgery

ANSWER -C

Solution

- Spinal anesthesia is a neuraxial anesthesia technique in which local anesthetic is placed directly in the intrathecal space (subarachnoid space).

- Older adults exhibit reduced physiological responses to beta-adrenergic stimulation and parasympathetic inhibition.
- Risk factors may include low baseline heart rate, first-degree heart block, American Society of Anesthesiologists physical status 1, beta-blockers, male gender, and high sensory level.

77. What is the osmolality of low osmolality WHO Oral rehydration solution ?

- | | |
|--------------|--------------|
| A)245 mOsm/L | B)275 mOsm/L |
| C)375 mOsm/L | D)350 mOsm/L |

ANSWER -A

Solution

- The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) currently recommend a reduced osmolality of 245 mmol/kg in their ORS formulations.
- ORS - An aqueous solution composed of glucose and electrolytes, including sodium, potassium, chloride, magnesium, and phosphorus, with dehydration preventative and rehydration activities.
- Osmolality indicates the concentration of all the particles dissolved in body fluid.

78. Peak incidence of acute Appendicitis is in the age of :

- | | |
|----------------|-----------------|
| A)< 1 Year | B)1 - 3 Years |
| C)5 - 10 Years | D)12 - 18 Years |

ANSWER -D

Solution

- Acute appendicitis is an acute inflammation of the vermiform appendix.
- Typically presents as acute abdominal pain starting in the mid-abdomen and later localizing to the right lower quadrant.
- Associated with fever, anorexia, nausea, vomiting, and elevation of the neutrophil count.

- According to the retrospective study conducted by Department of Paediatric Surgery at the University of the Witwatersrand from 2010 to 2015 Acute appendicitis has a peak incidence between the ages of 12 and 18 years.

79. Which of the following is the most reliable test for diagnosis of acute Pancreatitis ?

- | | |
|-----------------|-----------------|
| A)Serum Amylase | B)Serum Lipase |
| C)Leucocytosis | D)Hypercalcemia |

ANSWER -B

Solution

- Acute pancreatitis is a condition where the pancreas becomes inflamed (swollen) over a short period of time.
- The pancreas is a small organ, located behind the stomach, that helps with digestion.
- Most people with acute pancreatitis start to feel better within about a week and have no further problems.
- After an attack of acute pancreatitis, serum lipase activity increases within 4–8 h, peaks at about 24 h, and decreases within 8–14 days.
- Some studies mentioned sensitivity for serum amylase was 63.6 % and for serum lipase it was 99.5 %

80. Splenectomy is indicated in the following conditions except :

- | | |
|----------------------------|-----------------------------|
| A)Hereditary spherocytosis | B)Hereditary stomatocytosis |
| C)Thalassemia | D)Hypersplenism |

ANSWER -B

Solution

- Splenectomy removes the primary graveyard for spherocytes and, thus, eliminates anemia and hyperbilirubinemia and lowers the high reticulocyte number to nearly normal levels in patients with hereditary spherocytosis.
- Patients with hereditary stomatocytosis (whose hemolytic anemia results from abnormalities in red cell cation permeability) are at such a high risk of

thrombotic complications after splenectomy that persons with this condition are advised not to undergo the procedure.

- Many patients with thalassaemia require splenectomy. because the main therapeutic rationale for splenectomy in transfusion-dependent patients with β -thalassaemia major (TM) is to decrease blood consumption and transfusion requirement with the ultimate goal of reducing iron overload.
- In severe cases of splenomegaly and hypersplenism, splenectomy is performed to correct the effects of low blood cell and platelet counts

