NEET PG 2017 Question Paper with Solutions

Question 1
Identify the type of muscle shown in the image below.

A> Cruciate
B> Multipennate
C> Parallel
D> Unipennate

Answer - B. Multipennate Explanation - Pectoralis Major has multiple rows of diagonal fibers with a single tendon, Hence is a multipennate muscle.

Question 2 Nerves of Branchial arch derived from:

A> Mesoderm
B> Endoderm
C> Neural crest
D> Neuroectoderm

Answer - C
Explanation - Branchial or pharyngeal arches are masses of mesoderm covered by ectoderm and lined by
endoderm. Within these masses, muscular and skeletal components develop, as well as aortic arches and
nerve networks. The arches are separated by grooves, visible on the surface of the embryo as pharyngeal
clefts and in the interior as the pharyngeal pouches
● In the human embryo, the arches are first seen during the 4th week of development.
● They appear as a series of outpouches of mesoderm on both sides of developing pharynx.
The neural crest are bilaterally paired strips of cells arising in the ectoderm at the margins of the neural
tube. These cells migrate to many different locations and differentiate into many cell types within the
embryo.
Neural Crest Derivatives
A key feature of neural crest is the migration into other embryonic tissues to form specific neural and nonneural populations and structures.
Cranial neural crest
● migration - dorsolaterally and into pharyngeal arches
● craniofacial mesenchyme - cartilage, bone, cranial neurons, glia, and connective tissues of the face
● pharyngeal arches and pouches - thymic cells, tooth odontoblasts, middle ear bones (ossicles), stria
vascularis cells, and jaw (mandible)
In the body region, neural crest cells also contribute the peripheral nervous system (both neurons and glia)
consisting of sensory ganglia (dorsal root ganglia), sympathetic and parasympathetic ganglia and neural
plexuses within specific tissues/organs.

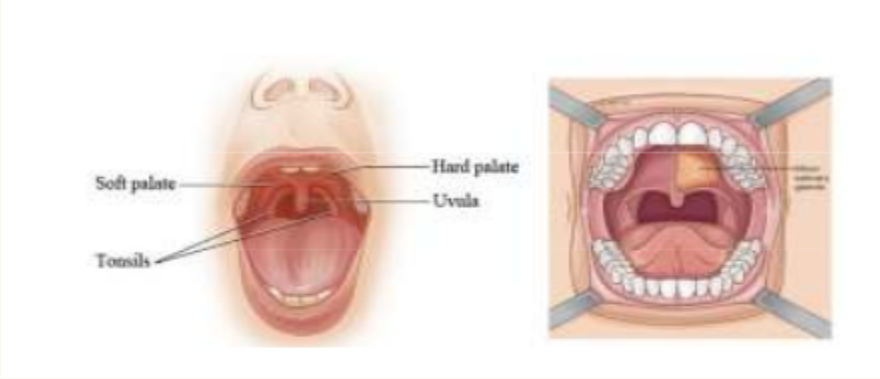
In the head region, neural crest cells migrate into the pharyngeal arches forming ectomesenchyme
contributing tissues which in the body region are typically derived from mesoderm (cartilage, bone, and
connective tissue).

Neural Crest Origin	
System	Cell Type
PeripheralNervous System (PNS)	Neurons - sensory ganglia, sympathetic and parasympathetic ganglia, enteric nervous system, and plexuses Neuroglial cells, olfactory ensheathing cells Schwann cells
Endocrine	Adrenal medulla Calcitonin-secreting cells Carotid body type I cells
Integumentary	Epidermal pigment cells
Facial cartilage and bone	Facial and anterior ventral skull cartilage and bones
Sensory	Inner ear, corneal endothelium and stroma
Connective tissue	Tooth papillae smooth muscle, and adipose tissue of skin of head and neck Connective tissue of meninges, salivary, lacrimal, thymus, thyroid, and pituitary glands Connective tissue and smooth muscle in arteries of aortic arch origin

Question 3

Hard palate contains:
A> Keratinised, submucosa, minor salivary gland
B> Keratinised, absent submucosal layer, minor salivary gland
C> Non keratinised, submucosal layer, minor salivary gland
D> Non keratinised, absent submucosa, minor salivary gland

Answer - A
Explanation: The hard palate is located on the roof of the oral cavity, posterior and medial to the alveolar
process of the maxilla.
The bony structure is formed by the palatine processes of the maxilla and the horizontal plates of the
palatine bones.
The periosteum is covered by a firmly attached mucosa centrally, although a submucosa is apparent
laterally containing vessels. The hard palate is continuous with the soft palate posteriorly.
Macroscopic Features
The hard palate is typically a pale pink color and may have an orange peel appearance from the palatine
salivary glands (more common posteriorly).
Microscopic Features
The hard palate is lined with a keratinising stratified squamous epithelium, tightly bound to the
underlying periosteum of the palatine bone/maxilla. There is minimal submucosa, which becomes more
prominent posteriorly.



Question 4

What is the tensor of vocal cords:
A> Cricothyroid
B> Lateral Cricoarytenoid
C> Thyroarytenoids
D> Posterior cricoarytenoids

Answer- A
Explanation:

Cricothyroid :	Tensor of vocal cords.
Lateral cricoarytenoid:	Abductor of vocal cords
Thyroarytenoid:	Relaxor of vocal cords.
Posterior cricoarytenoid:	Abductor of vocal cords

Muscles acting on the larynx	
Movement	**Muscles**
Elevation of larynx	Thyrohyoid, mylohyoid
Depression of larynx	Sternothyroid, sternohyoid
Opening inlet of larynx	Thyroepiglotticus
Closing inlet of larynx	Aryepiglotticus
Abductor of vocal cords	Posterior cricoarytenoid only
Adductor of vocal cords	Lateral cricoarytenoid transverse, oblique arytenoids
Tensor of vocal cords	Cricothyroid
Relaxer of vocal cords	Thyroarytenoid

Question 5
Ureteric bud develops from:
A> Mesonephros
B> Metanephros
C> Pronephros
D> Genital sinus

Answer- A
Explanation: The ureteric bud, also known as the metanephrogenic diverticulum, is a protrusion from the mesonephric duct during the development of the urinary and reproductive organs. It later develops into a conduit (channel) for urine

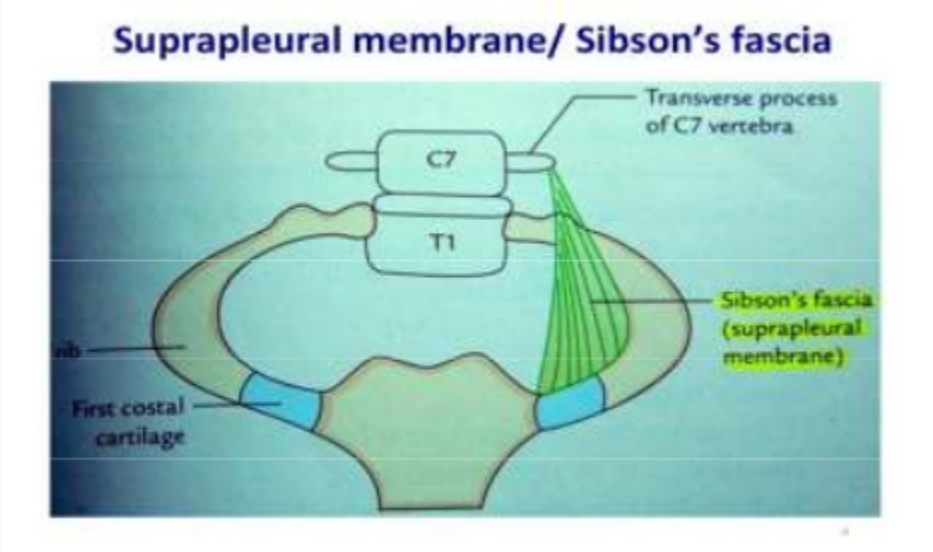
drainage from the kidneys, which, in contrast, originate from the metanephric blastema. The metanephrogenic blastema or metanephric blastema (or metanephric mesenchyme, or metanephric mesoderm) is one of the two embryological structures that give rise to the kidney, the other being the ureteric bud.

Question 6
About Weber's syndrome which is incorrect:
A> Contralateral hemiplegia
B> Ipsilateral Oculomotor nerve palsy
C> Contralateral Parkinsonism
D> Anterior cerebral peduncle

Answer - D
Explanation:
● Weber's syndrome (superior alternating hemiplegia) is a form of stroke characterized by the
presence of an ipsilateral oculomotor nerve palsy and contralateral hemiparesis or hemiplegia.
● It is caused by midbrain infarction as a result of occlusion of the paramedian branches of the
posterior cerebral artery or of basilar bifurcation perforating arteries.
● This lesion is usually unilateral and affects several structures in the midbrain:
1. Contralateral parkinsonism because its dopaminergic projections to the basal ganglia innervate
the ipsilateral hemisphere motor field, leading to a movement disorder of the contralateral
body.
2. Contralateral hemiparesis and typical upper motor neuron findings. It is contralateral because
it occurs before the decussation in the medulla.
3. Difficulty with contralateral lower facial muscles and hypoglossal nerve functions.
4. Ipsilateral Oculomotor nerve palsy with a drooping eyelid and fixed wide pupil pointed down and out. This leads to diplopia.
Question -7

About Sibson's fascia which is incorrect:
A> Attached to the inner border of 2nd rib
B> Covers apical part of lung
C> Part of scalenus anterior muscle
D> Vessel pass above the fascia

Answer-A
Explanation:
● The suprapleural membrane is known as Sibson's fascia.
● It refers to a thickening of connective tissue that covers the apex of each human lung.
● It attaches to the internal border of the first rib and the transverse processes of vertebra C7



Question - 8
Thrombosis of posterior inferior cerebellar artery causes:
A> Lateral medullary syndrome
B> Weber syndrome
C> Medial medullary syndrome
D> none

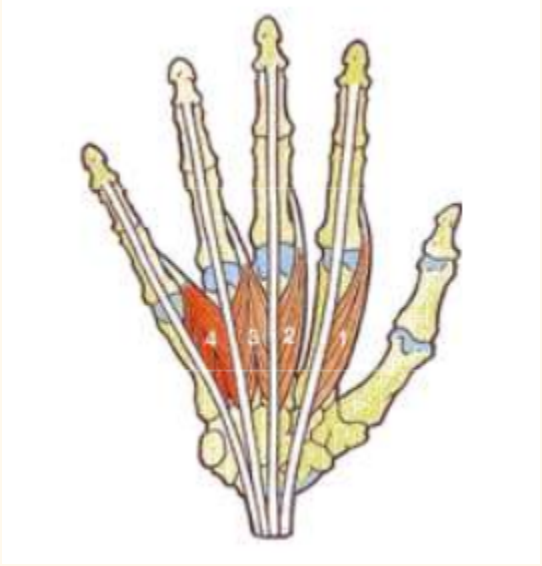
ANSWER- A

Explanation:
● The posterior inferior cerebellar artery (PICA), the largest branch of the vertebral artery, is one of
the three main arterial blood supplies for the cerebellum, part of the brain.
● Occlusion of the posterior inferior cerebellar artery or one of its branches, or of the vertebral artery
leads to lateral medullary syndrome also called Wallenberg syndrome.

Question - 9
Broca's area situated in:
A> Inferior frontal gyrus
B> Superior temporal gyrus
C> Angular gyrus
D> None of the above

Answer- A
Explanation:
● Broca's area or the Broca area (44) is a region in the frontal lobe of the dominant hemisphere
(usually the left) of the hominid brain with functions linked to speech production.
● Inability to speak after injury to the posterior inferior frontal gyrus of the brain.
● Pierre Paul Brocahe identified this region, known as Broca's area.
● Difficulty in language production as Broca's aphasia, also called expressive aphasia.
● Broca's area is now typically defined in terms of the pars opercularis and pars triangularis of the
inferior frontal gyrus.
BROCA'S AREA(shown in red). Colored region is pars opercularis and pars triangularis of the inferior frontal
gyrus. Broca's area is now typically defined in terms of the pars opercularis and pars triangularis of the
inferior frontal gyrus.

Question - 10
Function of the muscle shown in picture:



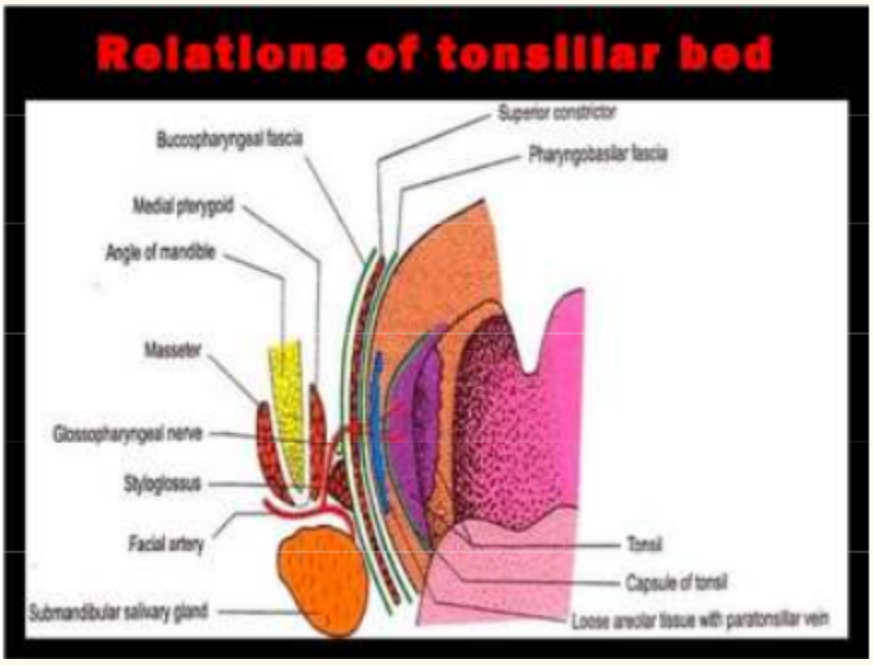
A> Flexion
B> Extension
C> Adduction
D> Abduction

Answer- A
Explanation:
● Lumbricals are four short hand muscles located in the metacarpus deep to the palmar fascia.

● The lumbricals are intrinsic muscles of the hand that flex the metacarpophalangeal joints and
extend the interphalangeal joints.
● The lumbricals are used during an upstroke in writing.

Question - 11
Acute tonsillitis effects which nerve:
A> Glossopharyngeal Nerve
B> Facial Nerve
C> Trigeminal nerve
D> Vagus Nerve

Answer- A
Explanation: Palatine tonsil is supplied by Tonsillar branch of GLOSSOPHARYNGEAL NERVE and maxillary
division of trigeminal nerve but glossopharyngeal is most likely to be damaged during acute tonsillitis and
tonsillectomy.



Question - 12
Structures not passing through Aortic opening:
A> Azygos vein
B> Aorta
C> Thoracic duct
D> Vagus

Answer - D
Explanation:
● Aortic opening (Aortic hiatus) is one the three major apertures through the diaphragm & lies at the
level of T12.
● A number of structures pass through the aortic hiatus: aorta, azygos vein, thoracic duct, greater
splanchnic nerve.

Question - 13
Newly erupted teeth is covered by:
A> Perikymata
B> Nasmyth's membrane
C> Fibrous tissue
D> all of the above

Answer- B
Explanation:
• Primary enamel cuticle, also called Nasmyth's membrane, is thin membrane of tissue also known as
reduced enamel epithelium (REE) produced by the ameloblast, that covers the tooth once it has
erupted.
• The primary enamel cuticle protects enamel from resorption by cells of the dental sac and also
secretes desmolytic enzymes for elimination of the dental sac, allowing fusion between reduced
enamel epithelium and oral epithelium. This process allows eruption of the tooth without bleeding.

Physiology

Question – 14
What should be the value of BMI to be considered as “Lethal” in men?
A> 12
B> 18
C> 13
D> 14
Answer: C – 13
Explanation: BMI Value of 13 is considered as “Lethal” in men.
● Body mass index (BMI) is an estimate of total body fat mass
● Simply an index of weight for height.
● Formula:
○ Weight in kilograms divided by the square of height in meters.
○ Body mass index = Weight (kg)/(Height)2 (m)
● Uses:
○ Used to classify and define underweight, overweight & obesity in adults.
● Classification & Metrics:
○ World Health organization categorized BMI values into:

Classification	**BMI value**
Normal weight	18.5 to 24.9 kg/m2
Underweight	<18.5 kg/m2
Pre-obesity (Pre-OB)	25 to 29.9 kg/m

Obesity (OB)	> 30 kg/m2
Class I obesity	30.0 - 34.9 kg/m2
Class II obesity	35.0 - 39.9 kg/m2
Class III obesity (Morbid form)	More than 40 kg/m2

● BMI value considered lethal for Men is 13 Females withstand and survive even at lower BMI rate upto 11.

Question – 15
Which receptors are blocked in Myasthenia Gravis?
A> Ach receptors
B> Ca++receptors
C> Na2+ receptors
D> Opioid receptors

Answer: A - Ach receptors
Explanation:
● An autoimmune disease
● Antibody mediated autoimmune attack of acetylcholine receptors.
● Inability of neuromuscular junctions to transmit signals from nerve to muscle
● Resulting in muscle weakness and fatigability.
● Unresponsive respiratory muscles may cause respiratory failure in severe cases.
● Analysis of neuromuscular transmission reveal
○ Decrease in acetylcholine receptors (AChRs)
○ Loss of post-junctional folds.
● Circulating antibodies to acetylcholine receptors positive.
● Diagnosis:
○ Clinical test: Strength improvement in response to administration of anticholinesterase
agents.
● Treatment:
○ Anti-cholinesterase drugs: Allows accumulation of larger amounts of acetylcholine in
synaptic junctions.
○ Neostigmine.

Question – 16
What is the characteristic pattern seen in Brown sequard syndrome
A> C/L loss of joint sense and position
B> C/L loss of pain
C> I/L loss of complete sensory functions
D> C/L motor functions

Answer: Option B - Contralateral loss of pain sensations Explanation: ● If the spinal cord is completely transected – All the sensations and motor functions distal to segment of transaction are blocked.

● Transection of spinal cord on single side results in “Brown Sequard Syndrome”

● Functions affected:

Function affected	Position	Description
Motor	Ipsilateral side	Complete loss of motor functions below the level of transaction
Sensory	Combined effects observed	Some sensory functions are lost on the transected side and others on the opposite side.
	On the Contralateral side: Sensation of pain, cold, & heat	Result of disturbance in Spinothalamic pathway. Loss observed 2 to 6 segments below the level of transaction.
	Discrete Crude touch	Poorly localized (Still persists). Partial transmission occurs in opposite Spinothalamic tract

Question – 17

When Va / Q is infinity?

A> Partial pressure of O2 becomes zero

B> No exchange of O2 & CO2

C> Partial pressure of CO2 alone becomes zero

D> Partial pressure both CO2 and O2 remain normal

Answer: Option B - No exchange of O2 & CO2

Explanation:

● Va represents the ventilation in alveoli.
● Q represents the blood flow through the alveolus.
● The ratio of Va and Q explains the respiratory exchange, when there is imbalance between alveolar
ventilation and alveolar blood flow.
● Ventilation-perfusion ratio is considered normal there is equal amount of blood flow & ventilation
through alveolus.
● Va /q ratio is Zero - There is inadequate or nil, but perfusion persists
● Va /q ratio is infinity - There is adequate ventilation but no perfusion.
● Both in Zero and infinity Va /Q ratio, there is no exchange of gasses through the respiratory
membranes of corresponding alveoli.
● When Va /Q ratio is infinity,
○ The alveolar air equilibrates the humidified inspired air
○ No exchange of oxygen and carbon-di-oxide occurs.
○ Partial pressures of the O2 and CO2 are 149mmHg & 0 mmHg respectively.

Question – 18
C wave is seen in
A> Iso -volumetric contraction
B> Slow filling at end of diastole
C> End of systole
D> Start of diastole

Answer: Option B - Iso- volumetric contraction
Explanation:
● The variations in jugular venous pressure are transmitted to the jugular veins, producing 3 positive
waves (a, c & v) and 2 negative waves(x & y).
● C wave:
○ Produced by bulging of tricuspid valve into right atrium during Iso- volumetric contraction
of right ventricle

Question – 19
Alpha waves are seen during?
A> Sleep
B> REM movements
C> Relaxed state
D> Active state

Answer: Option C - Relaxed state
Explanation:
● Regarded as normal wavefront
● Occur when at rest and eyes closed with active/wandering mind ie., associated with decreased
level of attention (either during relaxed/subconscious thinking)
● Regular Rhythm (Frequency 8-13 Hz Amplitude - 50-100 V)

Question – 20
In hypovolemic shock there is -
A> Afferent arteriolar constriction
B> Efferent arteriolar constriction
C> Increased blood flow to kidney
D> Normal cardiac output
Answer: Option A - Afferent arteriole constriction
Explanation:
● Inadequate circulation volume.
● Poor venous return to the heart will decrease the stroke volume & cardiac output.
● Compensation by tachycardia & increased systemic vascular resistance (SVR).
● Become cold peripherally (shut down).
● Most common causes - Fluid loss of any etiology
○ Hemorrhage
○ Salt & water loss
○ Sepsis
○ Burns

Question – 21
Components responsible for counter current mechanism in kidney are all except:
A> Sodium outflow in thick ascending limb
B> Water outflow in thin descending limb
C> Sodium outflow in thin ascending limb
D> Flow of tubular fluid from PCT to DCT

Answer: Option C -Sodium outflow in thin ascending limb
Explanation:
● Counter-current system occurs in kidney
● A system in which inflow runs parallel to, counter to, and in close proximity to the outflow for some
distance.
● 2 countercurrent mechanisms available:
● Countercurrent multiplier at Loop of Henle
○ Generate high medullary osmotic gradient pressure
● Countercurrent exchanger at vasa recta of medullary capillaries
○ Helps in maintain the medullary osmotic pressure gradient
● Substances involved in countercurrent mechanism include:
○ Sodium actively absorbed with co-transport of potassium & chlorine in thick ascending limb
of the loop of Henle.
○ Water reabsorbed in the thin descending limb of the loop of Henle.
○ Urea diffuses out from the medullary collecting ducts into medullary interstitium.

Question – 22
Glucose is absorbed in the intestine by?
A> Secondary active transport
B> Facilitated diffusion
C> Simple diffusion
D> Primary active transport

Answer: Option B - Facilitated diffusion
Explanation:

● Facilitated diffusion is a diffusion of large water soluble molecules by a carrier protein.
● Glucose and amino acids are transported across the membrane by this method.

Question – 23
Insulin like growth factor is secreted by:
A> Liver
B>Pituitary gland
C> Pancreas
D> Adrenal glands

Answer: Option A - Liver
Explanation:
● Growth hormone acts on liver to form small proteins called “Somatomedins”
● Somatomedins increases bone growth in all aspect
● Effects are similar to insulin, hence referred to as “Insulin-like Growth Factor” (IGF).
● Four types available -
○ Most important is Somatomedin C - Specifically referred to as “Insulin - Growth Factor -1 /
IGF - 1”
○ Binds to carrier protein in blood
○ Hence, longer duration of action than growth hormone.
○ Half-life - about 20 Hrs (compared to growth hormone - 20 mins)
○ Blood concentration of IGF-1, follows the levels of growth hormone.
● Growth effects of GH is mostly attributed to somatomedin (rather than its direct effect on bones &
peripheral tissues)

Question – 24
What is Prosopagnosia?
A> Impairment of consciousness
B> Being unaware of one’s problems
C> Difficulty in identifying known faces
D> Failure to identify objects.

Answer: Option C - Difficulty in identifying known faces.
Explanation:
● A feature of anxiety disorder
● Prosopagnosia is difficulty in identifying known faces
● Other features of anxiety disorder include,
○ Memory impairment without impairment of consciousness
○ Being unaware of one's problem (Anosognosia)

Question – 25
Transport across nucleus is by all except?
A>Caveolins
B>Local signals
C> Importins
D> Rat proteins

Answer: Option D - Rat proteins
Explanation:
● Importin - Type of karyopherin
○ Transporting protein molecules into nucleus by binding to specific recognition sequences,
called Nuclear Localization Sequences (NLS).
○ 2 subunits, importin α and importin β.
● Caveolins:
○ Family of integral membrane proteins that are principal components of caveolae
membranes
○ Involved in receptor-independent endocytosis.
○ Acts as scaffolding proteins within caveolar membranes by compartmentalizing &
concentrating signaling molecules.
● Rat proteins:
○ Recombinant rat IFN- is a bioactive protein intended for use in cell culture applications.

Question – 26
Iron from enterocytes through
A> Dmt1
B> Dmt2
C> Ferroprotein1
D> GLUT1

Question – 26
Iron from enterocytes through

A> Dmt1
B> Dmt2
C> Ferroprotein1
D> GLUT1

Answer: Option A - DMT1
Explanation:

- Iron is brought into the cell through an active transport process
- Protein DMT-1 (Divalent Metal Transporter-1),
- Expressed on the apical surface of enterocytes in initial part of duodenum.
- DMT-1 is not specific to iron & transports other substances like zinc, copper, cobalt & manganese.

Question- 27
Serotonin is also known as?

Serotonin

A> 5-hydroxytryptamine (5-HT)
B>N-methyl phenylamine
C>3-Methoxytyramine
D>Phenethylamine

Answer : A
Explanation:
Serotonin/ 5-hydroxytryptamine (5-HT) is a monoamine neurotransmitter.

Question 28.
Tyrosinosis is caused due to deficiency of which enzyme?

A> Fumarylacetoacetate hydrolase
B>p-hydroxy phenyl pyruvate dehydrogenase
C>Tyrosine transaminase
D>Tyrosine ligase

Answer: A
Explanation: Tyrosinemia, also known as hepatorenal tyrosinemia or tyrosinosis, is the most severe form of tyrosinemia, a buildup of too much of the amino acid tyrosine in the blood and tissues due to an inability to metabolize it. It is caused by a deficiency of the enzyme fumarylacetoacetate hydrolase. Fumarylacetoacetate hydrolase catalyzes the final step in the degradation of tyrosine

Question 29.
Lesch–Nyhan syndrome is caused by deficiency of which enzyme?

A> Orotate Phosphoribosyltransferase
B>Uracil phosphoribosyltransferase
C> Quinolinate Phosphoribosyltransferase
D>Hypoxanthine-guanine phosphoribosyltransferase (HGPRT)

Answer: D
Explanation: Lesch–Nyhan syndrome (LNS), also known as juvenile gout, is a rare inherited disorder caused by a deficiency of the enzyme hypoxanthine-guanine phosphoribosyltransferase (HGPRT), produced by mutations in the HPRT gene located on the X chromosome

Question 30.
Fish odor syndrome is caused by deficiency of which enzyme?

A>Fumarylacetoacetate hydrolase
B>Methane monooxygenase
C>Monooxygenase 3 (FMO3)
D> D-amino acid oxida

Answer: C
Explanation: Trimethylaminuria primary trimethylaminuria), also known as fish odor syndrome or fish malodor syndrome, is a rare metabolic disorder that causes a defect in the normal production of an enzyme named flavin-containing monooxygenase 3 (FMO3) When FMO3 is not working correctly or if not enough enzyme is produced, the body loses the ability to properly convert trimethylamine (TMA) from precursor compounds in food digestion into trimethylamine oxide (TMAO), through a process called N- oxidation. Trimethylamine then builds up and is released in the person's sweat, urine, and breath, giving off a strong fishy odor or strong body odor.

Question 31
Galactosemia is due to deficiency of which enzymes?

A>Galactose-1-phosphate uridyltransferase
B>HGPRT
C>Galactokinase
D>Epimerase

Answer: A
Explanation: Galactosaemia (British galactosaemia) is a rare genetic metabolic disorder that affects an individual's ability to metabolize the sugar galactose properly. Galactosemia follows an autosomal recessive mode of inheritance that confers a deficiency in an enzyme responsible for adequate galactose degradation.

Question 32
Which of the following is most abundant end product of fatty acid synthesis

A>Oleic acid
B>Palmitic acid
C>Arachidonic acid
D>Glucose

Answer: B
Explanation: Fatty acids are synthesized by an extramitochondrial system.
This system is present in many tissues including liver kidney brain lung mammary gland and adipose tissues.
Acetyl CoA is an immediate substrate.
The end products of this synthesis are usually the saturated fatty acid palmitate and stearate with the latter predominating.

Question 33
About DNA polymerase I, which one is correct?

A>Not required in bacteria
B> Repair any damage with DNA
C>Involved in okazaki fragment
D>Participate in DNA replication

Answer: A
Explanation: DNA polymerase I participates in the DNA replication of prokaryotes. Function of Pol I is mainly to repair any damage with DNA, but it also serves to connect okazaki fragments, deleting RNA primers and replacing the strand with DNA.

Question 34.
What do chaperones assist in?

A>Protein Cleavage
B>Protein Folding
C>Protein Degradation
D>Protein Modification

Answer: B
Explanation: Folding of Proteins in Vivo Is Promoted by Chaperones

Question 35.
Fishy odor occurs due to deficiency of this vitamin from diet

A>Biotin
B>Thiamine
C>Riboflavin
D>Vit. A

Answer: C
Explanation: Vitamin B2 or riboflavin deficiency can bring about a fishy odor in the body

Question 36.
VMA is excreted in urine in which condition

A>Alkaptonuria
B>Phenylketonuria
C>Pheochromocytoma
D>Diabetic ketoacidosis

Answer: C
Explanation: VMA is the end product of catabolism of catecholamines.
In pheochromocytoma and neuroblastoma there is excessive synthesis of catecholamines which causes enhanced synthesis of VMA and its excretion in the urine.
VMA is the urinary product of both epinephrine and norepinephrine.

It is a good screening test for pheochromocytoma, and is also used to diagnose and follow up neuroblastoma and ganglioneuroma.

Question 37.
All of the following are excreted in cystinuria except

A>Cystine
B>Cysteine
C>Arginine
D>Orthinithe

Answer: A
Explanation: Cystinuria

- Biochemical Defect :An autosomal recessive disorder that results in the formation of a defective amino acid transporter in the renal tubule and intestinal epithelial cells.
- Pathophysiology :The amino acid transporter is responsible for transporting cystine, ornithine, lysine, and arginine . Defective tubular reabsorption of these amino acids in the kidneys results in increased cysteine in the urine , which can precipitate and cause kidney stones.
- Clinical Manifestations : Cysteine kidney stones presenting with severe, intermittent flank pain and hematuria.
- Lab findings: Increased urinary excretion of cystine, ornithine, arginine, and lysine on urine amino acid chromatography; hematuria and cystine crystals (hexagonal) on cooling of acidified urine sediment.
- Imaging: Radiopaque kidney stones on CT scan.
- Treatment : Low-methionine diet; increased fluid intake; acetazolamide to alkalinize the urine.

Question 38.
Fibrinopeptide A and fibrinopeptide B are acidic due to the presence of which amino acids in its structure

A>Serine and threonine
B>Glutamate and aspartate
C>Histidine and lysine
D>Glutamine and valine

Answer: B
Explanation: Fibrinopeptides A and B (FPA and FPB) are short amino acid sequences situated at the amino terminal of the alpha and beta chains (respectively) of soluble fibrinogen. Glutamate and aspartate are acidic amino acid present in them which turn them acidic.

Question 39
HIAA in urine present in?

A>Alkaptonuria
B>Albinism
C>Carcinoid
D>Phenylketonuria

Answer: C
Explanation: Carcinoid syndrome develops in some people with carcinoid tumors and is characterized by cutaneous flushing, abdominal cramps, and diarrhea.
Carcinoid tumors occur throughout the gastrointestinal tract, most commonly in the appendix, ileum and rectum in decreasing order of frequency.
Right-sided valvular heart disease may develop after several years.
The syndrome results from vasoactive substances (including serotonin, bradykinin, histamine, prostaglandins, polypeptide hormones) secreted by the tumor, which is typically a metastatic intestinal carcinoid.
Diagnosis is clinical and by demonstrating increased urinary 5-hydroxyindoleacetic acid(HIAA).
Tumor localization may require a radionuclide scan or laparotomy.
Treatment of symptoms is with somatostatin or octreotide, but surgical removal is performed where possible; chemotherapy may be used for malignant tumors.

Pathology

Question 40
Warthin finkeldey cells are seen in

A>Measles
B> Rubella
C> Rabies
D> Typhoid

Answer: Option A - Measles
Explanation: Multinucleated cells like Warthin Finkeldey are seen in Measles

- Measles virus infects by invasion of respiratory epithelium.
- Local multiplication leads to viremia (day 2-3), then spread to the RE system.
- Two types of Multinucleated giant cells in both epidermis & oral epithelium by 7-11 days.
    - Warthin Finkeldey cells of reticuloendothelial system
    - Epithelial giant cells of respiratory & other epithelia.

- Warthin–Finkeldey cell:
    - Type of giant multinucleate cell found in hyperplastic lymph nodes early in the course of measles
    - Under the light microscope, these cells consist of a large, grape-like cluster of nuclei.
    - Also with HIV-infected individuals and Kimura disease .
    - Rarely in neoplastic (e.g. lymphoma) & non-neoplastic lymph node disorders.
    - Unknown origin; Reports of staining with markers similar to follicular dendritic cells, including CD21.

Question 41
CD59 marker of which disease

A> PNH
B> PTEN
C> BRR
D> Cowden syndrome

Answer: Option A - Paroxysmal nocturnal hemoglobinuria (PNH)
Explanation:

- Paroxysmal nocturnal hemoglobinuria (PNH) is a disease, due to acquired mutations in “Phosphatidylinositol GlycanComplementation Group A” gene (PIGA)..
- Associated with deficiency of glycosylphosphatidylinositol (GPI) anchor proteins along with absence of external surface membrane proteins attaching to it.
- CD55 (DAF) and CD59 (MIRL) are two such complement defense proteins
- CD59 deficiency:
- Common finding in RBCs & WBCs of patients with chronic hemolysis suffering from PNH
- Diagnosis:
    - The definite diagnosis based on demonstration of a substantial proportion of patient’s RBC having increased susceptibility to complement (C), due to the deficiency on their surface of proteins (particularly CD59 & CD55)

Question 42 Opsonin is
A> C3a
B> C3b
C> C5a
D> C6

Answer: Option B - C3b
Explanation:

- The process of coating a foreign particle targeting & preparing it for the phagocytosis process is “Opsonization”. Substances involved are opsonins.

- Main opsonins from complement system is C3

Examples of opsonins include:

- Antibodies:
    - IgG and IgA
- Components of the complement system:
    - C3b, C4b, and iC3b
- Mannose Binding Lectin (MBL):
    - Initiates the formation of C3b
- Membrane Attack Complex (MAC)
    - Includes C5b, C6, C7, C8 & polymeric C9

Opsonization & complement proteins:

- Mainly C3b, iC3b & C4b
- C3:
    - Most abundant protein of all complementary proteins,
    - Cleaves into C3a and C3b
- C3a -
    - Binds and activates mast cells & basophils, release histamine.
- C3b -
    - Most critical component in both classical & alternative pathway
    - C3b attaches to bacterial surfaces for opsonization by phagocytes

Question 43
Bernard–Soulier syndrome due to deficiency of
A> Gp 2b/3a
B> Gp 1b
C> vWf
D> TNF

Answer: Option B - Gp 1b
Explanation:

- Bernard–Soulier syndrome (BSS) / Hemorrhagic Parous Thrombocytic Dystrophy
- Rare autosomal recessive coagulopathy
- Causes a deficiency of glycoprotein 1b (Gp1b), receptor for von Willebrand factor.

Question.44 Cowden syndrome

A> P53
B> PTEN
C> Rb

D> Ras

Answer: Option B - PTEN
Explanation:

- “Phosphatase and Tensin” homolog (PTEN) - protein in humans encoded by the PTEN gene. Gene mutations promotes development of cancers.
- Cowden’s disease / Multiple Hamartoma Syndrome -
    - Part of PTEN hamartoma tumor syndrome
    - An autosomal dominant syndrome
    - Trichilemmomas - Numerous tumors of hair follicles in face
    - Multiple hamartomatous polyps in GI tract.
    - Very high risk of breast & thyroid carcinoma
- Treatment:
    - B/L mastectomies recommended
    - Contraindicated are mammography & other radiation exposure of breast tissue

Question. 45
Chromosome involved in myotonic dystrophy is

A>Chromosome 19
B> Chromosome 20
C> Chromosome 21
D> Chromosome 22

Answer: Option A - Chromosome 19
Explanation:

- Myotonic dystrophy is transmitted by mutation in an 'unstable trinucleotide repeat sequence' in

gene 19q 133.
Features:

- An autosomal dominant disorder
- Most common adult muscular dystrophy
- Characteristics feature:
    - Myopathy is distal (in contrast to other myopathies - mostly proximal).
    - Muscle atrophy selectively involves type I fibres only
    - Appears by 5 years, causes a slow relaxation of hand grip following a forced voluntary closure.

Question. 46
TRALI occurs within how many hours of transfusion?

A> 48 Hrs
B> 72 Hrs
C>6 Hrs
D> 12 Hrs

Answer: Option C - 6 Hrs
Explanation:

- Transfusion-Related Acute Lung Injury (TRALI) - Syndrome characterized by acute respiratory distress following transfusion.
- Symptoms:
  - Typically develop during, or within 6 hours of transfusion.
  - Rapid onset of dyspnea & tachypnea.
  - Associated fever, cyanosis, & hypotension.
- Clinical examination:
  - Reveals respiratory distress.
  - Pulmo-nary crackles may be present with no signs of CHF or volume overload.
  - CXR - Evidence of B/L pulmonary edema unrelated to CHF (non-cardiogenic pulmonary edema),
    - Bilat-eral patchy infiltrates rapidly progressing to complete "white out"

indistinguishable from Acute Respi-ratory Distress Syndrome (ARDS).

Question. 47.
Kidney responds to shock by

A> Decreases renal blood flow
B> Increases afferent arteriole resistance
C> GFR remains unaltered
D> Perfusion of kidney increases

Answer: Option B - Increases afferent arteriole resistance
Explanation:

- Kidney utilizes the following mechanisms as a response to shock:
  - Release of aldosterone from hypoxic kidney
  - Release of ADH due to decreased effective circulating blood volume.
  - Reduced GFR due to arteriole constriction
  - Tissue fluid shift into plasma due to lowered hydrostatic pressure (Hypotension)

Question. 48
Choose the best method of diagnosis for the clinical sign represented in the image.

A> Serum copper
B> Serum ceruloplasmin
C> Karyotyping
D> PCR

Answer: Option B - Serum Ceruloplasmin
Explanation:

- Image represents “Kayser-Fleischer” ring
- KF ring is golden brown ring due to deposition of copper in Descement’s membrane of cornea.
- Clinical feature of “Wilson’s disease”
- Wilson’s Disease:
    - Rare autosomal recessive disease.
    - Characterized by abnormal copper metabolism
    - Ophthalmic presentation:
        - Deposition of copper in posterior capsule of lens results in sunflower cataract.
- Diagnosis:
    - Sternlieb's criteria:
        - Presence of KF rings
        - Decreased serum ceruloplasmin (copper containing enzyme / ferroxidase) levels
        - Measuring hepatic copper levels in liver biopsy
        - 24-Hr urine copper excretion
- Kayser Fleischer ring:
    - Excess circulating copper deposits in descemet’s membrane.
    - Usually golden brown located in peripheral cornea, beginning at schwalbe’s line upto 5 mm into cornea.
    - Detected via Gonioscopy in earlier stage & seen by naked eyes in advanced stage.

Question. 49
Which of the following is an epithelial tumor of stomach?

A> Carcinoid
B> Lymphoma
C> GIST
D> Gastric adenocarcinoma

Answer: Option D - Gastric adenocarcinoma
Explanation:

- Malignant epithelial tumor originating from glandular epithelium of gastric mucosa.
- Aggressively invade the gastric wall.
- Lauren classification:
    - Two types of gastric adenocarcinoma are present.
        - Intestinal type
        - Diffuse type
- Intestinal type - Irregular tubular structures
- Diffuse type - Mucinous & colloidal “Leather-bottle stomach”

Question. 50
Identify an X linked disorder?

A> Color blindness
B> Thalassemia
C>Azoospermia
D>Retinitis Pigmentosa

Answer: Option A - Color blindness
Explanation:

- Hereditary color blindness/ Achromatopsia
- The ability to appreciate one or more primary color is defective (anomalous) or absent (anopia)
- Due to mutations in X chromosome
- Red & green pigment cones coded by X chromosome; Blue coded on chromosome 7
- More common in males than females
- Acquired - (Optic nerve/ macular damage)
- Ishihara chart -
    - Test red/ green color blindness - Farnsworth 100 hue test Other options:
- Azoospermia&Retinitis Pigmentosa - Y-chromosome linked disorder
- Thalassemia - Inherited (Autosomal recessive pattern) blood disorders characterized by abnormal hemoglobin production. Genes in Chromosome 11 and 16 involved.

Question. 51.
H And L variety seen in

A> Mixed cellularity hodgkin
B> Lymphocyte depleted
C> Lymphocyte predominance
D> Nodular sclerosis

Answer: Option C - Lymphocyte predominance
Explanation:

- Hodgkin lymphoma (HL) - common “Malignant Lymphomas”
- 2 entities:
    - Classical HL (cHL)
    - Nodular Lymphocyte–predominant HL (NLPHL).

- Cells :
    - Classical HL - Hodgkin and Reed/Sternberg (HRS) cells
    - Nodular Lymphocyte predominant HL - Lymphocytic & Histiocytic (L&H) cells

Question. 52
Stellate granuloma seen in

A> Sarcoidosis
B> Cat scratch disease
C> Cryptococcosis
D> Histoplasmosis

Answer: Option B - Cat scratch disease Explanation:

- Bacterial infection causes by Bartonella henselae
- Acquired infected cat/kitten scratch
- Histology:
    - Characterized by granulomatous inflammation of lymph nodes.
    - Skin lesion demonstrates a circumscribed focus of necrosis
    - Regional lymph nodes demonstrate follicular hyperplasia with central stellate necrosis with neutrophils, surrounded by palisading histiocytes (suppurative granulomas) & sinuses packed with monocytoid B cells, usually without perifollicular and intrafollicular epithelioid cells.

Question. 53
Which option best explains the “Flipping effect”?

A> LDH 1 > LDH 2
B> LDH2 > LDH1
C> LDH 2 > LDH 3
D> LDH 3 > LDH 2

Answer: Option A - LDH 1 > LDH 2
Explanation:

- Lactate dehydrogenase, tetrameric enzyme with 4 subunits,
- 4 Subunits with 2 isoforms - H isoform (Heart) & M isoform (Muscle)
- Heart & RBCs - LDH-1 (4H);
- Reticuloendothelial system - LDH-2 (3H1M)
- Lungs - LDH-3 (2H2M)
- Kidneys, placenta, & pancreas - LDH-4 (1H3M)
- Liver & striated muscle - LDH-5 (4M)
- Uses:
    - LDH levels are more in RBC
    - Helpful in assessment of Hemolysis / Tissue breakdown
- Flipping effect:

- Usually LDH 2 in predominant in serum & LDH 1 is predominant in heart
- Higher levels of LDH 1 than LDH 2 (Flipped pattern) is suggestive of myocardial infarction
- Damaged cardiac tissues release LDH 1 into the bloodstream.

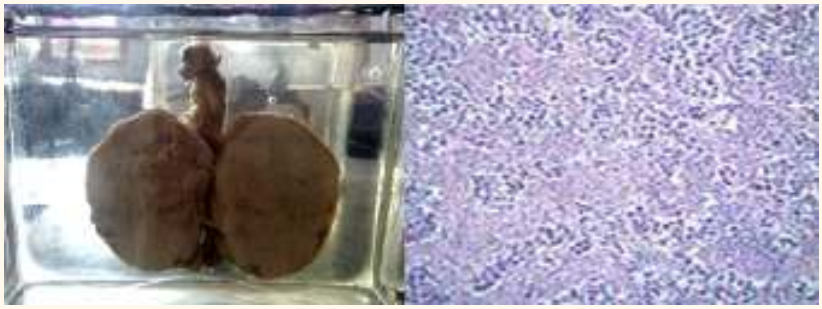
Question. 54
Nude mice is not resistant to xenograft due to absence of

A> B cell
B> T cell
C> Both b and t cell
D> None

Answer: Option B - T cell
Explanation:

- Nude mice lack “Thymus” & cannot generate mature T lymphocytes.
- Absence of T-lymphocytes makes it unable to mount adaptive immune responses requiring CD4, helper T cells, CD8 and cytotoxic T cells.
- Adaptive immune responses that remain unresponsive to nude mice include:
  - Antibody formation (CD4 + helper T cells)
  - Cell-mediated immune responses (CD4+ and/or CD8+ T cells)
  - Delayed-type hypersensitivity responses (CD4+ T cells)
  - Killing of virus-infected or malignant cells (CD8 + cytotoxic T cells)
  - Graft rejection (both CD4+ & CD8+ T cells)
- Uses:
  - Laboratory study animal - Insights into immune system, leukemia, solid tumors, AIDS & other immune deficiency diseases.
  - Absence of functioning T cells prevents them rejecting the allografts & Xenografts.

Question. 55
Identify the condition represented in the image.



A> Seminoma
B> Germ cell differentiate tumor
C> Non-seminoma
D>Teratoma

Answer: Option A - Seminoma

Explanation:

- Seminoma - Germ cell tumor of testicle/ rarely mediastinum or other extra-gonadal locations.
- Malignant neoplasm;
- One of most treatable & curable cancers;
- Survival rate >95% if discovered in early stages.
- Usually unaffected fertility & other sexual functions remains intact.
- Originates in germinal epithelium of seminiferous tubules
- Histology:
    - Typically prominent lymphocytic infiltrate in the fibrous stroma separating the clusters of tumor cells.
- Treatment:
    - Requires removal of one testicle.

Question. 56 Anaplasia is
A> Changing one type of epithelium to another
B> Nuclear chromatin
C> Lack of differentiation
D> Morphological changes

Answer: Option C - Lack of differentiation
Explanation:

- Refers to a lack of differentiation in neoplastic cells.
- Well-differentiated tumors resemble their tissue of origin
- Poorly-differentiated or undifferentiated (anaplastic) tumor cells appear primitive and lack specialization along any particular cell line.

Question. 57
Which level of prolactin definitely suggest prolactinoma

A> 200 ng/ml
B> 150 ng/ml
C> 50 ng/ml
D> 100 ng/ml

Answer: Option C - 200 ng/ml Explanation:

- Prolactinomas /"Prolactin-producing adenomas" /"Lactotroph adenomas"
- Benign tumors of pituitary gland producing prolactin
- Higher blood prolactin concentrations
- The diagnosis of a prolactinoma is confirmed by demonstrating persistently elevated blood levels of prolactin over 150-200 ng/ml

Question. 58
Laxative abuse causes which of the following renal stones ?

A> Uric acid
B> Ammonium urate
C> Struvite
D> Ca oxalate

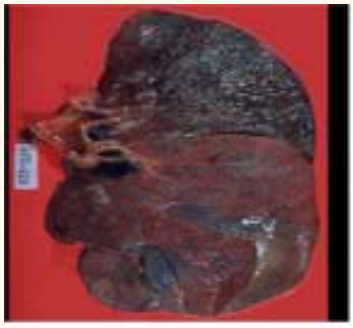
Answer: Option B - Ammonium urate Explanation:

- Based on the chemical nature two types of kidney stones:
  - Calcium oxalate (majority).
  - Others include Uric acid, Struvite (Infected stones), and Cystine stones (rare hereditary metabolic disorder

Characteristic stone formation in laxative abuse:

- Laxative abuse acts a factor in kidney stone formation.
- Laxative abuse causes potassium loss
- As a compensation mechanism kidney produces large amount of ammonium.
- Resulting in formation of uncommon stone type - ammonium acid urate.

Question. 59
Identify the condition shown in the image.



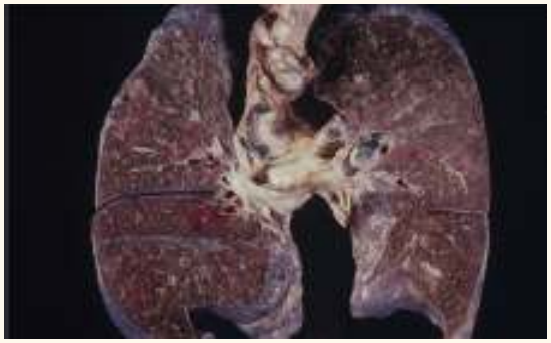
A> Lobar Pneumonia
B> Bronchopneumonia
C> Acute glomerulonephritis
D> Congested kidney

Answer: Option A- Lobar Pneumonia Explanation:

- Image depicts the red hepatization of lungs
- Red hepatization is seen in conditions like lobar pneumonia.
- Lobar Pneumonia:.
  - Pneumococcal pneumonia - Most common cause of lobar pneumonia
  - Progresses from a red hepatization phase to a gray hepatization phase
- Red hepatization:

- Characterized by consolidation of airspaces of lungs.
- C/S reveals lungs appear brown-red, firm, & airless.resembling liver.
- Histological:
  - Congested alveolar capillaries & alveolar spaces are filled with erythrocytes, neutrophils, and fibrin.
  - Red cells disintegrate, with persistence of the neutrophils and fibrin.

Question. 60
Identify the condition represented in below image



A> Miliary tuberculosis
B> Bronchiectasis
C> COPD
D> Lung cancer

Answer: Option A- Miliary tb Explanation:

- Miliary tuberculosis (TB) is widespread dissemination of Mycobacterium tuberculosis
- Result of hematogenous spread.
- Distinctive pattern seen on a chest radiograph
  - Tiny sized lesions (1–5 mm), seen as tiny spots distributed throughout lung fields appearing similar to millet seeds
  - Hence, the term "miliary" tuberculosis.
  - Miliary TB may also infect liver & spleen.

Question. 61
Which of the following can result in dactylitis

A> Hemophilia
B> Von willebrand disease 1
C> Measles
D> Sickle Cell Anemia

Answer: Option D - Sickle Cell Anemia Explanation:

- Dactylitis (Hand-Foot Syndrome) is seen in sickle cell anemia

- Severe pain affecting the bones of hands, feet, or both.
- Often 1st symptom of sickle cell anemia in babies.

Question. 62
Which chromosome is responsible for the production of MIF?

A> Chromosome 16
B> Chromosome 22
C> X Chromosome
D> Y chromosome

Answer: Option B - Y Chromosome
Explanation:

- Anti-Mullerian Hormone (AMH) / Mullerian Inhibiting Factor (MIF); Mullerian-inhibiting Hormone (MIH) / Mullerian-inhibiting Substance (MIS).
    - AMH - Downstream genes regulated by SRY pathway
- SRY - Gene in “Sex determining region” - short arm of Y chromosome - Testis determining factor.

- Secreted by Sertoli cells of the testes.
- The production of AMH is controlled by two autosomal gene loci.
    - Hormone code
    - Receptor code.
- Glycoprotein hormone
- Related to inhibin & activin
- Member of the transforming growth factor-β (TGF-β)
- Key roles are in growth differentiation and folliculogenesis.

Microbiology

Question 63
Burkholderia cepacia is resistant to which of the following drugs:

A>Ceftazidime
B>Trimethoprim-sulfamethoxazole
C>Temocillin
D>Cefotetan

Answer: D
Explanation: B. cepacia complex strains are intrinsically resistant to a wide range of antimicrobial agents, including aminoglycosides, polymyxin, first and second generation cephalosporins, and carboxypenicillins Antimicrobial agents that are effective against B. cepacia complex include meropenem, ceftazidime, piperacillin, temocillin, and trimethoprim-sulfamethoxazole.

Question 64
Shingles Is caused by which of the following ?

A. **Varicella-zoster**
B. **Herpes simplex**
C. **CMV**
D. **None**

Ans. A. Varicella-zoster
Explanation:

- Shingles, also called herpes zoster, is a painful skin rash.
- Shingles is caused by reactivation of the varicella zoster virus, the same virus that causes chickenpox.

Question 65
Urea breath test is used for diagnosis of:

A>H.pylori
B>Campylobacter jejuni
C>E. coli
D>Lactobacillus

Answer: A
Explanation: The urea breath test is a rapid diagnostic procedure used to identify infections by Helicobacter pylori, a spiral bacterium implicated in gastritis, gastric ulcer, and peptic ulcer disease. It is based upon the ability of H. pylori to convert urea to ammonia and carbon dioxide

Question 66
Hyperacute graft rejection occurs after how much time?

A>24 hours
B>2 weeks right
C>In minutes
D>Years

Answer: C
Explanation : Hyperacute Transplant Rejection occurs almost immediately and is often evident while you are still in surgery. It is caused by accidental ABO Blood type mismatching of the donor and recipient which almost never happens anymore..Acute onset is in a few weeks to month. Chronic onset is from months to years.

Question 67
Australian antigen for hepatitis b is?

A>Hb S ag
B>Hb E ag
C>Hb D ag
D>HbV Dna

Answer: A
Explanation: HBsAg (also known as the Australia antigen) is the surface antigen of the hepatitis B virus (HBV). It indicates current hepatitis B infection.

Question 68
Which fungus is most commonly associated with orbital cellulitis in patients with diabetic ketoacidosis.

A>Candida
B>Mucor
C>Aspergillus
D>Rhizopus

Answer: C
Explanation: Orbital cellulitis term is reserved for infections behind the orbital septum which may or may not spill over to lids. Bacterial OC is more common in children and fulminant infection (& ischemic infarction) with Mucor or Aspergillus typically affects patients with diabetes (esp ketoacidosis) and immunosuppression. Presentation is Extensive swelling of lids with chemosis often obscure proptosis (i.e. most commonly lateral & downwards). Proptosis with impaired mobility resulting in diplopia Pain is severe, increased by movement of eye or pressure Unilateral, tender, warm & red periorbital edema,painful ophthalmoplegia

Question 69
Sabin Feldman dye test is used for diagnosis of which of the following condition:

A>Botulism
B>Toxoplasmosis
C>Sarcoidosis
D>Yellow fever

Answer: B
Explanation: A Sabin–Feldman dye test is a serologic test to diagnose for toxoplasmosis

Question 70
Acute Hemorrhagic Conjunctivitis is caused by which enterovirus type ?
A>69
B>68
C>70
D>71

Answer: C
Explanation: Acute hemorrhagic conjunctivitis (AHC) is characterized by conjunctival congestion, vascular dilatation, and onset of edema .Serologic studies have been useful in showing the presence of neutralizing antibodies to Coxsackie group A24 (CA24) and enterovirus E70 (EV70) strains as the causative agent.

Question 71
Echinococcus granulosus are commonly seen in which of the given animals:

A>Dog
B>Cat
C>Fox
D>Pig

Answer: A
Explanation: Echinococcus granulosus, also called the hydatid worm, hyper tape-worm or dog tapeworm. Domestic dogs (Canis familiaris) have been recognised as the definitive host of the parasite.

Question 72
An anaerobe causing multiple abscess with discharging sinuses, demonstrating sulphur granules in pus is?

A>Actinomycetes
B>Nocardia
C>Salmonella
D>Tularemia

Answer: A
Explanation: Multiple abscess with discharging sinuses, demonstrating sulphur granules in pus are characteristics of actinomycetes

Question 73
Whole blood is used as a sample for which test?

A>Bacteria
B>IGRA
C>Genexpert
D>Virus

Answer: B
Explanation: Interferon-Gamma Release Assays (IGRAs) are whole-blood tests that can aid in diagnosing Mycobacterium tuberculosis infection.

Question 74
Which organism causes acute bacterial prostatitis ?

A>Enterococcus
B>Streptococcus viridans
C>Peptostreptococcus
D>E.coli

Answer: D
Explanation: Aerobic gram-negative bacilli are the predominant pathogens in bacterial prostatitis. E. coli cause 50%–80% of cases; other pathogens include Enterobacteriaceae (eg, Klebsiella and Proteus, which account for 10%–30% of cases), Enterococcus species (5%–10%)

Question 75
Which of the following organism releases histamine and cause scombroid fish poisoning

A>Salmonella
B>Staphylococcus
C>P. aeruginosa
D>Weissella

Answer: C
Explanation: Scombroid poisoning is one of the most common causes of morbidity associated with fish intake which have not been refrigerated properly from the time they were caught until the time they were served. Bacteria act on compounds in the fish, releasing histamine. Process is induced by enzymes produced by primarily enteric gram-negative bacteria (e.g., Morganella morganii, Escherichia coli, Klebsiella species and Pseudomonas aeruginosa) found in the fish's cutis and intestines.'.

Question 76
Who is the father of microbiology?

A>A.V.L.hook
B>Robert brown
C>J.C Bose
D>Pasteur

Answer: A
Explanation: “Antoni van Leeuwenhoek” is commonly known as "the Father of Microbiology.

Question 77
Cutaneous larva migrans caused by which organism?
A>Strongyloides
B>Toxocara canis
C>Ancylostoma braziliense
D>Necator americanus

Answer: C
Explanation: Cutaneous larva migrans(CLM)

- /It is a skin disease in humans, caused by the larvae of various nematode parasites of the hookworm family (Ancylostomatidae).
- The most common species causing this disease in the Americas is Ancylostoma braziliense.
- These parasites live in the intestines of dogs, cats and wild animals and should not be confused with other members of the hookworm family for which humans are definitive hosts, namely Ancylostoma duodenale and Necator americanus.
- Colloquially called creeping eruption due to its presentation, the disease is also somewhat ambiguously known as "ground itch" or (in some parts of the Southern USA) "sandworms", as the larvae like to live in sandy soil.
- Another vernacular name is plumber's itch.
- The medical term CLM literally means "wandering larvae in the skin"

Question 78
After kidney transplantation which organisms infection is more likely to happens

A>CMV
B>Klebsiella
C>Streptococcus
D>Staphylococcus

Answer: A
Explanation: CMV is the most common viral infection after Kidney Transplantation. Most common CMV syndrome in kidney transplant patients is fever (most common), leukopenia, hepatosplenomegaly, myalgia and arthralgia.

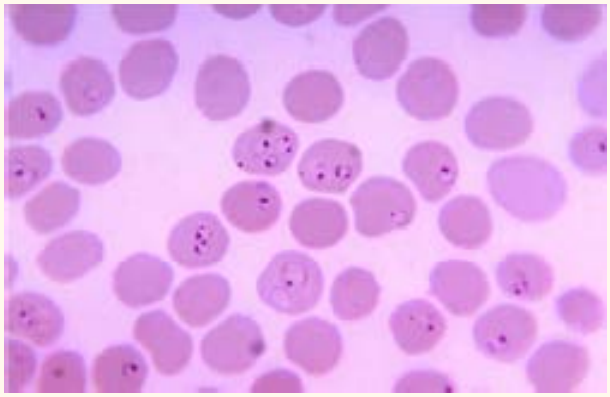
Question 79
Microbial cause of catheter infection in young females.

A>S.aureus
B>S.viridans
C>P. mallei
D>P. cepacia

Answer:
Explanation: Etiology of catheter related infection

Microorganism	Percentage
Coagulase negative staphylococci	30 - 40
Staph aureus	5 - 10
Enterococci	4 - 6
Candida spp.	3 - 6
Pseudomonas aeruginosa	2 - 5
Enterobacter spp	1 - 4
Acinetobacter spp.	1 - 2
Serratia spp.	< 1
Others	< 1 - 5

Question 80
Identify the organism related to blood smear image



A>F.malariae
B>S. Typhi
C>Treponema pallidum
D>Toxoplasma gondii.

Answer: A
Explanation: Malaria parasites can be seen in blood smears of patients affected by the disease at specific stages in the disease. The thick smears allow detection whereas the thin smears allow identification of the species. This thin smear shows multiple malaria trophozoites inside red blood cells (Early ring form
). However, trophozoites can also be seen outside red blood cells.

MEDICINE

Question. 81
Which of the following is endogenous pyrogen

A> PG E2
B> PG D2
C> PGF2 alpha
D> PG I2

Answer: Option -A
Explanation: Pyrogene
Pyrogene are substances that cause fever. Pyrogens may be exogenous or endogenous
Exogenous ⟶ Bacterial toxins
Endogenous ⟶ IL-1, TNF-a, IL-6, Interferons, Ciliary neurotrophic factor
These pyrogene increase the level of PGE, in the hypothalamus that elevates the thermoregulatory set point and causes fever.

Question. 82.
In Bartter syndrome defect is seen in:

A> Defect in PCT
B> Defect in DCT
C> Defect in thick ascending limb of loop of henle
D>None

Answer: Option C - Defect in thick ascending limb of loop of henle
Explanation:
Autosomal recessive disorder.
Genetic defect in the thick ascending limb of the loop of henle
Defects in Na-K-2C/ co-transporter, K or Cl
channels result in lack of concentrating ability

Question. 83.
Not seen in allergic pulmonary aspergillosis is -

A> High IgE level
B> Recurrent pneumonia
C>Occurrence in patients with old cavitary lesions
D>Pleural effusion

Answer: Option B- Recurrent pneumonia
Explanation:

Allergic bronchopulmonary aspergillosis is a pulmonary hypersensitivity disorder caused by allergy to fungal antigens that colonize the tracheobronchial tree.
It most commonly occurs in atopic asthmatic individuals in response to antigen of aspergillus species.
Main diagnostic criteria

- Clinical history of Asthma Q
- Pulmonary infiltrates (transient /fleeting or fixed)Q
- Peripheral eosinophilia (> 1000 /,uL)Q
- Immediate skin reactivity to Aspergillus antigen (wheal and flare response)
- Serum precipitins to A. fumigatus
- Elevated serum IgE levels(>100Ong/ml)
- Central /proximal bronchiectasis

Secondary diagnostic criteria

- History of brownish plugs in sputum
- Identification / culture of A., fumigatus from sputum
- Late skin reactivity to aspergillus antigen - CMDT
- Elevated IgE (and IgG) class antibodies specific for A. fumigatus - Harrisons

Note

Elevated IgE (and IgG) class antibodies specific for A. fumigatus has been mentioned as a secondary diagnostic criteria in Harrison's textbook while Fishman's textbook includes this as a main/major diagnostic criteria.

Question. 84 Pseudo P Pulmonale
A> Hypokalemia
B> Hyponatremia
C> Hypocalcemia
D> Hypercalcemia

Answer: Option -A
Explanation: In some cases there can be a notched (or bifid) p-wave known as “p mitrale”, indicative of left atrial hypertrophy which may be caused by mitral stenosis. There may be tall peaked p-waves. This is called “p-pulmonale” and is indicative of right atrial hypertrophy often secondary to tricuspid stenosis or pulmonary hypertension.
A similar picture can be seen in hypokalemia (known as “pseudo p-pulmonale”).

Question. 85
Automatic Implantable Cardioverter Defibrillator, (AICD) implantation is done for which of following conditions:

A> Brugada syndrome
B> Ventricular fibrillation
C> Acute coronary syndrome with low EF
D> ALL

Answer: Option D all of the above
Explanation:
An Automatic Implantable Cardioverter Defibrillator, (AICD), is a small electronic device that is implanted into your chest to monitor and correct an abnormal heart rhythm, or arrhythmia. These devices are used to treat serious and life-threatening arrhythmias and are the most effective way of doing so.
Brugada Syndrome is a condition that causes a disruption of the heart's normal rhythm.
Ventricular fibrillation is a heart rhythm problem that occurs when the heart beats with rapid, erratic electrical impulse.
Acute coronary syndrome is a term used to describe a range of conditions associated with sudden, reduced blood flow to the heart.

Question . 86
What is the line of treatment for intractable Sydenham chorea?

A> Haloperidol
B> Valproate
C> Warfarin
D> Risperidone

Answer: Option B - Valproate
Explanation:

- Sydenham's chorea (SC) / Chorea minor / Rheumatic chorea (RC) / St. Vitus' s Dance
    - Major diagnostic criteria for rheumatic disease
    - Most common acquired chorea during childhood
    - Characterized by rapid, uncoordinated jerking movements primarily affecting the face, hands and feet
- Benzodiazepines facilitate the action of GABA and valproate enhances the action on GABA, hence these agents are used to treat chorea

Question. 87
Neurofibromatosis 1 criteria except

A> Brain tumor
B>Acoustic neuromas.
C> Pseudoarthrosis

D> Café-au-lait spots

Answer: Option B - Acoustic neuromas
Explanation:

- Clinical diagnosis requires presence of at least 2 of 7 criteria to confirm presence of neurofibromatosis, type 1.
- Despite suspicion, most signs do not appear until late childhood / adolescent
- The 7 clinical criteria used to diagnose NF1 are as follows:
  - Six or more café-au-lait spots / hyperpigmented macules greater than or equal to 5 mm in diameter in prepubertal children & 15 mm postpubertal
  - Axillary or inguinal freckles (>2)
  - Two or more typical neurofibromas or one plexiform neurofibroma
  - Optic nerve glioma
  - Two or more iris hamartomas (Lisch nodules) (often identified only through slit-lamp examination)
  - Sphenoid dysplasia or typical long-bone abnormalities such as pseudarthrosis
  - Strong family history (1st degree relative with NF1)

Question. 88
Most common site of chronic gastric ulcer

A> Pyloric antrum
B> Upper part of lesser curvature
C> Lower part of lesser curvature
D> Segment of large intestine

Answer: Option A - Pyloric antrum
Explanation:

- A major causative factor (60% of gastric up to 50–75% of duodenal ulcers) is chronic inflammation due to Helicobacter pylori that colonizes the antral mucosa.

Question. 89
Approximate time interval between HIV infection & manifestation of AIDS is?

A> 7.5 yr
B> 10 yr
C> 12 yr
D> 11 yr

Answer: Option B - 10 years
Explanation: The approximate time frame required for incubation is usually 10 years.

Question. 90
Heller's myotomy is done for

A> Zenker's diverticulum
B> Achalasia cardia

C> Bunions
D> Knee arthroscopy

Answer: Option B - Achalasia cardia
Explanation:

- Achalasia, a disorder of esophagus characterized by progressive inability to swallow solids & liquids.
- Causes include weakened esophageal muscles & issues with lower esophageal sphincter relaxation
- Heller Myotomy, surgical procedure offers long term symptomatic relief to these patients.
- It involves weakening of muscles at gastroesophageal junction, allowing the valve between oesophagus & stomach to remain open.

Question. 91
Myocardial stunning pattern not matching the ECG. What is the diagnosis?
A> Takotsubo cardiomyopathy
B> Restrictive cardiomyopathy
C> Brigade's cardiomyopathy
D> Pericardial something

Answer: Option A -Takotsubo cardiomyopathy
Explanation:

- “Myocardial Stunning” is a state where certain segments of myocardium (corresponding to area of major coronary occlusion) show forms of contractile abnormality.
- A segmental dysfunction persisting for a variable period of time, about two weeks, even after ischemia has been relieved (by for instance angioplasty or coronary artery bypass surgery).
- Takotsubo cardiomyopathy / Takotsubo syndrome, a temporary condition where your heart muscle becomes suddenly weakened or 'stunned'.

Question.92
Alternative drug for cardiac arrest in place of epinephrine is?

A> Amiodarone infusion
B> Atropine
C> High dose vasopressin
D> Adenosine

Answer: Option C - High dose vasopressin
Explanation:

- Vasopressin is an alternative vasopressor at high doses, causes vasoconstriction by directly stimulating smooth muscle V1 receptors.

- American Heart Association (AHA) guidelines state “Vasopressin is a reasonable first-line vasopressor in patients with ventricular fibrillation or pulseless ventricular tachycardia. Additionally, the guidelines comment that one dose of vasopressin 40 U may replace the first or second dose of epinephrine in all pulseless sudden cardiac arrest scenarios, including asystole and pulseless electrical activity.

Question. 93
Patient presenting with cutaneous vasculitis, glomerulonephritis, peripheral neuropathy, Which investigation is to be performed next that will help you diagnose the condition?

A> ANCA
B> RA factor
C> Hbsag
D> MIF

Answer: Option A - ANCA
Explanation:
Anti-neutrophil cytoplasmic antibodies (ANCAs):

- Group of autoantibodies
- IgG type mainly,
- Produced against antigens in cytoplasm of neutrophil granulocytes & monocytes.
- Particularly associated with systemic vasculitis, so called “ANCA-associated vasculitis”.

Question. 94 Cryoglobulinemia
A> Hepatitis c
B> Ovarian cancer
C> Diabetes
D> Leukemia

Answer: Option A - Hepatitis C
Explanation:

- Cryoglobulinemia / Cryoglobulinemic disease with large amounts of cryoglobulins in blood
- Cryoglobulins are proteins (mostly immunoglobulins themselves)
- Become insoluble at reduced temperatures.
- Mixtures of monoclonal or polyclonal IgM, IgG, and/or IgA & blood complement proteins like C4 are associated with cases of infectious diseases, particularly Hepatitis C infection,

Question.95
Causes of hypokalemic metabolic alkalosis with hypertension

A> Liddle syndrome
B> Bartter syndrome
C> Gitelman syndrome
D> Renal tubular acidosis

Answer: Option A - Liddle syndrome
Explanation:

- Liddle syndrome - Rare hereditary disorder
- Increased activity of the epithelial sodium channel (E-Na Ch)
- Activating kidneys to excrete potassium retaining excessive sodium & water, leading to hypertension.

Question. 96
Gold criteria for very severe COPD

A> Fev1/Fvc <70 and Fev1 < 30
B> Fev1/Fvc <70 and Fev1 < 70
C> Fev1/Fvc <70 and Fev1 < 50
D> Both A and C

Answer: Option A - Fev1/Fvc <70 and Fev1 < 30
Explanation:

- COPD should be considered in any patient who has dyspnea, chronic cough or sputum production, and/or a history of exposure to risk factors for the disease.
- Spirometry is required to make the diagnosis.
- Presence of post-bronchodilator FEV1/FVC < 0.70 confirms the presence of persistent airflow limitation.
- Stage IV / Very Severe COPD
  - Severe airflow limitation (FEV1/FVC < 70%; FEV1 <. 30% predicted) or FEV1 < 50% predicted plus chronic respiratory failure.
  - Patients may have Very Severe (Stage IV)COPD even if FEV1 is > 30% predicted.

Question. 97
ABPI increases artificially in

A> Arteriosclerosis calcified arteries
B>Ischemic ulcers
C> Intermittent claudication
D> DVT

Answer: Option A - Arteriosclerosis calcified arteries
Explanation:

- The ankle-brachial pressure index (ABPI) / Ankle-Brachial index (ABI):
  - Ratio of blood pressure at ankle to blood pressure in upper arm (brachium).
- Compared to arm, lower blood pressure in leg suggests blocked arteries due to peripheral artery disease (PAD).
- Ankle brachial pressure index (ABPI) is a method for the quantification of peripheral vascular disease that results from advanced atherosclerosis.

Question. 98
Minimal dysfunction syndrome seen in

A> Dyslexia
B> ADHD
C> Mental subnormality
D> Down's syndrome

Answer: Option A - Dyslexia
Explanation: Clinical features of Minimal dysfunction syndrome include dyslexia.

- Minimal brain dysfunction:
  - Neurodevelopmental disorder.
  - Characterized by evidences of immaturity involving control of activity, emotions, & behavior
  - Specific learning disabilities involving the communicating skills needed in reading, writing, and mathematics.
  - Inability to maintain attention & concentration
  - Inability to skillfully blend the auditory & visual functions essential in language performance

Pharmacology

Question.99
Site of action of amphotericin B is:

A> Ribosomes
B> Cell wall
C> Plasma membrane
D> Protein

Answer: Option - B - Cell wall
Explanation: Polyene drug compounds like Amphotericin B acts on cell membrane

- Amphotericin B, antifungal agent.
- Chemically a polyene compound
- Obtained from Streptomyces nodosus.
- Polyenes have a high affinity for "ergosterol" present in the fungal cell membrane.
- Binds and gets inserted into the cell membrane forming "Micropore".
- Marked increase in permeability of cell membrane.

Question. 100
Which antiretroviral drug also has anti hepatitis activity?

A> Abacavir
B> Tenofovir
C> Nevirapine
D> Emtricitabine

Answer: Option D - Emtricitabine
Explanation: Emtricitabine, NRTI drug with both antiretroviral & anti-hepatitis properties

- Nucleoside reverse transcriptase inhibitor for the prevention and treatment of HIV infection in adults and children.
- Also used in combination with tenofovir

Question. 101
Drug of choice for resistant rheumatic chorea?

A> Valproate
B> Haloperidol
C> Diazepam
D> Probenecid

Answer: Option - A - Valproate Explanation:

- Valproate, Sulpiride, & diazepam are used for symptomatic treatment.
- Acute Rheumatic Fever:
  - Abnormal immune response to group A streptococcal infection
  - Commonly affecting the joints, heart, brain, and skin.
  - Symptoms: Arthritis, related to carditis chorea.
- Sydenham's chorea / Chorea minor
  - Characterized by rapid, uncoordinated jerking movements primarily affecting the face, hands and feet.
  - Signs & symptoms of chorea usually do not respond well to treatment with antirheumatic agents
  - Symptomatic treatment include anticonvulsants (eg, valproate, carbamazepine) and neuroleptics (eg, pimozide, haloperidol, risperidone, olanzapine

Question. 102 At pKa=pH
A> Conc. of drug is 50% ionic and 50 % non-ionic
B> Absorption of drug is 50% ionic and 50% ionic
C> Conc of drug is 75% ionic and 25 % non-ionic
D> Conc of drug is 25% ionic and 75 % non-ionic

Answer: Option A - Concentration of drug is 50% ionic & 50 % Non-ionic
Explanation:
Numerically equal pKa & pH represents 50% drug ionization

- pKa is the negative logarithm of acidic dissociation of weak electrolyte.
- On equal concentrations of ionized & unionized drugs, log 1 is zero.
- Thus, when pKa is numerically equal to pH

- (pKa=pH) ----------> 50 % drug is ionized.

Question. 103
Physiological dose of hydrocortisone (mg/kg/day) is

A> 5 mg/kg/day
B> 10 mg/kg/day
C> 15 mg/kg/day
D> 20 mg/kg/day

Answer: Option - B - 10 mg/kg/day
Explanation:

- The normal rate of secretion of two principle corticoids
  - Hydrocortisone - 10 mg/kg/day (nearly half in morning hours)
  - Aldosterone - 0.125 mg/daily

Question-104
What is the mechanism of action of colchicine in acute gout?

A> Inhibition of purine metabolism
B> Inhibition of uric acid conversion
C> Migration of leukocytes
D> Leukocytes, lymphocytes inhibition & microtubular inhibitor.

Answer: Option D - Leukocytes, Lymphocytes migration inhibition & microtubular inhibitor.
Explanation:
Colchicine acts by inhibiting the granulocyte migration into the inflamed joint.

- An alkaloid from Colchium autumnale
- Specifically suppresses gouty inflammation.
- Doesn't inhibit the synthesis or promote the excretion of uric acid.

Mechanism of action:

- Colchicine acts by,
  - inhibits the release of glycoprotein
  - Binds to fibrillar protein tubules inhibiting granulocyte migration into the inflamed joint.
- An acute attack of gout starts by precipitation of urate crystals in synovial fluid.
- Inflammatory response starts with granulocyte migration into joint
- Phagocytosing urate crystals releasing glycoprotein
- Glycoprotein increases lactic acid production and releasing lysosomal enzymes causing more joint destruction.

Question. 105 Basiliximab is an
A> IL-1 receptor antagonist
B> Anti-CD3 antibody
C> IL-2 receptor antagonist
D> TNF inhibitor

Answer: Option - C - IL-2 receptor antagonist
Explanation:
Basiliximab exhibits high affinity towards IL-2 receptors, inhibiting it.

- Anti- CD-25 antibody
- High affinity for IL-2 receptor
- Short plasma half life - 1 week
- Useful in preventing transplant rejection reactions.
- Adverse effects - Anaphylactic reactions & opportunistic infections.

Question.106 Pirenzepine is used
A> Gastric ulcer
B> Glaucoma
C> Hypertension
D> Congestive cardiac failure

Answer: Option A - Gastric Ulcer
Explanation:
Pirenzepine, a selective M1 anticholinergic drug inhibiting gastric acid secretion.

- Low therapeutic dose range.
- Used for treating gastric ulcers.

Question. 107
Which of the following antipsychotic have increased prolactin secretion

A> Olanzapine
B> Ziprasidone
C> Clozapine
D> Risperidone

Answer: Option - D - Risperidone
Explanation:
Significant rise in prolactin levels during risperidone therapy is observed.

- Risperidone - Antipsychotic drug with combined 5-HT 2a and dopamine D2 antagonist activity
- High affinity to alpha1, alpha 2 and H1 receptors
- More potent D2 blocker than clozapine
- Ameliorates symptoms of schizophrenia
- Prolactin levels rise during risperidone therapy, but are less epileptogenic than clozapine.
- Produced extrapyramidal side effects are less only at lower doses (<6 mg/day).
- Blockades of these contribute to efficacy and side effects like postural hypotension.
- Frequently causes agitation.

Question. 108
Which of the following is glucocorticoid synthesis inhibitor?
A> Mifepristone
B> Flutamide
C> Finasteride
D> Metyrapone

Answer: Option D - Metyrapone
Explanation:

- Inhibits 1113- Hydroxylase in adrenal cortex
- Prevents the synthesis of hydrocortisone

Question. 109
Which of the following statements is incorrect w.r.t Prasugrel?

A> Not a prodrug
B> P2Y purinergic receptor blocker
C> Has a strong antiplatelet activity
D> Causes intracranial hemorrhage in TIA patients.

Answer: Option A - Not a prodrug
Explanation:

- Prasugrel is a prodrug , similar to Clopidogrel
- Thienopyridine drug class
- Irreversible antagonist of $P2Y_{12}$ ADP receptors
- Rapidly absorbed, completely activated & exerts more consistent platelet inhibition.
- Strong anti-platelet activity
- Bleeding complications are more serious and frequent.
- Contraindicated in patients with history of ischemic strokes and TIA's

Question. 110
Q-T elongation is seen in which drug?

A> Quinidine
B>Amiodarone
C>Magnesium Sulfate
D>Lignocaine

Answer: Option A - Quinidine
Explanation:

- Specific pattern of Q-T prolongation is referred to as “Torsades de pointes”
- Drugs causing Torsades de Pointes
  - Quinidine (most common)
  - Sotalol
  - Procainamide
  - Disopyramide
  - Phenothiazines
  - Tricyclic antidepressants

Question. 111 Sacubitril is,
A> ACE inhibitor
B> Neutral endopeptidase inhibitor
C> Calcium channel inhibitor
D> Beta adrenergic blocker

Answer: Option B - Neuro-endopeptidase inhibitor
Explanation:

- Sacubitril,a prodrug inhibiting neuro-endopeptidase enzyme
- Activated to Sacubitril,
- Inhibiting enzyme neprilysin (Neutral endopeptidases)
- Combination drug used in heart failure patients
- Usually combined with ACE inhibitors like valsartan in ratio of 1:1

Question. 112
Niacin therapy is contraindicated in diabetes because

A> Increases the blood sugar levels
B> Causes scleroderma
C> Difficult to give injection
D> Increases the metabolism of oral hypoglycemic drugs

Answer: Option A - increases the blood sugar levels
Explanation:

- Niacin therapy has potential effects on blood sugar levels.
- Increases the blood glucose levels in diabetes patients

Question. 113
Endothelin acts through which receptors?

A> cAMP
B> cGMP

C> Na+ receptors
D> Calcium receptos

Answer: Option A - cGMP Explanation:
Endothelin-1 (ET-1) is a potent endogenous vasoconstrictor, mainly secreted by endothelial cells.

Question. 114
Which is the centrally acting alpha 2 agonist muscle relaxant

A> Diazepam
B> Bromocriptine
C> Tizanidine
D> Methocarbamol

Answer: Option -C- Tizanidine Explanation:

- Central alpha 2 adrenergic agonist
- Mechanism of action:
  - Inhibits the release of excitatory amino acids in spinal interneurons
  - Facilitates the inhibitory transmitter glycine
  - Inhibits postsynaptic reflexes
  - Reducing muscle tone, frequency of muscle spasms.without reducing the strength of muscle.
- Indications:
  - Spasticity in neurological disorders
  - Painful muscle spasm of spinal origin.
- Contraindications:
  - Patients on antihypertensives specially clonidine.

Question.115 Apixaban is
A> Antithrombin inhibitor
B> Direct X2 inhibitor
C> Platelet activator
D> Clotting Factor XII

Answer: Option B - Direct X2 inhibitor
Explanation:

- Direct X2 inhibitor
- Anticoagulant for treatment & prophylaxis of venous thromboembolic events
  - DVT & PE

Question.116
Anaerobes are resistant intrinsically against

A> Beta lactam antibiotics
B> Aminoglycosides
C> Azithromycin
D> Metronidazole

Answer: Option B - Aminoglycosides
Explanation:

- Anaerobic bacteria particularly are resistant to aminoglycosides due to lack of oxidative mechanism to drive drug uptaking process.
- Intrinsic resistance / Insensitivity:
  - Innate ability of bacteria to resist activity of particular antimicrobial agent
  - Inherent structural or functional characteristics allows for tolerance of a particular drug or antimicrobial class. i.e., Susceptibility to that particular drug is reduced.

Question. 117
Which is not bacteriostatic antibiotic

A> Clindamycin
B> Vancomycin
C> Tetracycline
D> Cephalosporins

Answer: Option B- Vancomycin Explanation:

- Bacteriostatic antibiotics
  - Limit bacterial growth by interfering with bacterial protein production, DNA replication, or other aspects of bacterial cellular metabolism.
  - Tetracyclines, sulfonamides, clindamycin, spectinomycin,trimethoprim, chloramphenicol, macrolides and lincosamides.
- Bactericidal antibiotics
  - Inhibit cell wall synthesis (Irreversible killing)
  - Aminoglycosides. cephalosporins. fluoroquinolones. metronidazole. penicillin. vancomycin

Question. 118
Which of the following causes melanosis coli?

A> Senna
B> Sorbitol
C>Magnesium Sulphate
D> Bisacodyl

Answer: Option A - Senna
Explanation:
Laxative abuse with drugs like senna cause melanosis coli

- Anthranoid laxatives (aloe, cascara sagrada, and senna) are derived from naturally occurring plants
- Considered to be stimulant laxatives.
- Safer short term use.
- Long term abuse can cause melanosis coli & possibly increases risk of colonic cancer.

Question. 119
Which among the following will the choice of antibiotic for a bedridden patient with catheter-related UTI and pneumonia.

A> Amoxicillin
B> Beta Lactam antibiotics with beta lactamase
C> 3rd gen cephalosporins
D> 2nd gen cephalosporins

Answer: Option B - Beta Lactam Antibiotics Explanation:

- Contains beta lactamase enzyme for potent action against organisms causing UTI

Question. 120 Mycoplasma is resistant to
A> Ceftriaxone
B> Cephalosporins
C> Aminoglycosides
D> Fluoroquinolones

Answer: Option A - Ceftriaxone Explanation:

- Mycoplasma shows resistance towards Ceftriaxone, a third generation cephalosporin (beta lactam antibiotic)
- Lack of cell wall in mycoplasmas makes them intrinsically resistant to β-lactams& to all antimicrobials that target cell wall.

Mycoplasma pneumoniae:

- Mycoplasma pneumoniae is a pathogenic mycoplasma responsible for respiratory tract infections in humans.
- First -line treatment: macrolides & related antibiotics, tetracyclines and fluoroquinolones is preferred.

Question. 121
Tadalafil should not be given with:
A> Vasodilator
B> Antibiotics
C>Vasoconstrictors
D> Valproate

Answer: Option A - Vasodilators
Explanation: Combination with vasodilators results in sudden changes of blood pressure values

- Tadalafil relaxes muscles of the blood vessels and increases blood flow to particular areas of the body.
- Used to treat erectile dysfunction (Impotence), and symptoms of benign prostatic hypertrophy (Enlarged prostate)
- Eg: Taking tadalafil with a vasodilator drug like nitrate can cause sudden & serious decrease in blood pressure.

FM

Question 122
Estimate volume of ringer lactate in the first 8 hrs for 40% burns in 50 kg male with 2° burns?

A>8 lt
B>4 lt
C>2 lt
D>6 lt

Answer: B
Explanation: Parkland formula most commonly used IV fluid - Lactated Ringer's Solution

- Fluid calculation
  - 4 x weight in kg x %TBSA burn
    - Give 1/2 of that volume in the first 8 hours
    - Give other 1/2 in next 16 hours
    - Warning: Despite the formula suggesting cutting the fluid rate in half at 8 hours, the fluid rate should be gradually reduced throughout the resuscitation to maintain the targeted urine output, i.e., do not follow the second part of the formula that says to reduce the rate at 8 hours, adjust the rate based on the urine output.
- Example of fluid calculation
  - 50-kg man with 40% TBSA burn
  - Parkland formula:
    - 4 x 50 x 40 = 8,000 ml
    - Give 1/2 in first 8 hours = 4,000 ml in first 8 hours
  - Adjust fluid rate to maintain urine output of 50 ml/hr

Question 123Posthumous child is:

A>Child delivered after death of biological mother
B>Child delivered after death of biological father
C>Born after death of parents
D>has been abandoned by parents

Answer: B
Explanation: A child born after death of his/ her biological father

Question 124
M'naghten rule comes under which section of IPC?

A>Crpc 84
B>C pc 48
C>Ipc 84
D>IPC 48

Answer: C
Explanation: M'naghten rule (legal test or right or wrong test) :

- It states that an accused person is not legally responsible, if it is clearly proved that at the time of committing the crime, person was suffering from such a defect of reason from abnormality of mind that he didn't know the nature and quality of act he was doing or that what he was doing was wrong i.e. a person is not responsible if he is not of sound mind.
- It is accepted in india as law of criminal responsibility and is embodied in section 84 1PC as - "nothing is an offence which is done by a person, who at the time of doing it, by reason of unsoundness of mind is incapable of knowing the nature of act, or that he is doing what is either wrong or contrary to law".

Question 125
Bluish discoloration of gastric mucosa seen in which poisoning?

A>Mercury
B>Cadmium
C>Amytal sodium
D>Arsenic

Answer: C
Explanation:

S. No.	Poison	Color
1.	Copper sulfate, amytal capsule	Blue

2.	Ferrous sulfate	Green
3.	Sulphuric hydrochloric/acetic acid	Black/charred
4.	Nitric acid	Yellow
5.	Carbolic acid	Buff/white
6.	Arsenic	White particles
7.	Mercury	Slate
8.	Cresols	Brown

Question 126
Muscle pain, nephropathy caused by which metal poisoning
A>Arsenic
B>Cadmium
C>Mercury
D>Lead

Answer: A
Explanation:
Nephropathy is caused by most heavy metals.Muscle pain is associated with arsenic.

Question 127
Which is the first organ to putrefy :

A>Brian
B>Heart
C>Prostate
D>Kidney

Answer: A
Explanation: The order of putrefaction is - earliest to last → larynx, trachea → Stomach, intestine → liver, spleen → Brain, Lungs →Heart, Kidney →Bladder, Uterus/Prostate → Skin, muscles, tendon → lastly, bones.)

Question 128
Locard is famous for:

A>Theory of exchange
B>Fingerprint study
C>Formula for estimation of stature
D>System of personal identification using the body measurement

Answer: A
Explanation: Edmund Locard is famous for theory of exchange.

Question 129
When does basioccipu t fuses with basisphenoid?

A>18 to 22
B>22 to 25
C>14-16
D>12-14

Answer: A
Explanation: The basioccipital fuses with the basisphenoid at about 18 to 21 years.

Question 130
What is the smell of a mummified body?

A>Odorless
B>Putrid
C>Pungent
D>Offensive

Answer: A
Explanation: A mummy will smell odorless, this is because the internal organs are removed (which are the biggest factors in the decay process) and replaced with natron (which dries them out, preventing 'proper' decay). The rest of the body is also dried using natron.

Question 131
Patient presented with proximal tubule proteinuria. Which metal is likely to be associated with it?

A>Cadmium
B>Mercury
C>Gold
D>Lead

Answer: A
Explanation: Early kidney damage and proteinuria seen in people, occupationally or environmentally exposed to cadmium.

Question 132

Which of the following constitutional article is not related to children:

A>23

B>21-A

C>42

D>24

Answer: C

Explanation:

Constitutional Guarantees that are meant specifically for children include:

- Right to free and compulsory elementary education for all children in the 6-14 year age group (Article 21 A)
- Right to be protected from any hazardous employment till the age of 14 years (Article 24)
- Right to be protected from being abused and forced by economic necessity to enter occupations unsuited to their age or strength (Article 39(e))
- Right to equal opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and guaranteed protection of childhood and youth against exploitation and against moral and material abandonment (Article 39 (f))
- Right to early childhood care and education to all children until they complete the age of six years (Article 45)

Besides, Children also have rights as equal citizens of India, just as any other adult male or female:

- Right to equality (Article 14)
- Right against discrimination (Article 15)
- Right to personal liberty and due process of law (Article 21)
- Right to being protected from being trafficked and forced into bonded labour (Article 23)
- Right of minorities for protection of their interests (Article 29)
- Right of weaker sections of the people to be protected from social injustice and all forms of exploitation (Article 46)
- Right to nutrition and standard of living and improved public health (Article 47)

Question 133
Which of the statement regarding Factory act is correct

A>Child age less than 14 carrying serious work earn more money
B>Less than 14 yr not done for factory act
C>More than 72 hour work per week
D>More than 82 hours a week

Answer: A
Explanation: The Factory Act prohibits the employment of children below 14 years and declares 15 to 18 years as belonging to the adolescent group. Adolescents require a fitness certificate prior to employment in a job.
The Act also prescribed a maximum of 48 hours per week, not exceeding 9 Hours per day with at least half hour rest after 5 hours continuous work.

Question 134
Incidence of a disease is 4 per 1000 of the population with a duration of 2 years. Calculate the prevalence?

A>8/1000
B>4/1000
C>2/1000
D>6/1000

Ans. A. 8/1000
Explanation:
Prevalence = (Incidence Rate) x (Average Duration of Disease)

Question 135
Cytotoxic and expired drug disposal is done by which method?

A. **Dumping**
B. **Autoclave**
C. **Landfill**
D. **Burning**

Ans.C. Landfill
Explanation:

COLOR	WASTE	TREATMENT
Yellow	Human & Animal anatomical waste / Micro-biology waste and soiled cotton/dressings/linen/beddings etc.	Incineration / Deep burial
Red	Tubings, Catheters, IV sets.	Autoclaving / Microwaving / Chemical treatment
Blue / White	Waste sharps (Needles, Syringes, Scalpels, blades etc.)	Autoclaving / Microwaving / Chemical treatment & Destruction / Shredding
Black	Discarded medicines/cytotoxic drugs, Incineration ash, Chemical waste.	Disposal in secured landfill

Question 136
For NRR to be 1 couple protection rate should be?

A. 50%
B. 60%
C. 55%
D. 75%

Ans. B. 60%
Explanation:
Couple Protection Rate (CPR)

- It is an indicator of the prevalence of contraceptive practice in the community
- Definition: the percentage of eligible couples effectively protected against childbirth by one or the other approved methods of family planning
    - Sterilization
    - IUD
    - Condom
    - OCP's
- NRR = 1 can be achieved only if the CPR > 60%

Question 137
New RNTCP software online to monitor TB control programme is-

A. NIKSHAY
B. NICHAY
C. E- DOTS
D. NIRBHAI

Ans. A.NIKSHAY
Explanation

- To keep a track of the TB patients across the country, the Government of India has introduced a system called NIKSHAY.
- The word is a combination of two Hindi words NI and KSHAY meaning eradication of tuberculosis.
- NIKSHAY (www.nikshay.gov.in) is a web enabled application, which facilitates monitoring of universal access to TB patients data by all concerned.
- The system has been developed jointly by the Central TB Division of the Ministry of Health and Family Welfare and National Informatics Centre (NIC) and it was launched by the Government of India in June 2012 with issue of required administrative directions from Central TB Division for use of NIKSHAY

Question 138
Study unit of ecological study is

A. **Population**
B. **Patient**
C. **Community**
D. **Case**

Ans. A.Population

Explanation:

- In ecological studies the unit of observation is the population or community.
- Disease rates and exposures are measured in each of a series of populations and their relation is examined.
- Often the information about disease and exposure is abstracted from published statistics and therefore does not require expensive or time

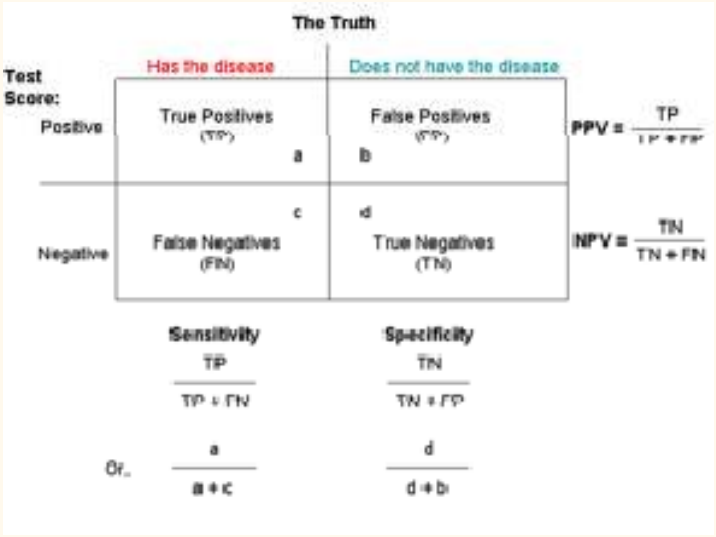
Question 139

In a screening test for DM out of 1000 population 90 Were positive.Then gold standard test was done in which 100 were positive. Calculate the sensitivity?

A. 90/100
B. 100/110
C. 80/100
D. 100/100

Ans. A. 90/100

Explanation:



So, True positive (a)= 90 False negative(c)=10 Sensitivity = a/(a+c)=90/100

Question 140

What is the mass chemoprophylaxis for meningococcal meningitis ?

A. Rifampicin
B. Chloramphenicol
C. Tetracycline

D. Penicillin

Ans. A.Rifampicin
Explanation:
Recommended Chemoprophylaxis for High-Risk Close Contacts:

Age	Dose	Duration	Cautions
RIFAMPICIN:			
<1 month	5 mg/kg	Oral every 12 hrs 2 days	
>1 month	10 mg/kg	Oral every 12 hrs 2 day	Not recommended for use in pregnancy
CEFTRIAXONE:			
<15 years	125mg	IM single dose	
>15 years	250 mg	IM single dose	
CIPROFLOXACIN			
>18 years	500 mg	Oral single dose	Not recommended for use in pregnancy

Question 141
Which among the following is an active form of chlorination?

A. Hypochlorite ion
B. Hydrogen chloride
C. Hypochlorous acid
D. Chloride ion

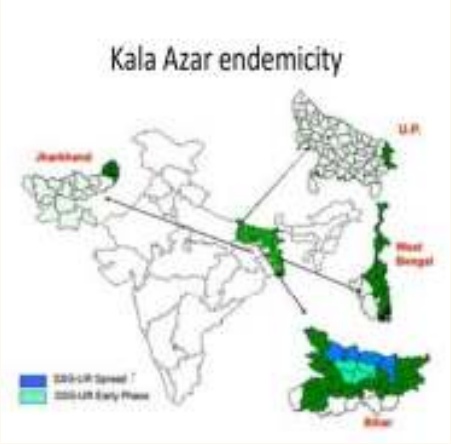
Ans. C. Hypochlorous acid
Explanation:

- The disinfecting action of chlorine is predominantly due to hypochlorous acid.
- Hypochlorous acid is most effective form of chlorine and it is almost 70-80 times more effective than hypochlorite ions.

Question 142
Kala-Azar is found in all endemic areas except.

A. West Bengal
B. UP
C. Bihar
D. Assam

Ans. D. Assam
Explanation:
UP , West Bengal Bihar And Jharkhand are the endemic states of kala Azar



Question 143
Risk among exposed by risk among non exposed is defined to be –

A. **Relative risk**
B. **Odds ratio**
C. **Attributable risk**
D. **None of the above**

Ans.A. Relative risk
Explanation:
. $$RR = \frac{p_{\text{event when exposed}}}{p_{\text{event when not exposed}}}$$
In statistic and epidemiology , relative risk or risk ratio (RR) is the ratio of the probability of an event occurring (for example, developing a disease, being injured) in an exposed group to the probability of the event occurring in a comparison, non-exposed group.

Question 144 Pasteurization is done at-

A. **73 ^{o}C For 20 min**
B. **63 ^{o}C For 30 min**
C. **72 ^{o}C For 30 seconds**
D. **63^{o}C For 30 seconds**

Ans.B. 63 ^{o}C For 30 min
Explanation:

- Pasteurization of milk, widely practiced in several countries, notably the United States, requires temperatures of about 63° C (145° F) maintained for 30 minutes or, alternatively, heating to a higher temperature, 72° C (162° F), and holding for 15 seconds (and yet higher temperatures for shorter periods of time).

Question 145

Ideal time gap between 2 live vaccination -

- **A. 2 weeks**
- **B. 4 weeks**
- **C. 8 weeks**
- **D. 12 weeks**

Ans.B.4 weeks

Explanation:

If live parenteral (injected) vaccines (MMR, MMRV, varicella, zoster, and yellow fever) and live intranasal influenza vaccine (LAIV) are not administered at the same visit, they should be separated by at least 4 weeks.

Question 146

Susceptible person developed disease within range of IP after coming in contact with primary case -

- **A. Secondary attack rate**
- **B. Case fatality rate**
- **C. Primary attack rate**
- **D. Tertiary attack rate**

Ans. A. Secondary attack rate

Explanation:

Secondary Attack Rate (SAR) Number of exposed persons developing the disease within the range of the incubation period, following exposure to primary case.

Question 147

Out of 100 women who were offered ocp for contraception 10 women got pregnant when followed for 24 months. What is Pearl's index?

- **A. 10**
- **B. 5**
- **C. 4**
- **D. 2**

Ans. B. 5

Explanation:

$$\text{Pearl-Index} = \frac{\text{Number of Pregnancies} \cdot 12}{\text{Number of Women} \cdot \text{Number of Months}} \cdot 100$$

Pearl Index=10x12x100/100x24= 5

Question 148

Which of the following do not cause hardness of water ?

A. Calcium carbonate
B. Calcium sulphate
C. Calcium bicarbonate
D. Magnesium bicarbonate

Ans. A.Calcium carbonate
Explanation:

- Temporary hardness is a type of water hardness caused by the presence of dissolved bicarbonate minerals (calcium bicarbonate and magnesium bicarbonate).
- Permanent hardness is caused by dissolved calcium sulfate (which is not removed by boiling).

Question 149
Which of the following is not an example of direct transmission in communicable diseases ?

A. Transplacental (vertical)
B. Soil
C. Respiratory
D. STD

Ans. C. Respiratory
The modes of transmission of infectious diseases can be classified as:

- Direct Transmission. Direct contact; Droplet infection; Contact with soil; Inoculation into skin or mucosa; Transplacental (vertical)transmission.
- Indirect Transmission. Vehicle-borne; Water; food/milk; Vector-borne. Mechanical; Biological. Airborne.

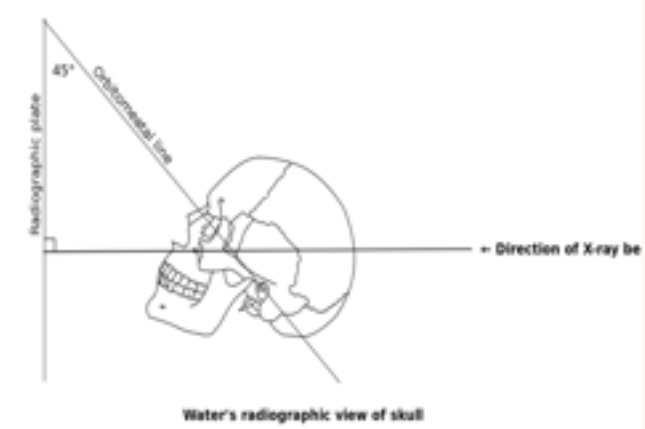
ENT

Question 150
Water's view is used to obtain diagnostic information of:

A> Maxillary sinus
B> Ethmoidal sinuses
C> Frontal sinus
D> Sphenoid sinus

ANSWER: A
Explanation:

- Waters' view (also known as the Occipitomental view) is a radiographic view, where an X-ray beam is angled at 45° to the orbitomeatal line.



Water's radiographic view of skull

- The rays pass from behind the head and are perpendicular to the radiographic plate.
- It is commonly used to get a better view of the maxillary sinuses.

Question 151 Tracheostomy indication is:
A> Vocal cord replacement
B> Pharynx replacement
C>Tracheomalacia
D> Foreign body obstructing airway

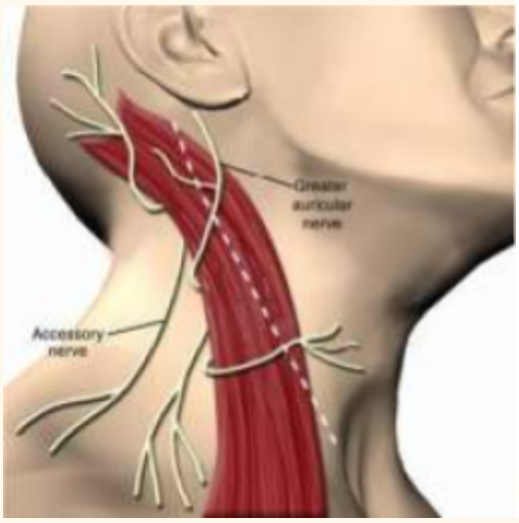
Answer- D Explanation:
Indications of tracheostomy:

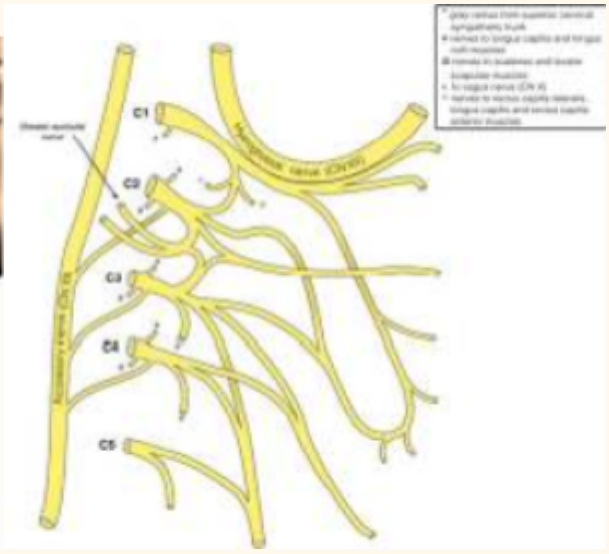
1- Upper respiratory tract obstruction; Laryngeal, supralaryngeal ,and tracheal causes.(Causes of stridor)
2- Lower respiratory tract obstruction: (Secretory obstruction, Wet lung syndrome).

Question 152
Which is thickened nerve shown here:

A> Facial Nerve
B> Greater auricular nerve
C> Vagus Nerve
D> Glossopharyngeal Nerve

Answer- B Explanation:
The greater auricular nerve is a cutaneous branch of the cervical plexus that innervates the skin of the auricle as well as skin over the parotid gland and mastoid process. The greater auricular nerve also supplies branches that innervate the deep layer of the parotid fascia.
Origin
The greater auricular nerve arises from the ventral rami of C2 and C3 spinal nerves , although it receives considerably more fibers from C2.
Course
The greater auricular nerve emerges along the posterior aspect of the sternocleidomastoid muscle at the punctum nervosum (Erb point) and ascends vertically across the oblique sternocleidomastoid muscle. When the greater auricular nerve approaches the inferior pole of the parotid gland it divides into anterior and posterior terminal branches.



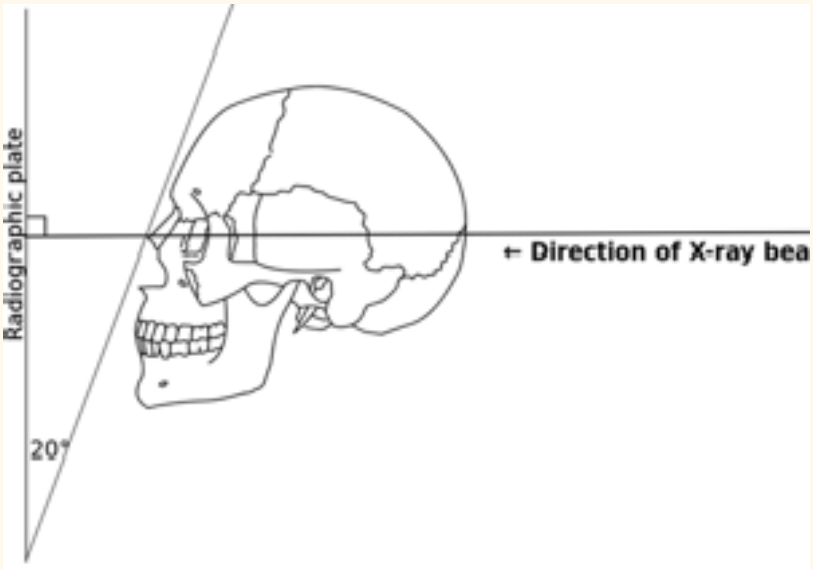


Question 153
Caldwell’s view is used for:

A> Maxillary sinus
B> Frontal sinus
C> Ethmoidal sinus
D> All of the above

Answer- B Explanation:

- Caldwell's view (or Occipitofrontal view) is a radiographic view of the skull, where the X-ray plate is angled at 20° to the orbitomeatal line.



Caldwell's radiographic view of skull

- The rays pass from behind the head and are perpendicular to the radiographic plate.
- It is commonly used to get a better view of frontal sinuses.

Question 154
Q) Presbyopic correction in old patients?

A> +1D
B> +2D
C> +3D
D> +4D
OR

Q)Astigmatism in emmetropic eye of elderly person contribute to:

A> +1d
B> +2D
C> +3d
D> +4d

Answer C Explanation:
Laser vision enhancements

- ➢ When planning presbyopia-correcting IOL(Intraocular lens) surgery in a patient with a high level of pre-existing astigmatism (ie, more than 3 D), a bioptics approach (ie, IOL followed by laser vision enhancement) may be needed.
- ➢ LRIs alone are unlikely to correct the astigmatism completely.Limbal Relaxing Incisions (LRI) are a refractive surgical procedure to correct minor astigmatism in the eye.
- ➢ There are several different strategies for these planned laser vision enhancements. The first is to perform the presbyopia-correcting IOL surgery followed by LASIK or PRK.

Question 155
100 day Glaucoma seen in which of the following condition:

A> Central retinal vein occlusion (CRVO) B> Neovascular glaucoma
C> Central retinal artery occlusion (CRAO) D> Steroid induced Glaucoma
Answer- A Explanation:

1. 100 days glaucoma is a neovascular glaucoma occurring in CRVO.
2. It consists of occlusion of the central retinal vein without significant retinal ischemia.
3. This results in a venous stasis.
4. Recurrent hemorrhages are frequent and neovascularization of retina and optic disc develop.
5. Retina undergoes pigmentary and atrophic changes.
6. Serious complications are cystoid degeneration of macula, optic atrophy and hemorrhagic or neovascular glaucoma.
7. Hemorrhagic glaucoma is also known as 100 day glaucoma because it starts 3 months after the episode of central retinal vein occlusion.

Question 156

Q Roth spots is seen in:

A> Uveal melanoma
B> Acute leukemia
C> Both a & b
D> None of the above

Answer- B Explanation:

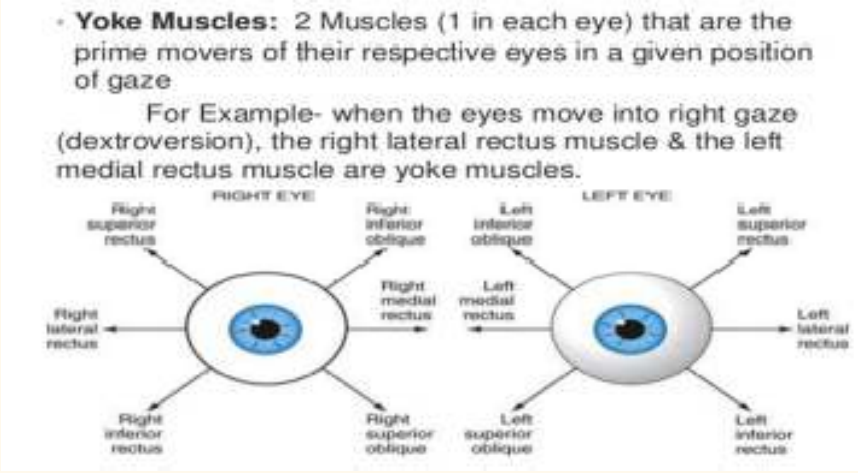
- Roth's spots are retinal hemorrhages with white or pale centers.
- Composed of coagulated fibrin including platelets, focal ischemia, inflammatory infiltrate, infectious organisms, or neoplastic cells.
- Roth's spots may be observed in leukemia, diabetes, subacute bacterial endocarditis, pernicious anemia, ischemic events, hypertensive retinopathy and rarely in HIV retinopathy.
- Roth's spots are named after Moritz Roth.

Question 157
Yoke muscle of right lateral rectus:

A> Lt medial rectus
B> Lt superior rectus
C> Lt lateral rectus
D> Lt inferior oblique

Answer - A Explanation:

- Contralaterally paired extraocular muscles that work synergistically to direct the gaze in a given direction.
- For example, in directing the gaze to the right, the right lateral rectus and the left medial rectus operates together as yoke muscles.



Question 158

Severe Conjunctivitis caused by:

A> Neisseria
B> Staphylococcus
C> Streptococcus
D> Haemophilus

ANSWER- A
Explanation:

- The most common causes of acute bacterial conjunctivitis are Staphylococcus aureus, Streptococcus pneumoniae, and Haemophilus influenzae.
- Hyperacute cases are usually caused by Neisseria gonorrhoeae or N. meningitidis.
- Chronic cases of bacterial conjunctivitis are those lasting longer than 3 weeks, and are typically caused by Staphylococcus aureus, Moraxella lacunata, or gram-negative enteric flora.
- Neisseria gonorrhoeae causes gonococcal conjunctivitis, which usually results from sexual contact with a person who has a genital infection.
- The incidence rates of gonococcal conjunctivitis increase during spring and summer.
- This is a potentially devastating ocular infection, because N. gonorrhoeae can cause severe ulcerative keratitis, which may rapidly progress to corneal perforation.

Question 159
Which is example of the Simple Myopic Astigmatism among the prescriptions given below:

A> Rx (+) sphere
B> Rx will be plano (-)
C> Rx will be (-) sphere
D> (-)(+) (+)(-) on both 90 and 180 degree axis

Answer- B Explanation:

- When eyewear prescriptions are written, they can be classified into different areas depending on the power or refractive error.
- There are seven categories to which prescriptions can fall:
  1. Simple Hyperopia, the Rx will be (+) sphere
  2. Simple Myopia, the Rx will be (-) sphere
  3. Simple Myopic Astigmatism, the Rx will be plano (-)
  4. Simple Hyperopic Astigmatism, the Rx will be (+)
  5. Compound Hyperopic Astigmatism, major meridian power will be (+) (+) on both 90 and 180 degree axis
  6. Compound Myopic Astigmatism, major meridian power will be (-)(-) on both 90

and 180 degree axis

7. Mixed Astigmatism, major meridian powers will be opposites (-)(+) (+)(-) on both 90 and 180 degree axis

Question 160
Blow out fracture of orbit involves:

A> Floor
B> Medial wall
C> Lateral wall
D> Roof

Answer-A Explanation:

- Orbital floor fracture, also known as “blowout” fracture of the orbit.
- Blow out fracture of orbit involves:
  1. Fractures of the orbital floor are common: it is estimated that about 10% of all facial fractures are isolated orbital wall fractures (the majority of these being the orbital floor), and that 30-40% of all facial fractures involve the orbit.
  2. The anatomy of the orbital floor predisposes it to fracture.
  3. The inferior orbital neurovascular bundle (comprising the infraorbital nerve and artery) courses within the bony floor of the orbit; the roof of this infraorbital canal is only 0.23mm thick, and the bone of the posterior medial orbital floor averages 0.37 mm thick.
  4. By contrast, the bone of the lateral portion of the orbital floor averages 1.25 mm thick, over 5 times the thickness of the bone over the neurovascular bundle. As one might suspect, it is this very thin area of the orbital floor overlying the neurovascular bundle where isolated orbital floor fractures invariably occur.

An orbital blowout fracture of the floor of the left orbit.

Question 161.
Which type of retractor is shown in the image
A>Morris retractor
B>Czerny retractor
C>Richardson retractor.
D>Lower lid retractor

Answer: A
Explanation: Used by surgeons and gynecologists so that they can work in the deep layers of the patient. The Morris retractors are particularly used when abdominal incisions are made as well closed. Making use of such a retractor is important for the surgeon as it allows them to work with a clear vision and to be able to move inside the body cavity and repair whatever needs it.

Question 162.
Which of the following statement is true about suture material in the image:

A>Made of rabbit submucosa
B>Made of cat submucosa
C>Not degraded
D>Degraded by enzymatic degradation

Answer: D
Explanation: Sutures such as catgut are derived from sheep submucosa or beef serosa are digested by proteolytic enzymes in the wound.

Question 163.
Van nuys prognostic index is not based on:

A>Age
B>Microcalcification
C>Size
D>ER status
Answer: D

Explanation: The Van Nuys Prognostic Index is based on size & grade of DCIS, margins and age of patient.

Van Nuys Prognostic Index			
Parameter	Score 1	Score 2	Score 3
Van Nuys Classification	Group 1	Group 2	Group 3
	Non high nuclear grade without necrosis	Non High nuclear grade with necrosis	High nuclear grade with or without necrosis
Margins	≥10 mm	1–9 mm	<1 mm
Size	<15 mm	16–40 mm	>40 mm
Age	>60	40–60	<40

Question 164.
Common cause of chronic pancreatitis

A>Chronic alcohol
B>Chronic pancreatic calculi
C>pancreas divisum
D>Gall bladder stones

Answer: A
Explanation: "Worldwide, alcohol consumption and abuse is associated with chronic pancreatitis in up to 70% of cases "-

Question 165.
The following statement about Keloid is true

A>It contain growth factor
B>Extended excision is the treatment of choice
C>It do not extend beyond the wound
D>None of the above

Answer: A
Explanation: Vaccinations, injections, insect bites, ear piercing, or may arise spontaneously.

Keloids tend to occur 3 months to years after the initial insult, and even minor injuries can result in large lesions.

They vary in size from a few millimeters to large, pedunculated lesions with a soft to rubbery or hard consistency.

Although they project above surrounding skin, they rarely extend into underlying subcutaneous tissues. Certain body sites have a higher incidence of keloid formation, including the skin of the earlobe as well as the deltoid, presternal, and upper back regions.

They rarely occur on eyelids, genitalia, palms, soles, or across joints.
Keloids rarely involute spontaneously, whereas surgical intervention can lead to recurrence, often with a worse result.

Question 166
Which of the following layers are cut during fasciotomy ?

A>Skin
B>Skin+subcutaneous fascia
C>Skin+subcutaneous tissue+Superficial fascia
D>Skin+subcutaneous tissue+Superficial fascia+deep fascia

Answer: D
Explanation: Fasciotomy or fasciectomy is a surgical procedure where complete opening of all fascial envelopes is done to relieve tension or pressure commonly to treat the resulting loss of circulation to an area of tissue or muscle. Fasciotomy is a limb-saving procedure when used to treat acute compartment syndrome.

Question 167
Which statement is not true regarding crohn's disease :

A> Rectum is not involved
B>Continuous lesion visualized in endoscopy
C>Non caseating granulomas
D>Cobblestone appearance

Answer: B
Explanation: Crohn's disease is frequently associated with "skip lesions," discontinuous areas of active disease in the colon and small intestine with intervening segments that appear normal.

Question 168
Which is the best investigation for carcinoma head of pancreas:

A> Guided biopsy
B>ERCP
C>Transduodenal/transperitoneal sampling
D> EUS

Answer: A
Explanation: Percutaneous liver biopsy under USG or CT guidance can be diagnostic, but there is a risk of hemorrhage as these tumors are highly vascular.

Question 169
Abdominal mass is best demonstrated in congenital hypertrophic pyloric stenosis by:

A>In palpation over epigastrium
B>In left hypochondriac
D>Right iliac fossa
C>During feeding

Answer: D
Explanation:
Congenital hypertrophic pyloric stenosis
First born male child is characteristically most commonly affected

- It is four times more common in males as in females .
- The condition is not present at birth. It is most commonly seen 4 weeks after birth

Presentation

- Vomiting is the presenting symptom (child vomits milk and no bile is present)
- Immediately after vomiting the child is hungry i.e. loss of appetite does not occur.
- Weight loss is striking and rapidly the infant becomes emaciated and dehydrated.

However, greater awareness of pyloric stenosis has led to earlier identification of patients and hence with fewer incidences of chronic malnutrition and severe dehydration - Nelson 10th/1130

- The diagnosis is usually made with a test feed : In this the baby is fed with the bottle by a nurse or mother and surgeon :
  1. palpates the abdomen with a warm hand to detect the lump
  2. observes the characteristic peristaltic waves pass across the upper abdomen.
- Pathologically musculature of pylorus adjacent to antrum is grossly hypertrophied
- Ultrasonography is the investigation of choice
- Hyperchloremic alkalosis is common and following diagnosis first concern is to correct metabolic abnormalities -child is rehydrated with dextrose saline and potassium
- Treatment of choice Ramstedt's operation - 'Pyloromyotomy'

Question 170
Calculate GCS of 25 old head injury patient with following parameters confused,opening eyes in response to pain ,localizing pain response to pain

A>6
B>11
C>12
D>7

Answer:B
Explanation:Glasgow coma scale:

Eye opening		Best verbal response		Best motor response	
Response	Score	Response	Score	Response	Score
Spontaneously	4	Oriented and Converses	5	Obeys commands	6
To verbal stimuli	3	Disoriented and converses	4	Localises pain	5
To pain	2	Inappropriate words	3	Flexion- withdrawal to pain	4
Never	1	Incomprehensible words	2	Abnormal flexion (decorticate rigidity)	3
		No response	I	Abnormal extensive obsturing	2
				No response	1

Maximum score is Y : 15 Minimum score is :03

Question 171
RET proto oncogene is associate with development of

A>Medullary carcinoma thyroid
B >Astrocytoma
C >Paraganglioma
D>Hurthle cell tumor thyroid

Answer: A

Explanation: RET proto oncogene is a growth factor receptor (receptor tyrosine kinase)

- The RET protein is a receptor for the glial cell line derived neurotrophic factor and structurally related proteins that promote cell survival during neural development.
- RET is normally expressed in the following cells
  1. Parafollicular C cells of the thyroid
  2. Adrenal medulla
  3. Parathyroid cell precursors.
- Point mutation in RET extracellular domain which causes constitutive dimerization and activation leading to:-
  1. Medullary thyroid carcinoma
  2. Adrenal and parathyroid tumors

Question 172.
Cutoff for surgery in abdominal aortic aneurysm in asymptomatic pts

A>5.5cm
B>6.5cm
C>7.5cm
D>8.5cm

Answer: A
Explanation: Operative repair of the aneurysm with insertion of a prosthetic graft or endovascular placement of an aortic stent graft is indicated for:
- abdominal aortic aneurysms of any size that are expanding rapidly or are associated with symptoms.
- for asymptomatic aneurysms, abdominal aortic aneurysm repair is indicated if the diameter is >5.5 cm.

Ortho

Question 173.
Muscles affected in De quervain tenosynovitis

A. **Abductor pollicis longus and extensor pollicis brevis**
B. **Adductor pollicis longus and extensor pollicis brevis**
C. **Abductor pollicis longus and Flexor pollicis brevis**
D. **Adductor pollicis longus and Flexor pollicis brevis**

Ans. A. Abductor pollicis longus and extensor pollicis brevis
Explanation:
- De Quervain syndrome is a tenosynovitis of the sheath or tunnel that surrounds two tendons that control movement of the thumb.
- De Quervain syndrome involves non-inflammatory thickening of the tendons and the synovial sheaths that the tendons run through.
- The two tendons concerned are those of the extensor pollicis brevis and abductor pollicis longus muscles.

Question 174.
APatient has history of RTA 2 years back, at the same sight he developed pain and swelling. Xray shows the following features . What will be the diagnosis?

A. Osteogenic sarcoma
B. Ewing's sarcoma
C. Chronic osteomyelitis
D. Multiple myeloma

Ans. C. Chronic osteomyelitis
Explanation:
Garré sclerosing osteomyelitis, or chronic nonsuppurative sclerosing osteomyelitis, is a form of chronic osteomyelitis.
Mild inflammation and infection lead to subperiosteal bone deposition. The disease is frequently asymptomatic.
The characteristic radiographic appearance is an area of periosteal proliferation surrounded by successive layers of condensed cortical bone (arrows), described as an onion skin appearance.

Question 175.
What is meant byPerilunate dislocations ?

A. **Lower radius,scaphoid and lunate and capitate all in same plane**
B. **Lower radius,scaphoid and capitate in alignment,lunate alone out of plane**
C. **Lower radius,scaphoid and Lunate in alignment ,capitate alone is out of plane**
D. **Both lunate and capitate are out of plane**

Ans. B.Lower radius,scaphoid and capitate in alignment,lunate alone out of plane
Explanation:

- Perilunate dislocation and perilunate fracture dislocation are injuries that involve traumatic rupture of the radioscaphocapitate (RSC) ligament, the scapholunate interosseous ligament, and the lunotriquetral interosseous ligament.
- Lateral radiographs will reveal loss of collinearity between the capitate, lunate, and radius
- Typically the capitate is located dorsal to the lunate and is aligned with the radius

Question 176.
Identify the bone numbered in the X-ray below that most commonly fracture when a person falls on outstretched hands ?

A. 1
B. 2
C. 3
D. 4

Ans. A.1
Explanation:

- A distal radius fracture, also known as wrist fracture, is a break of the part of the radius bone which is close to the wrist.

- Symptoms include pain, bruising, and swelling of rapid onset
- The wrist may be deformed.
- In younger people these fractures typically occur during sports or a motor vehicle collision.In older people the most common cause is falling on an outstretched hand.
- Specific types include Colles, Smith, Barton, and Hutchinson fractures

Question 176. Fallen fragment sign

A. **Simple bone cyst**
B. **Osteosarcoma**
C. **Adamantinoma**
D. **Aneurysmal bone cyst**

Ans. A. Simple bone cyst
Explanation:

- The fallen fragment sign refers to the presence of a bone fracture fragment resting dependently in a cystic bone lesion. T
- his finding is said 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

Question 178
You are posted as an intern in causality.Which among the following patients with fracture will be your 1st priority to call ortho PG and inform?

A. **Patient's finger is blackening**
B. **Patient can't extend his arm**
C. **A 10 cm abrasion**
D. **Intra articular fracture of Elbow Joint**

Ans. A. Patient's finger is blackening
Explanation:
Blackening of finger after Fracture is an indication of cut off of blood supply that may lead to severe complications like gangrene. So this should be the first Priority to treat among all the above options

Question 179:
In Rheumatoid arthritis, which type of cells are prominently present ?

A. **B cells**
B. **T cells**
C. **Macrophages**
D. **Dendritic cells**
E.

Ans. B. Macrophages
Explanation:

- Synovial lining or intimal layer: Normally, this layer is only 1-3 cells thick. In RA, this lining is greatly hypertrophied (8-10 cells thick).
- Primary cell populations in this layer are fibroblasts and macrophages.

Question 180.
8^{th} and 9^{th} rib costal cartilage forms which type of joint?

A. **Costochondral joint**
B. **Interchondral joint**
C. **Synovial joint**
D. **Costovertebral joint**

Ans. C. Synovial joint
Explanation:

- The sixth, seventh, eighth, ninth and tenth costal cartilages are jointed with each other along the borders by synovial joints.
- Costochondral joint means the joint between the rib and its costal cartilage.
- The first costal cartilage of both sides attach to the manubrium sterni. At this joint, no movement is possible.
- The second costal cartilage articulates with the body of sternum and the manubrium sterni by a synovial joint where movement is possible.
- The third to seventh costal cartilages articulate with lateral border of the body of sternum at mobile synovial joints.

Question 181.
Tom smith septic arthritis is-

A. **Acute Gonococcal arthritis**
B. **Smallpox arthritis**
C. **Septic arthritis of infancy**
D. **Chronic pyogenic arthritis**

Ans. C. Septic arthritis of infancy
Explanation:

- Septic arthritis of infancy (Tom smith septic arthritis)
- It is a septic arthritis of hip seen in infants
- The onset is acute with rapid abscess formation, which may burst out or be incised and heals rapidly.
- Telescope test is positive
- Clinically this condition resembles a congenital dislocation of hip

Pediatrics

Question 182
Which of the fontanelle is the last to close?

A. **Anterolateral**
B. **Anterior**
C. **Lateral**
D. **Occipital**

Ans. B. Anterior
Explanation:

- The posterior fontanelle normally closes 2 to 3 months after birth
- The sphenoidal fontanelle is the next to close around 6 months after birth
- The mastoid fontanelle closes next from 6 to 18 months after birth;
- The anterior fontanelle is generally the last to close between 18–24 months.

Question 183
Which enzyme deficiency causesLesch–Nyhan syndrome ?

A. **Hypoxanthine-guanine phosphoribosyltransferase (HGPRT)**
B. **Xanthine oxidase**
C. **Adenine phosphoribosyltransferase (APRT)**
D. **AMP deaminase**

Ans. A.Hypoxanthine-guanine phosphoribosyltransferase (HGPRT)
Explanation:
Lesch–Nyhan syndrome (LNS), also known as juvenile gout, is a rare inherited disorder caused by a deficiency of the enzyme hypoxanthine-guanine phosphoribosyltransferase (HGPRT), produced by mutations in the HPRT gene located on the X chromosome

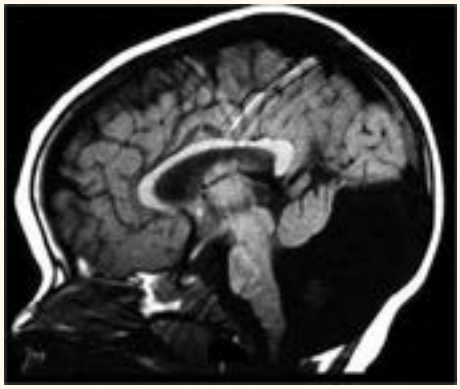
Question 184
Which vaccine is not include in the indradhanush mission?

A. **Tuberculosis**
B. **Measles**
C. **Japanese Encephalitis**
D. **Diphtheria**

Ans. C. Japanese Encephalitis
Explanation:
The Mission Indradhanush, depicting seven colors of the rainbow, targets to immunize all children against seven vaccine preventable diseases namely:

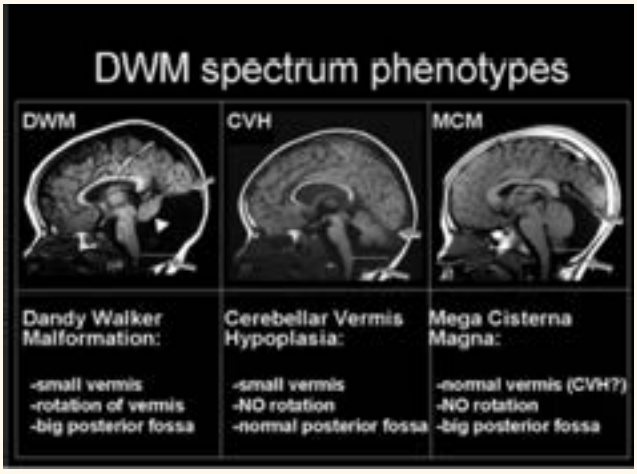
- Diphtheria
- Pertussis
- Tetanus
- Childhood Tuberculosis
- Polio
- Hepatitis B
- Measles.

Question 185.
Identify the condition shown in the CT Scan image below.



A. **Dandy walker malformation**
B. **Cerebellar vermis hypoplasia**
C. **Mega cisterna magna**
D. **None**

Ans. A.Dandy walker malformation
Explanation:



Question 186
Which among the following is the Most common cause for neonatal blindness?

A. **Neisseria gonorrhoeae**
B. **Chlamydia trachomatis**
C. **Klebsiella**
D. **Enterobacter**

Ans. A. Neisseria gonorrhoeae
Explanation:
Ophthalmia neonatorum (ON) is defined as a purulent conjunctivitis occurring during the first four weeks of life.
The two most common causative agents are Neisseria gonorrhoeae and Chlamydia trachomatis, the former being of more concern here because of its propensity to cause blindness.

Obs/Gyne

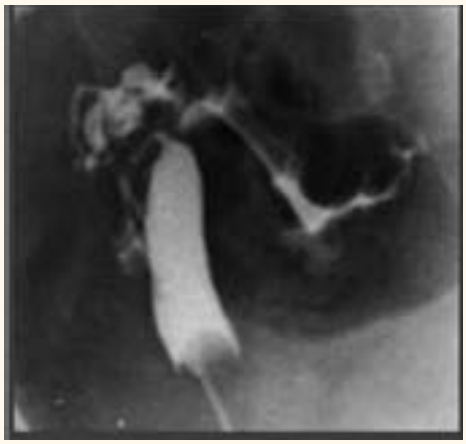
Question 187
Shoulder dystocia is managed by-

A. **Sharp flexion of hip joints towards abdomen**
B. **Supra pubic pressure**
C. **90 degree rotation of posterior shoulder**
D. **Emergency c-section**

Ans. B.Supra pubic pressure
Explanation:

- Mnemonic “HELPERR” as a guide for treating shoulder dystocia:
  - “H” stands for help
  - “E” stands for evaluate for episiotomy.
  - “L” stands for legs(pull your legs toward your stomach McRoberts maneuver)
  - “P” stands for suprapubic pressure
  - “E” stands for enter maneuvers(internal rotation of baby’s shoulders)
  - “R” stands for removing the posterior arm from the birth canal.
  - “R” stands for roll the patient.

Question 188
Identify the X ray HSG Shown below :



A. Septate uterus
B. Uterus didelphys
C. Unicornuate uterus
D. Bicornuate uterus

Ans. C. Unicornuate uterus
Explanation :

Question 189
True hermaphroditism karyotype:

A. 45 X0 STREAKED GONADS
B. 46 XX OVO TESTIS
C. 47 XY+9
D. 47 XX

Ans.B.46XX OVO TESTIS
Explanation:

- True hermaphrodite or ovotesticular disorder of sexual differentiation (OVO-DSD) is one of the rarest varieties of all inter sex anomalies.
- In about 90% of cases, patients have 46 XX karyotype.
- Rarely, 46 XY/46 XX mosaicism may occur.

Question 190.
Peripartum cardiomyopathy occurs at-

A. **Within 7 days**
B. **Within 6 weeks**
C. **Within 24 months**
D. **Within 5 months**

Ans.D. Within 5 months
Explanation:
PPCM is a structural heart muscle disease that occurs in women either at the end of pregnancy or up to five months after giving birth

Question 191.
Nerve mostly compressed in pregnancy puerperium:

A. **Radial nerve**
B. **Median nerve**
C. **Femoral nerve**
D. **Facial nerve**

Ans C. Femoral nerve
Explanation:

- Obstetricians may consider frequent position changes in labor, avoidance of prolonged hip flexion, and shortening the pushing time by allowing for passive descent of the fetus before pushing begins as means of avoiding lateral femoral cutaneous nerve injury

Question 192
In pregnancy which of the following level is altered mostly:

A. **TSH**
B. **Free T3**
C. **Free T4**
D. **T3 binding globulin**

Ans C.TSH
Explanation:

- Increased blood concentrations of T4-binding globulin: TBG is one of several proteins that transport thyroid hormones in blood, and has the highest affinity for T4 (thyroxine) of the group. Estrogens stimulate expression of TBG in liver, and the normal rise in estrogen during pregnancy induces roughly a doubling in serum TBG concentration.
- Increased levels of TBG lead to lowered free T4 concentrations, which results in elevated TSH secretion by the pituitary and, consequently, enhanced production and secretion of thyroid hormones

Question 193
Paget's is associated with which other cancer:

A. Vulva
B. Vagina
C. Cervix
D. Uterus

Ans. A. Vulva
Explanation:

- Extramammary Paget's disease (EMPD), also extramammary Paget disease, is a rare, slow-growing, usually noninvasive intraepithelial (in the skin) adenocarcinoma outside the mammary gland and includes Paget's disease of the vulva and the extremely rare Paget's disease of the penis.

Question 194
What is meant by Superfecundation?

A. **Fertilization of two or more ova in one intercourse**
B. **Fertilization of two or more ova in different intercourses in same menstrual cycle**
C. **Fertilization of ova and then it's division**
D. **Fertilization of second ovum first being implanted**

Ans.B. Two or more ova in different intercourses in same menstrual cycle
Explanation:

- Superfecundation is the fertilization of two or more ova from the same cycle by sperm from separate acts of sexual intercourse, which can lead to twin babies from two separate biological fathers.
- The term superfecundation is derived from fecund, meaning the ability to produce offspring.

Question 195
Fetal heart starts contracting at-

A. **10-12 days**
B. **10-12 weeks**
C. **3-5 weeks**
D. **3- 5 month**

Ans. C 3-5 weeks
Explanation:
The fetal heart starts contracting at approximately 23 days of gestation.

Question 196
Anesthesia of choice for cesarean section in severe pre-eclampsia :

A. Spinal
B. GA
C. Epidural
D. Spinal+epidural

Ans. C. Epidural
Explanation:

- Continuous Epidural Anesthesia is the first choice for patients with preeclampsia during labour, Vaginal delivery and cesarean section.
- Preeclampsia patient have a risk of severe airway edema , which makes intubation difficult
- Continuous Epidural Anesthesia can improve uteroplacental perfusion and also decrease catecholamine secretions.

Question 197
Which of the following is not a high risk pregnancy?

A. **Previous history of manual removal of placenta**
B. **Anemia**
C. **Diabetes**
D. **Obesity**

Ans. A. Previous history of manual removal of placenta
Explanation:

- Anemia in pregnancy is associated with increased rates of maternal and perinatal mortality, premature delivery and other adverse outcomes. Hence, identifying anemia predicting risk factors in high-risk groups such as pregnant women is essential for problem based intervention modalities`
- Diabetes is clearly a risk factor for myocardial infarction during pregnancy
- Obesity can make a pregnancy more difficult, increasing a woman's chance of developing diabetes during pregnancy, which can contribute to difficult births.

Question 198
Which of the following is not used in preeclampsia?

A. **Methyldopa**
B. **Atenolol**
C. **Labetalol**
D. **Hydralazine**

Ans.B. Atenolol
Explanation:

Question 199.
Dilatation & curettage (D&C) is contraindicated in-

A. **Pelvic inflammatory disease (PID)**
B. **Endometriosis**
C. **Ectopic pregnancy**
D. **None**

Ans. A. Pelvic inflammatory disease (PID)
Explanation:
Predisposing risk factors for PID are:

- Sexual contact
- History of STI
- Procedures involving the upper female genital tract including:
    - Dilatation & curettage (D&C)
    - Recent intrauterine device (IUD) insertion
    - Therapeutic abortion (T/A)

Question 200.
Which of the following is correct regarding placenta?

A. **Placental artery provides nutrients through umbilical cord to baby**
B. **Placenta has Wharton's jelly**
C. **Placenta has 2 veins and 1 artery**
D. **Estrogen is secreted by placenta**

Ans. B. Placenta has Wharton's jelly
Explanation:

- The umbilical cord is a structure that provides vascular flow between the fetus and the placenta.
- It contains two arteries and one vein, which are surrounded and supported by gelatinous tissue known as Wharton's jelly.

Question 201
Acute fatty liver common seen in pregnancy at-

A. **3rd trimester**
B. **1st trimester**
C. **Immediate postpartum**
D. **Intrapartum**

Ans. A. 3rd trimester
Explanation:
Acute fatty liver of pregnancy (AFLP) is a rare, potentially fatal complication that occurs in the third trimester or early postpartum period.

Question 202
Establishment of fetoplacental circulation seen at-

A. 11 to 13 days
B. 20 to 22 days
C. 7 days
D. 25 to 26 days

Ans. B.20 to 22 days
Explanation:
Important Events Following Fertilization

0’ hour	Fertilization (day-15 from LMP)
30 hours	2 cell stage (blastomeres)
40–50 hours	4 cell stage
72 hours	12 cell stage
96 hours	16 cell stage. Morula enters the uterine cavity
5th day	Blastocyst
4–5th day	Zona pellucida disappears
5–6th day	Blastocyst attachment to endometrial surface
6–7th day	Differentiation of cyto and syncytiotrophoblast layers
10th day	Synthesis of hCG by syncytiotrophoblast
9–10th day	Lacunar network forms
10–11th day	● Trophoblasts invade endometrial sinusoids establishing uteroplacental circulation ● Interstitial implantation completed with entire decidual coverage
13th day	Primary villi
16th day	Secondary villi
21st day	Tertiary villi
21st–22nd day	Fetal heart. Fetoplacental circulation

Question 203

Fimbriectomy procedure is known as-

A. **Uchida method**
B. **Irving method**
C. **Madlener technique**
D. **Kroener method**

Ans. D. Kroener method
Explanation:

- Uchida technique—A saline solution is injected subserosal in the mid portion of the tube to create a bleb.
- Irving method — The tube is ligated on either side and the mid portion of the tube (between the ties) is excised.
- Madlener technique -It is the easiest method. The loop of the tube is crushed with an artery
- forceps.
- Kroener method of fimbriectomy is not a common procedure

Question 204
RDA of iodine in lactation in microgram-

A. 150
B. 220
C. 100
D. 250

Ans. D. 250
Explanation:
To accommodate increased iodine needs during pregnancy and lactation, the iodine RDA is 220 mcg/day for pregnant women and 250 mcg/day for lactating women

Question 205.
Which One of the following is not a cause of secondary Postpartum Haemorrhage?

A. Placenta previa
B. Retained bits of placenta
C. Endometritis
D. Polyp

Ans. A.Placenta previa
Explanation:
Causes of secondary Postpartum Haemorrhage are:

- Retained bits of placenta
- Postpartum infection
- Infection of Cervical and Vaginal Tears
- Puerperal Inversion of Uterus
- Uterine Polyp or Fibroid:
- Undiagnosed carcinoma of cervix

- Chorion-epithelioma

Question 206.
Best time to do quadruple test

A. **8-12 weeks**
B. **11-15 weeks**
C. **15-20 weeks**
D. **18-22 weeks**

Ans. C.15-20 weeks
Explanation:

- The quad screen is done in the second trimester, usually between 15 and 20 weeks of pregnancy.
- Ideally, the test should be performed in conjunction with first-trimester screening tests.

Question 207
Drug that is used for fetal lung maturity is:

A. **Dexamethasone**
B. **Folic acid**
C. **Beclomethasone**
D. **None**

Ans. A. Dexamethasone
Explanation:

- Betamethasone and dexamethasone are corticosteroids, also called glucocorticoids, that are given before birth (antenatally) to speed up a preterm fetuses lung development.
- Either is used when a mother is in preterm labor and birth may occur in 24 to 48 hours.

Question 208
In a woman complaining of AUB the following image was seen in endoscopic examination of the uterus. What will be the diagnosis?

A. **Leiomyoma**
B. **Adenomyosis**
C. **Ovarian neoplasm**
D. **Carcinoma of uterus**

Ans. A . Leiomyoma
Explanation:

- Leiomyoma is the most common pelvic tumor in women
- Benign, originate from myometrial smooth muscles
- Symptoms include:
    - AUB
    - Pelvic pain and pressure
    - Infertility or adverse pregnancy outcome

Question 209
In Uterine prolapse how to know if ring is in place?

A. **If not expelled after increased abdominal pressure**
B. **If Bleeding does not occur**
C. **If patient feels discomfort**
D. **None**

Ans. A.If not expelled after increased abdominal pressure
Explanation:

- A vaginal pessary is a removable device placed into the vagina.
- It is designed to support areas of pelvic organ prolapse.
- A variety of pessaries are available, including the ring pessaries
- If not expelled after increased abdominal pressure ring pessary is supposed to be placed in place

Question 210
HT indicated in menopausal women

A. **Hot flash**
B. **Ca breast**
C. **Endometriosis**
D. **Uterine bleeding**

Ans. A. Hot flash
Explanation:

- Hormone Therapy (HT) is one of the government-approved treatments for relief of menopausal symptoms.
- These symptoms, caused by lower levels of estrogen at menopause, include :
    - Hot flashes,
    - Sleep disturbances, and
    - Vaginal dryness.
- HT is also approved for the prevention of osteoporosis.

Anesthesia

Question. 211 Murphy's eye is seen in
A> Macintosh laryngoscope
B> Endotracheal tube
C> LMA
D> Flexible laryngoscope

Answer: Option B - Endotracheal Tube
Explanation:

- The “Murphy eye” is the eponymous name for a hole on the side of most endotracheal tubes (ETTs) that functions as a vent, and prevents the complete obstruction of the patient's airway, should the primary distal opening of an ETT become occluded

Question. 212
Modified MallamPati grading is used in assessment of

A> Difficult intubation
B> Airway obstruction
C> Death due to aspiration
D> Intubation

Answer: Option A - Difficulty in intubation
Explanation:
Modified Mallampati classification

- Class 0: Ability to see any part of the epiglottis upon mouth opening and tongue protrusion
- Class I: Soft palate, fauces, uvula, pillars visible
- Class II:Soft palate, fauces, uvula visible
- Class III: Soft palate, base of uvula visible
- Class IV: Soft palate not visible at all
- Test: The assessment is performed with the patient sitting up straight, mouth open and tongue maximally protruded, without speaking or saying “ahh.”

Predictive value of modified Mallampati classification

- Difficult laryngoscopy:Good accuracy (area under Summary Receiver Operating Characteristic [SROC] curve 0.89 ± 0.05)
- Difficult intubation: Good accuracy (area under SROC curve 0.83 ± 0.03)
- Difficult mask ventilation: Poor predictor
- Used alone, the Mallampati tests have limited accuracy for predicting the difficult airway and thus are not useful screening tests
- Mallampati classification is only one of 11 nonreassuring findings during airway examination

Question. 213
Which nerve is tested for adequacy of anesthesia

A> Median Nerve
B> Ulnar Nerve
C> Radial nerve
D> Mandibular nerve

Answer: Option A - Median nerve
Explanation:

- Median nerve block can be evaluated by testing the lateral aspect of the ring finger

Question.214
Most effective circuit in spontaneous anesthesia is

A> Mapleson A
B>Mapleson B
C> Mapleson C
D> Mapleson D

Answer: Option A - Mapleson A
Explanation:

- MAPLESON A - (Magill) CIRCUIT
- Useful in spontaneous ventilation
    - The patient inspires whatever is in the tube, using the bag as a volume reservoir.
    - On eated tube and incoming fresh gas. When the bag is full, exhaled alveolar gas is vented for expiration, the bag refills from a combination of expired gas going back up the corrugom of the exhale valve, and then during any expiratory pause, FGF pushes the remaining alveolar gas out.
    - Theoretically FGF = 0.7 x Valv should prevent significant rebreathing because deadspace gas (fresh) is not wasted, but FGF = VA more reliably prevents rebreathing.
    - Tube volume must exceed (Vt-Vd) or alveolar gas could contaminate the bag.
    - Inadequate FGF causes rebreathing . Difficult to detect from the CO2 waveform alone - all that happens is that the rapid fall on inspiration is delayed. If VA exceeds tubing volume, CO2 enters the bag and will be seen as inspiration on the capnogram.
- Controlled ventilation
    - If the anesthetist fully closed the valve while squeezing the bag and didn't

open it until just before the bag filled, this circuit would be OK. More commonly the valve is partially closed - enough to permit adequate tidal volumes despite parallel loss of gas out the valve. FGF must be increased to compensate for gas lost during inspiration - typically 2.5x minute ventilation.

- The Lack system A co-axial Magill, with the expiratory valve brought coaxially back to the Fresh Gas outlet. Not popular due to inefficiency during controlled ventilation.

Question. 215
What is the mechanism of action of Curanium drugs as muscle relaxants?

A> Persistently depolarizing at Neuromuscular junction
B> Act competitively on Ach receptors blocking post-synaptically
C> Repetitive stimulation of Ach receptors on muscle end plate
D> Inhibiting the calcium channel on presynaptic membrane

Answer: Option B - Act competitively on Ach receptors blocking post-synaptically
Explanation:

- Candocuronium iodide is an aminosteroid neuromuscular-blocking drug or skeletal muscle relaxant in the category of non-depolarizing neuromuscular-blocking drugs.
- Acts on Ach receptors competitively post-synaptically blocking them.
- Potential adjunctive use in anesthesia to facilitate endotracheal intubation & provide skeletal muscle relaxation.
- Candocuronium demonstrated a short duration and a rapid onset of action, with little or no ganglion blocking activity, and it was only slightly less potent than pancuronium

Skin

Question 216
Identify the following lesion.

A. **Becker nevus**
B. **Hypopigmented macule**
C. **Spitz nevus.**
D. **Epidermal nevus**

Ans. A. Becker nevus

- A Becker nevus (nevus in American spelling) is a late-onset epidermal nevus or birthmark occurring mostly in males. It is also known as Becker melanosis.

- It is due to an overgrowth of the epidermis (upper layers of the skin), pigment cells (melanocytes) and hair follicles.

Question 217
Cutis marmorata occurs due to exposure to –

A. **Cold temperature**
B. **Dust**
C. **Hot temperature**
D. **Humidity**

Ans. A.Cold temperature
Explanation:

- Cutis marmorata is a condition where the skin has a pinkish blue mottled or marbled appearance when subjected to cold temperatures.
- It is seen throughout infancy and in 50 % of children.
- Rewarming restores the skin to normal.
- It is caused by superficial small blood vessels in the skin dilating and contracting at the same time .

Question 218

:

A child has a rash as shown in the picture .His family history is positive for asthma . What could be the most probable diagnosis ?

A. **Seborrheic dermatitis**
B. **Atopic dermatitis**
C. **Allergic contact dermatitis**
D. **Erysipelas**

Ans. C. Allergic contact dermatitis
Explanation:
ACD is a form of contact dermatitis that manifests as an allergic response caused by

contact with a substance .It's a hypersensitive reaction characterized by the presence of rash or a skin lesion in the form of papules , blisters or vesicles etc . The differential features are

It is confined to the area where the trigger touched the zone,It occurs after a day or two of the exposure and

The symptoms reappear when in contact with the allergen .

Radio

Question 219
Dye used in diagnosis of esophageal perforation:

A> Iohexol
B> Barium sulphate
C> Gadolinium
D> Iodine dye

Answer-B Explanation:

- Barium sulfate in suspension is frequently used medically as a radiocontrast agent for X-ray imaging and other diagnostic procedures.
- It is most often used in imaging of the GI tract during what is colloquially known as a "barium meal".

Fluoroscopy

- most sensitive within the first 24 hours.
- patient examined semi-supine (~20 degrees) on fluoroscopy table
- a water-soluble agent should be used initially as barium can cause mediastinitis
- esophageal perforation may be represented as mucosal irregularity or gross extraluminal contrast extravasation
- some authors suggest the use of small amounts of low or high concentrations of barium if no leak is evident on initial screening with water soluble contrast

Iohexol, trade name Omnipaque among others, is a contrast agent used during X-rays.This includes when visualizing arteries, veins, ventricles of the brain, the urinary system, and joints, as well as during computer tomography. It is given by mouth, injection into a vein, or into a body cavity.

Question 220
Bragg peak effect pronounced in:

A> X ray
B> Proton
C> Neutron
D> Electron

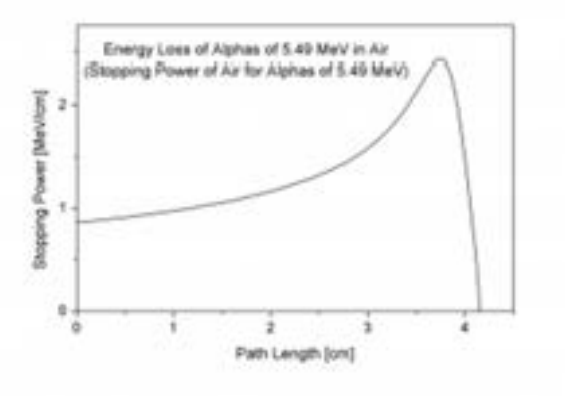
Answer- B Explanation:

Bragg peak

- Pronounced peak on the Bragg curve which plots the energy loss of ionizing radiation during its travel through matter.
- For Protons,α-rays, and otherion rays, the peak occurs immediately before the particles come to rest. This is called Bragg peak, afterWilliam Henry Bragg who discovered it in 1903.

Bragg curve

- Typical for heavy charged particles and describes energy loss of ionizing radiation during travel through matter.
- For this curve is typical the Bragg peak, which is the result of $1/v^2$ dependency of the stopping power. This peak occurs because the cross section of interaction increases immediately before the particle comes to rest. For most of the track, the charge remains unchanged and the specific energy loss increases according to the $1/v^2$.



Bragg Curve is typical for heavy charged particles and plots the energy loss during its travel through matter.

Question 221
Salt and Pepper pot appearance of skull seen in:

A> Hyperparathyroidism
B> Multiple myeloma
C> Hyperthyroidism
D> Pseudo hyperparathyroidism

Answer- A Explanation:

- Pepperpot skull is occasionally used in place of salt and pepper skull to describe the typical radiographic appearance of multiple small radiolucent lesions of the skull vault.
- In primary hyperparathyroidism, extensive resorption bone in the skull in combination with cystic areas of osteopenia are termed pepper pot skull.
- Classically seen in hyperparathyroidism, and is occasionally used (inaccurately) to describe the raindrop skull of multiple myeloma.

: Skull X-ray with a typical "pepper-pot" appearance

Question 222
Imaging techniques used in Uterus anomalies EXCEPT:

A> HSG
B> MRI guided HSG
C> CT guided HSG
D> USG

Answer C Explanation:

- Imaging studies, such as a hysterosalpingogram (HSG) and ultrasound, or an MRI are required to visualize the uterus and confirm that a congenital uterine anomaly is present.
- A hysterosalpingogram is not considered as useful due to the inability of the technique to evaluate the exterior contour of the uterus and distinguish between a bicornuate and septate uterus.
- In addition,laparoscopy and/hysteroscopy may be indicated.

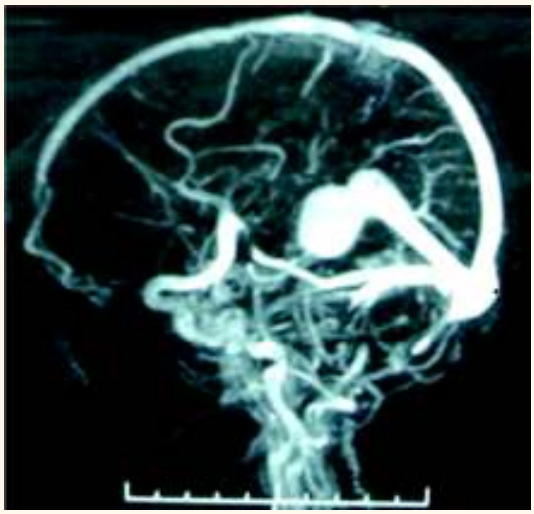
Question 223
Spot radiograph from a double contrast esophagram. Image represents:

A> Esophageal atresia
B> Esophageal stenosis
C> Feline esophagus
D> Tracheoesophageal fistula

Answer- C Explanation:
In the given image, there are numerous 1-2 mm radiolucent folds across the esophagus. The folds are angled with respect to the center of the esophagus in a "herringbone" pattern.
The folds occur transiently.

Feline esophagus also known as esophageal shiver, refers to the transient transverse bands seen in the mid and lower esophagus on a double contrast barium swallow.
The appearance is almost always associated with active gastro-oesophageal reflux and is thought to be due to contraction of the muscularis mucosae with resultant shortening of the esophagus and 'bunching up' of the mucosa in the lumen.
Radiographic features
The folds are 1-2 mm thick and run horizontally around the entire circumference of the esophageal lumen. The findings are transient, seen following reflux and not during swallowing. The appearance is confined to the distal two-thirds of the thoracic esophagus.

Question 224
MRI of skull represents:



A> Vein of Galen
B> Dandy walker Syndrome
C> Pneumocephalus
D> Crouzon syndrome

Answer A Explanation:
The vein of Galen is located under the cerebral hemispheres and drains the anterior and central regions of the brain into the sinuses of the posterior cerebral fossa.

The vein of Galen, also known as the great cerebral vein or great vein of Galen, is a short trunk formed by the union of the two internal cerebral veins and basal veins of Rosenthal. It lies in the quadrigeminal cistern. It curves backward and upward around the posterior border of the splenium of the corpus callosum to drain into the confluence of the inferior sagittal sinus and the anterior extremity of the straight sinus.

Question 225
What is diagnosis based on given image:

A> Uterus didelphys
B> Bicornuate Uterus
C> Unicornuate Uterus
D>Septate uterus

Answer-C Explanation:

- A unicornuate uterus or unicornis unicollis is a type of Mullerian duct anomaly (class II) that is the second most commonly associated with miscarriages.
- This type can account for ~10% (range 6-13%) of uterine anomalies and infertility is seen in ~12.5% (range 5-20%) of cases.

Above image unicornuate uterus as seen on a hysterosalpingogram represents:
The endometrial cavity usually assumes a fusiform (banana type) shape (except for type a where there may be a small cavitation filling defect), tapering at the apex and draining into a single fallopian tube. The uterus is generally shifted off the midline.

Question 226
X ray of skull showing which lesions in brain:

A> Paget's disease

B> Multiple myeloma
C> Osteosarcoma
D> Osteomyelitis

Answer- A Explanation:
Paget disease of the bone is a common, chronic bone disorder characterized by excessive abnormal bone remodeling. It frequently affects the pelvis, spine, skull and proximal long bones and has characteristic radiographic features.

Radiographic features
The early phase features an osteolytic (lucent) region which is later followed by coarsened trabeculae and bony enlargement. Sclerotic changes occur much later in the disease process.

- osteoporosis circumscripta: large, well-defined lytic lesion
- cotton wool appearance: mixed lytic and sclerotic lesions of the skull
- diploic widening: both inner and outer calvarial tables are involved, with the former usually more extensively affected
- Tam o'Shanter sign: frontal bone enlargement, with the appearance of the skull falling over the facial bones, like a Tam o' Shanter hat.

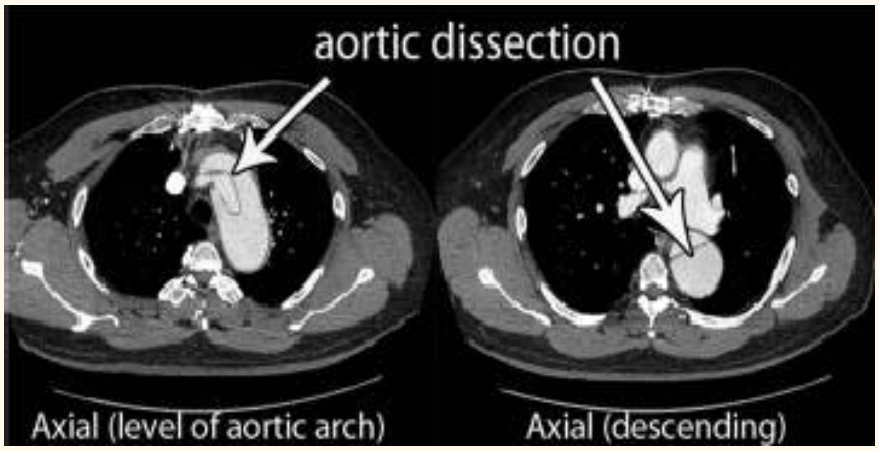
(Thickened dipole of the skull and ill-defined 'fluffy' sclerotic areas most pronounced in the frontal bone.)

Question 227
CT of Thorax represents:

A> Ascending Aortic dissection
B> Descending Aortic dissection
C> Aortic aneurysm
D> Cystic fibrosis

Answer B Explanation:
Aortic dissection (AD) occurs when an injury to the innermost layer of the aorta allows blood to flow between the layers of the aortic wall, forcing the layers apart.

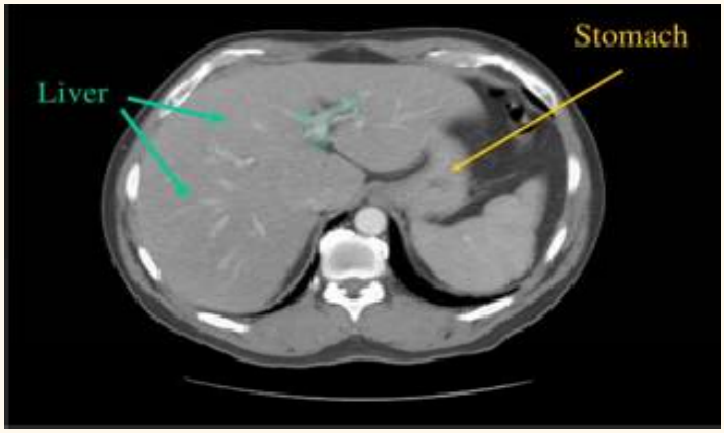
The diagnosis of aortic dissection is based on clinical suspicion combined with imaging studies. Chest x-ray will sometimes show a "widened mediastinum". This occurs because the enlarged aorta casts a larger shadow on the x-ray detector. If this is seen, and there is a high clinical suspicion of a dissection, a CT scan of the chest with intravenous contrast is ordered (see image).



The CT scan will show the true and false lumens associated with dissection.

Question 228

CT scan of abdomen showing an area that branching into the liver. Identify the structure ?



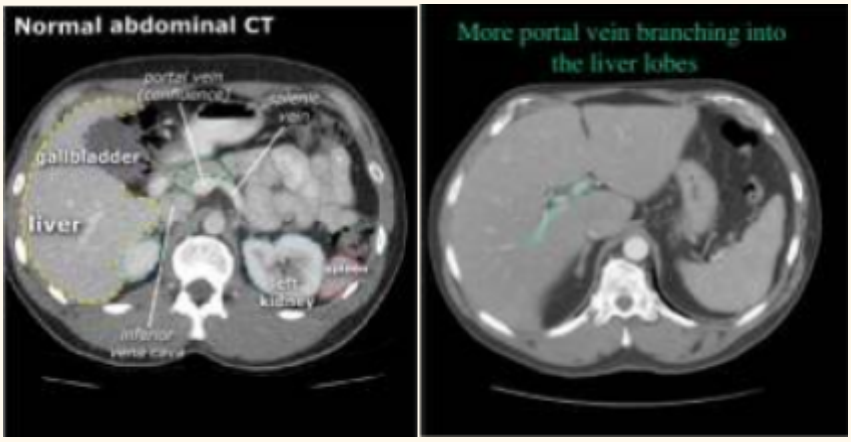
A> SVC

B> IVC

C> Portal vein

D> Splenic vein

Answer- C Explanation:



- The portal vein or hepatic portal vein is a blood vessel that carries blood from the gastrointestinal tract, gallbladder, pancreas and spleen to the liver.
- This blood contains nutrients and toxins extracted from digested contents. Approximately 75% of total liver blood flow is through the portal vein, with the remainder coming from the hepatic artery proper. The blood leaves the liver to the heart in the hepatic veins.

Question 229
Identify artery ‘X’ in the given angiography anatomy image:

A> Superior mesenteric artery
B> Subclavian artery
C> Celiac artery
D> Brachiocephalic artery

Answer – A
Explanation:
The superior mesenteric artery (SMA) is a major artery of the abdomen. It arises from the abdominal aorta, and supplies arterial blood to the organs of the midgut – which spans from the major duodenal papilla (of the duodenum) to the proximal 2/3 of the transverse colon.

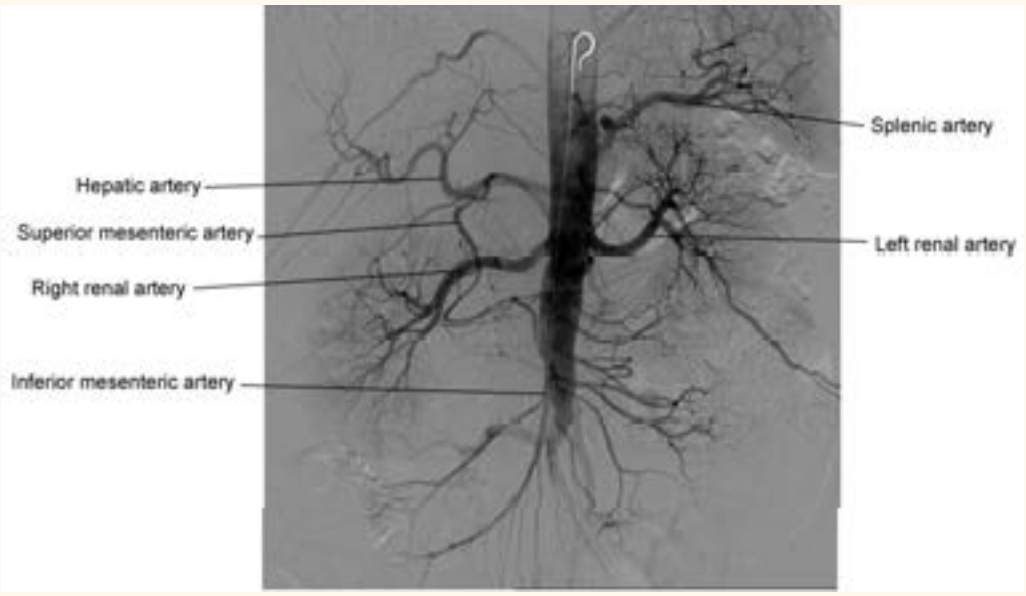
Anatomical Position
The superior mesenteric artery is the second of the three major anterior branches of the abdominal aorta (the other two are the coeliac trunk and inferior mesenteric artery). It arises anteriorly from the abdominal aorta at the level of the L1 vertebrae, immediately inferior to the origin of the coeliac trunk.

After arising from the abdominal aorta, the superior mesenteric artery descends down the posterior aspect of the abdomen. At this point, it has several important anatomical relations:

- Anterior to the SMA – pyloric part of the stomach, splenic vein and neck of the pancreas.
- Posterior to the SMA – left renal vein, uncinate process of the pancreas and inferior part of the duodenum.
    - The uncinate process is the only part of the pancreas that hooks around the back of the SMA.

Major Branches

- The superior mesenteric artery then gives rise to various branches that supply the small intestines, cecum, ascending and part of the transverse colon (fig).



The superior mesenteric artery and its branches.

Psychiatry

Question. 230 Semen squeeze
A>Erectile dysfunction
B> Premature ejaculation
C> Retrograde ejaculation
D> Antegrade ejaculation

Answer: Option B- Premature Ejaculation
Explanation:

- Squeeze Technique:
  - Variation of the Masters and Johnson method.
  - As a man approaches climax, either he or his partner squeezes the tip of the penis just below the head of the penis as he approaches the point of climax.
  - Pressure is held there until the sensation of impending orgasm diminishes.
  - This pressure can even be held until there is some reduction in erection.
  - The process can then be started over again so that over time a man prolongs the time period until he reaches ejaculation.
  - Useful to treat cases of premature ejaculation

Question. 231.

A patient with a history of RTA before 2 months presents with complaints of dreams of accidents. He is able to visualize the same scene whenever he visits the place. Hence is afraid to go back to the accident site. Identify the type of disorder that he might be suffering from?

A> Adjustment disorder
B> PTSD
C> Anxiety disorder
D> OCD

Answer: Option B - Post-traumatic Stress disorder
Explanation:

- Post-traumatic stress disorder, basically a type of anxiety disorder
- Though it shares features with other anxiety disorders, has its own specific characteristics in presentation.
- Criteria 1:
    - Etiologically significant trauma should be present to be classified under this condition.
- Criteria 2:
    - “Intentionality” or “aboutness”, an important factor in PTSD.
    - PTSD concerns with memory intrusion of past stressors into the present.
    - Nightmares, flashbacks, or reliving experiences should be related to the past experience.
- Criteria 3:
    - Avoid a stimulus or activity that provokes the memory of past events.

Question. 232
Freud's theory of dream includes all except:

A> Displacement
B> Condensation
C> Symbolisation
D> Correlation

Answer: Option -D - Correlation
Explanation:
Sigmund Freud theory of dream:

- Dream work involves the process of condensation, displacement, and secondary elaboration.
- Concept of unconscious mind:
    - Primary assumption of Freudian theory is that the unconscious mind governs behavior to a greater degree than people suspect.
    - Goal of psychoanalysis is to make the unconscious conscious.
- Theory of dream:
    - Freud theory of dream elaborates the state of unconscious mind with respect to dream interpretation,
    - Processes involved include condensation, displacement, and secondary elaboration.
    - Displacement takes place when we transform the person or object we are really concerned about to someone else.
    - The process of condensation is the joining of two or more ideas/images into one.

Question. 233
Expression and consequent release of previously repressed emotion is called as

A> Regression
B> Dissociation
C> Abreaction
D> All of the above

Answer: Option C - Abreaction
Explanation:

- The expression and consequent release of a previously repressed emotion, achieved through reliving the experience that caused it.
- Done typically through
    - Hypnosis
    - Suggestion

Question.234
All are habit disorder except

A> Nail biting
B> Thumb sucking
C> Temper tantrum
D> Tics

Answer: Option C- Temper tantrum
Explanation:

- Definition:
    - Habit disorder is a term used to describe several related disorders linked by the presence of repetitive and relatively stable behavior that seem to occur beyond the awareness of the person performing the behavior.
- The first group of habit disorder includes “Tic Disorder”
- Tics are involuntary movements, sounds, or words that are sudden, rapid, recurrent and non- rhythmic”
- In addition to TD’s, body-focussed behaviors,
    - Recurrent hair pulling - Trichotillomania (TTM)
    - Skin picking (SP)
    - Nail biting is included within habit disorders.
- Head banging, rocking of body, teeth grinding & thumb sucking are repetitive disorders.
    - Seen in children between the age group of 6 months to 2 years.
    - Benign & self-limited.
    - The movements serve as a means of tension discharging in children.
    - As children become older, they learn to inhibit some of their rhythmic

patterns.
- Undue attention by parents can lead to aggravation of these problems.

Question. 235
New name of mental retardation according to American Association of Mental Retardation

A> Feeble Mindedness
B> Madness
C> Intellectual disability
D> Mentally unstable

Answer: Option C - Intellectual disability
Explanation:

- Intellectual disability (ID), also known as general learning disability,
- Mental retardation (MR), is a generalized neurodevelopmental disorder characterized by significantly impaired intellectual and adaptive functioning.

Question. 236
Now-a-days Down syndrome Is referred to as.

A> Submental disorder
B> Oligophrenia
C> Madness
D> Mentally unstable

Answer: Option A - Submental disorder
Explanation:

- Majority of children with Down syndrome function in a mild to moderate range of mental retardation.
- Down syndrome / Trisomy 21 -
    - Genetic disorder caused by presence of all or part of a third copy of chromosome 21.
    - Typically associated with physical growth delays, characteristic facial features and mild to moderate intellectual disability.

Misc Questions

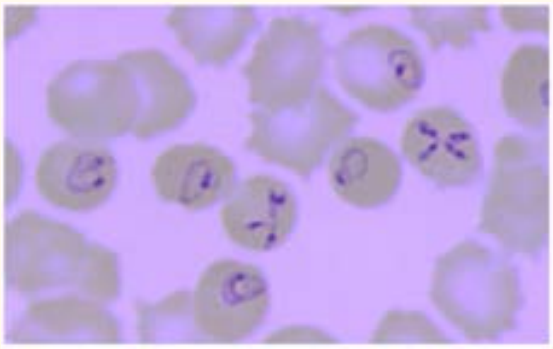
Question 237
A 55 years aged chronic alcoholic male, presented with irrelevant talks, tremor and sweating. He had his last drink 3 days back. What will be the probable diagnosis?

A> Delirium tremens
B> Korsakoff psychosis
C> Post-Acute withdrawal syndrome
D> Discontinuation syndrome

Answer: Option A - Delirium Tremens
Explanation:
The description of symptoms is related to the condition “Delirium Tremens”

- Delirium Tremens / Alcohol Withdrawal Delirium (AWD):
    - Most severe form of ethanol withdrawal manifested by,
        - Altered mental status (Global confusion)
        - Autonomic hyperactivity (Sympathetic overdrive)
- Mechanism:
    - Alcohol abuse affects neurotransmitter systems in brain mainly by,
        - Loss of GABA inhibitory mechanism - Reduces chloride ion influx.
        - Alcohol acts as NMDA receptor antagonist - Withdrawal increases the excitatory neurotransmitter.
- The clinical manifestations of ethanol withdrawal are combination effects of GABA & NMDA receptor activity.
- Thus causing tremors, diaphoresis, tachycardia, anxiety & in severe cases Seizure.

Question 238.
Which of the following is a carrying agent for the disease with given characteristics on polarized microscopy?



A> Anopheles
B>Ixodes scapularis ticks
C> Louse
D> Rat flea

Answer: B
Explanation:

- Babesiosis infects the RBCs and resides inside the RBCs (intraerythrocytic).
- Intraerythrocytic infection of Babesiosis is characterized by maltese cross.
- Maltese cross is a characteristic arrangement of parasites within the erythrocytes --->Parasites within erythrocytes are arranged such that pointed ends of four parasites come in contact thereby giving a tetrad configuration resembling a maltese cross.
- Tetrad forms or 'Maltese cross' appearance is considered pathognomonic of Babesiosis.
- Babesiosis can easily be confused with P. falciparum malaria.Following two features distinguish Babesiosis from malaria
  1. Presence of maltese cross in Babesiosis (absent in malaria)
  2. Absence of pigment Hemozoin in Babesiosis (present in malaria)

Note - Maltese cross is also seen in cryptococcus and aspergillus.

Question 239.
Which of the following is the best Stent for Femoropopliteal Bypass?

A>Dacron
B>Reversed saphenous
C>PTFE
D>None

Answer: C- PTFE-covered self-expanding nitinol stents
Explanation:

- PTFE-covered stents are engineered with a 30–100 micron pore size to allow for endothelial lining of the stent-graft and vessel healing.
- Only self-expanding covered nitinol stents should be used in femoropopliteal interventions.

Question 240
Trilene is degraded by:

A>Enzymatic Degradation
B>Non Enzymatic degradation
C>Chemical Degradation
D>None

Answer:A Explanation:

- Trilene or trichloroethylene is a good analgesic, less depressant, and non-flammable.
- Cardiac dysrhythmia, or tachypnoea may occur during administration.
- It should not be used in the closed circuit as it reacts with soda-lime to produce a toxic gas(phosgene).
- Recovery is slow and nausea as well as vomiting may be present.
- It should not be used with adrenaline infiltration lest dysrhythmia be converted to ventricular fibrillation.

Degradation:

- Brought about by enzymatic degradation
- The enzyme that starts one branch of this pathway, toluene 1,2-dioxygenase, has many other catalytic abilities, which are documented in a table of the Reactions of Toluene 1,2-Dioxygenase.
- The spontaneous degradation of trichloroethylene epoxide can produce as many as four products: dichloroacetate, carbon monoxide, glyoxylate, and formate. The number, type, and proportion of products seen depends on the local environment.

Question 241The earliest feature of 3rd cranial nerve involvement in diabetes mellitus patient is

A>Normal light reflex
B>Abnormal light reflex
C>Normal light and accommodation reflex
D>Abnormal light and accommodation reflex

Answer:A
Explanation: The oculomotor nerve is the third cranial nerve. It enters the orbit via the superior orbital fissure and innervates muscles that enable most movements of the eye and that raise the eyelid. The nerve also contains fibers that innervate the muscles that enable pupillary constriction and accommodation (ability to focus on near objects as in reading). The oculomotor nerve is derived from the basal plate of the embryonic midbrain.In people with diabetes and older than 50 years of age, an oculomotor nerve palsy occurs.

-

Question 242
During squint surgery, anesthesiologist sees the machine and see the bp suddenly drops to 40. What will be best immediate management

A>Give atropine
B>Increase level of anesthesia
C>Ask the surgeon to stop the surgery
D>Give adrenaline

Answer: D
Explantation: adrenaline should be given to raise the blood pressure.
Epinephrine, also known as adrenalin or adrenaline, is a hormone, neurotransmitter, and medication. Epinephrine is normally produced by both the adrenal glands and certain neurons.
It plays an important role in the fight-or-flight response by increasing blood flow to muscles, output of the heart, pupil dilation, and blood sugar. It does this by binding to alpha and beta receptors.

Physiologic responses to epinephrine by organ

Organ	Effects
Heart	Increases heart rate; contractility; conduction across AV node
Lungs	Increases respiratory rate; bronchodilation
Systemic	Vasoconstriction and vasodilation
Liver	Stimulates glycogenolysis
Systemic	Triggers lipolysis
Systemic	Muscle contraction

Question 243
All are special visceral efferent column except

A>Glossopharyngeal n
B>Nucleus ambiguus
C>vagus nerve
D>trigeminal nerve

Answer: B
Explanation: Special visceral efferent fibers (SVE) are the efferent nerve fibers that provide motor innervation to the muscles of the pharyngeal arches in humans,The only nerves containing SVE fibers are cranial nerves: the trigeminal nerve (V), the facial nerve (VII), the glossopharyngeal nerve (IX), the vagus nerve (X) and the accessory nerve

Question 244.
Which of the following conditions is NOT caused by Parvovirus B19?

A>Roseola infantum
B>Aplastic anemia in sickle cell disease
C>Fetal hydrops
D>Erythema infectiosum

Answer: A
Explanation:
Primary infection by parvovirus B19 often produces an acute, severe, and sometimes fatal anemia manifested as a rapid fall in red blood cell count and hemoglobin.
These patients may present initially with no clinical symptoms other than fever; this is commonly referred to as aplastic crisis.
Erythema infectiosum (also referred to as fifth disease or academy rash) is a more common disease that is clearly attributable to parvovirus B19.
Active transplacental transmission of parvovirus B19 can occur during primary infections in the first 20 weeks of pregnancy, sometimes resulting in stillbirth of fetuses that are profoundly anemic.
The progress can be so severe that hypoxic damage to the heart, liver, and other tissues leads to extensive edema (hydrops fetalis).

Question 245
Which of the following statements is not true about iliolumbar ligament?

A> Upper fibers attached to iliac crest
B> Lower fibers attached to base of sacrum
C>Help in maintaining lumbosacral joint stability
D>Upper attachment to transverse process of T12

Answer: Option D - Upper attachment to transverse process of T12
Explanation: The ligament attaches to T5

Iliolumbar ligament:

- Strong ligament passing from the tip of transverse process of fifth lumbar vertebra to posterior part of inner lip of iliac crest
- Upper bands get attached to the iliac crest.
- Lower bands get attached to the base of sacrum.
- Major function is to strengthen the lumbosacral joint.

Question 246.
Where will be the placement location for Auditory Brainstem Implant?

A>Scala tympani
B>Recess of 4th ventricle
C>IAC
D>back of ear

Answer: Option B - Recess of 4th ventricle.
Explanation: The implant is usually placed in the lateral recess of the fourth ventricle at the time of tumor resection to stimulate the cochlear nucleus

Auditory Brainstem Implant (ABI):

- Tumor resection surgery in NF patients result in cochlear nerve damage or loss of function of nerve resulting in deafness.
- ABI are useful in restoring auditory perception to deaf patients with neurofibromatosis type 2 (NF2)
- Also used in treatment of congenitally deaf children with cochlear malformations or cochlear nerve deficiencies.
- Placement location: Lateral recess of 4th ventricle

Question 247
Which condition is associated with Congenital adrenal hypoplasia?

A> Male pseudohermaphroditism
B> Female pseudohermaphroditism
C> True pseudohermaphroditism
D> Sequential pseudohermaphroditism

Answer - Option A - Male pseudohermaphroditism Explanation:

- X-linked congenital adrenal hypoplasia (AHC) is a rare developmental disorder of the human adrenal cortex and is caused by deletion or mutation of the DAX-1 gene.
- DAX1 necessary for differentiation of the definitive adult adrenal cortex
- Male pseudohermaphroditism results from inadequate androgen secretion or

inappropriate androgen action

-

Question 248
Which is true regarding ataxia telangiectasia:

A>Increase in AFP
B>Increases the risk of squamous cell carcinoma
C>Autosomal dominant
D> None of above

Answer: Option A - Increase in AFP
Explanation: Increase in alpha-fetoprotein is observed in Ataxia telangiectasia

- Ataxia-telangiectasia / Ataxia-telangiectasia syndrome / Louis-Bar syndrome
  - Rare, neurodegenerative, autosomal recessive disorder causing severe disability.
  - Ataxia refers to poor coordination; Telangiectasia refers to small dilated blood vessels.

- Parts affected:
  - Cerebellum - movement & coordination difficulties
  - Immune system - Predisposing to infections.
  - Genetic repair system - Preventing process for repairing DNA - Cancer risk

- Features:
  - Increased incidence of lymphoma & Leukemia
  - Increased alpha-Fetoprotein levels
  - Oculomotor apraxia (difficulty in coordination between head & eye movements)
  - Dysarthria

Question 249
A diabetic patient 2 days after post cataract surgery develops hypopyon. What will be the management?

A. **Intravitreal antibiotics**
B. **Eye drops**
C. **Surgery**
D. **No treatment required**

Ans. A. Intravitreal antibiotics
Explanation:

Question 250

What is the Thinnest part of the neuro-retinal rim according to ISNT rule?

A. **Inferior**
B. **Superficial**
C. **Temporal**
D. **Medial**

Ans. C. Temporal

Explanation:

The ISNT rule is an easy way to remember how the optic nerve is supposed to look in a normal eye. Normally the neuro-retinal rim is thickest Inferiorly and thinnest Temporally. With glaucoma, however, you begin to see vertical thinning, with atrophy along the inferior and superior rims.

Question: 251
Leiden thrombophilia is caused by mutational deficiency of which of the following factors?

A. **Factor V**
B. **Factor VII**
C. **Factor IX**
D. **Factor X**

Ans. A. Factor V
Explanation:
Factor V Leiden thrombophilia is an inherited disorder of blood clotting. Factor V Leiden is the name of a specific mutation (genetic alteration) that results in thrombophilia, or an increased tendency to form abnormal blood clots in blood vessels. Factor V Leiden is the most common inherited form of thrombophilia.

Question:252
Anteversion of the uterus is maintained by?

A. **Cardinal**
B. **Uterosacral**
C. **Pubocervical**
D. **Round**

Ans. D. Round
Explanation:
In most women, the uterus is anteverted and anteflexed. The function of the round ligament is maintenance of the anteversion of the uterus(a position where the fundus of the uterus is turned forward at the junction of cervix and vagina) during pregnancy. Normally, the cardinal ligament is what supports the uterine angle (angle of anteversion).

Question:253

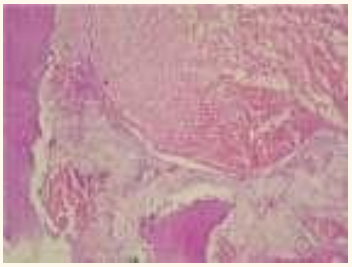
Long standing pelvic inflammation may lead to which of the following conditions?

A. **Pyometra**

B. **zUterine polyps**
C. **Pseudopregnancy**
D. **Cystic endometrial hyperplasia**

Ans. A.Pyometra Explanation:
Pyometra is a collection of pus due to obstruction of flow in the uterine cavity. It may be due to Long standing PID or secondary to cervical stenosis.

Question:254
A red soft to firm swelling on the sternum that on biopsy shows the following histology. What is the diagnosis?



A. **Hemangioma**
B. **Osteochondroma**
C. **Osteoid osteoma**
D. **Paget disease**

Ans. A. Hemangioma
Explanation:
Clinical presentation
These tumors are slow growing and are generally asymptomatic unless they exert mass effect on sensitive structures. Occasionally they may present as a swelling or a palpable mass, especially in the skull. When large and strategically located they may present with a pathological fracture.
If they are high-flow lesions, shunt-related symptoms may also be present.

Pathology
Primary intraosseous haemangiomas are slow growing vascular neoplasms, usually located in the medullary cavity. They are classified as benign, but rarely may be locally aggressive.
Histology
Histologically, intraosseous haemangiomas demonstrate hamartomatous vascular tissue within endothelium, but may also contain fat, smooth muscle, fibrous tissue, and thrombi.

Question:255
What differentiates delirium from dementia?
A. **Confusion**

B. Difficulty in communicating
C. Hallucination
D. Sudden change

Answer:D Explanation:
Delirium
Also called the acute confusional state, delirium is a medical condition that results in confusion and other disruptions in thinking and behavior, including changes in perception, attention, mood and activity level.
In dementia, changes in memory and intellect are slowly evident over months or years. Delirium is a more abrupt confusion, emerging over days or weeks, and represents a sudden change from the person's previous course of dementia. Thinking becomes more disorganized, and maintaining a coherent conversation may not be possible.
The hallmark separating delirium from underlying dementia is inattention. The individual simply cannot focus on one idea or task.

Question:256
Genital warts are caused by which virus?

A. Herpes simplex
B. Human papilloma
C. Cytomegalovirus
D. Varicella zoster

Ans. B.Human papilloma
Explanation:
Genital warts are soft growths that appear on the genitals. Genital warts are a sexually transmitted infection (STI) caused by certain strains of the human papillomavirus (HPV). These skin growths can cause pain, discomfort, and itching.

Question:257
Which drug regimen is given in a pregnant woman with HIV infection?

A. Tenofovir disoproxil fumarate with emtricitabine
B. Tenofovir disoproxil fumarate with lamivudine
C. Abacavir with lamivudine
D. All

Ans. D. All

Explanation: Preferred Regimens for HIV Antiretroviral Therapy (ART) in Pregnancy
Two-NRTI backbone
Regimens include the following:

- Tenofovir disoproxil fumarate with emtricitabine (TDF/FTC co-formulated) or tenofovir disoproxil fumarate with lamivudine (3TC) once daily (use with caution in renal insufficiency) or
- Abacavir with lamivudine (ABC/3TC) once daily (only if HLA-B5701–negative); avoid combination with ritonavir-boosted atazanavir if the pretreatment HIV viral load exceeds 100,000 copies/mL.

For women who have never taken HIV medicines, the preferred HIV regimen should include two nucleoside reverse transcriptase inhibitors (NRTIs) plus an integrase strand transfer inhibitor (INSTI), a non-nucleoside reverse transcriptase inhibitor (NNRTI), or a protease inhibitor (PI) with low-dose ritonavir (brand name: Norvir).
The regimen generally should include at least one of the following NRTIs that pass easily across the placenta:

- abacavir (brand name: Ziagen)
- emtricitabine (brand name: Emtriva)
- lamivudine (brand name: Epivir)
- tenofovir disoproxil fumarate(brand name: Viread)
- zidovudine (brand name: Retrovir)

Question: 258
Which of the following structures develops from dorsal mesentery?

A. Greater omentum
B. Lesser omentum
C. Liver
D. Diaphragm

Ans. A.
Explanation:
The portion of the dorsal mesentery that attaches to the greater curvature of the stomach, is known as the dorsal mesogastrium. The part of the dorsal mesentery that suspends the colon is termed the mesocolon. The dorsal mesogastrium develops into the greater omentum.

Question 259:
What is the structure seen in the given X-ray below?

A. Stent
B. Surgical clips
C. Foley catheter
D. Intravesical wire

Ans. A. Stent
Explanation:
Plain abdominal X ray showing a stent in the right and left ureter.
Ureteric stents,also known as double J stents or retrograde ureteric stents, is a urological catheter that has two "J-shaped" (curled) ends, where one is anchored in the renal pelvis and the other inside the bladder.

Stents are used for the free passage of urine from the kidney to the bladder, in adverse conditions such as postoperative urologic procedures, and previously to lithotripsy and ureteral obstructions.
Indications
Stents may be uses for a short of long term period depending on the indication:

- obstruction from urolithiasis
- malignant obstruction (typically pelvic malignancies)
- benign strictures
- retroperitoneal fibrosis

bilateral ureteric stents

Question 260:
What is the diagnosis based on the following X-ray?

A. **Uterine Fibroid**
B. **Bladder Carcinoma**
C. **Bladder stone**
D. **Renal Tuberculosis**

Ans. C. Bladder stone
Explanation:
Multiple bladder calculi. Four oval radiopaque bladder stones are visible centrally in the pelvis. Most bladder calculi are round or oval, but they may also be amorphous, laminated, or even spiculated.

Bladder stones are small mineral deposits that can form in the bladder. In most cases bladder stones develop when the urine becomes very concentrated or when one is dehydrated.
This allows for minerals, such as calcium or magnesium salts, to crystallize and form stones.
In some cases bladder stones do not cause any symptoms and are discovered as an incidental finding on a plain radiograph.

Bladder stones vary in their size, shape and texture- some are small, hard and smooth whereas others are huge, spiked and very soft. One can have one or multiple stones. Bladder stones are somewhat more common in men who have prostate enlargement. The large prostate presses on the urethra and makes it difficult to pass urine. Over time, stagnant urine collects in the bladder and minerals like calcium start to precipitate.

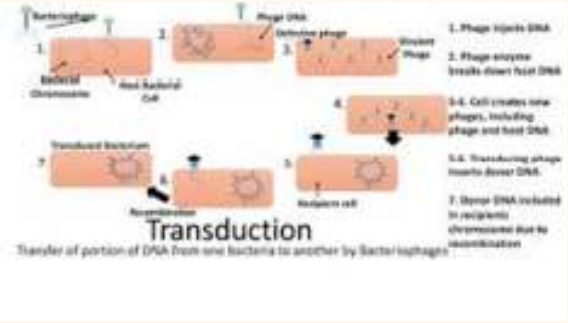
Radiography
The initial imaging study of choice is plain radiography of the kidneys, ureters, and bladder (KUB), which is the least expensive and easiest radiologic test to obtain. Pure uric acid and ammonium urate stones are radiolucent but may be coated with a layer of opaque calcium sediment. Laminations are common, with the layers stratified according to metabolic and infectious status and the degree of periodic hematuria (see the images below).

Multiple laminated bladder calculi in patients with neurogenic bladder.

Question 261:
By which method foreign DNA is introduced into a cell by a virus or viral vector?

A. **Transduction**
B. **Transcription**
C. **Lysogenic conversion**
D. **Transformation**

Ans. A. Transduction
Explanation:
Transduction is the process by which foreign DNA is introduced into a cell by a virus or viral vector. An example is the viral transfer of DNA from one bacterium to another.



Question 262:
Which one of the following shows allosteric inhibition?

A. **Malonic acid & succinate**
B. **2,3 BPG**
C. **Amino acid alanine & pyruvate kinase**
D. **Citrate**

Answer:B Explanation:
Negative allosteric modulation (also known as allosteric inhibition) occurs when the binding of one ligand decreases the affinity for substrate at other active sites. For example, when 2,3-BPG binds to an allosteric site on hemoglobin, the affinity for oxygen of all subunits decreases.

Question 263:
Which of the following is seen in seropositive rheumatoid arthritis?

A. **Multiple joints affected**
B. **Symmetrical joint symptoms**
C. **Joint pain and swelling**
D. **All**

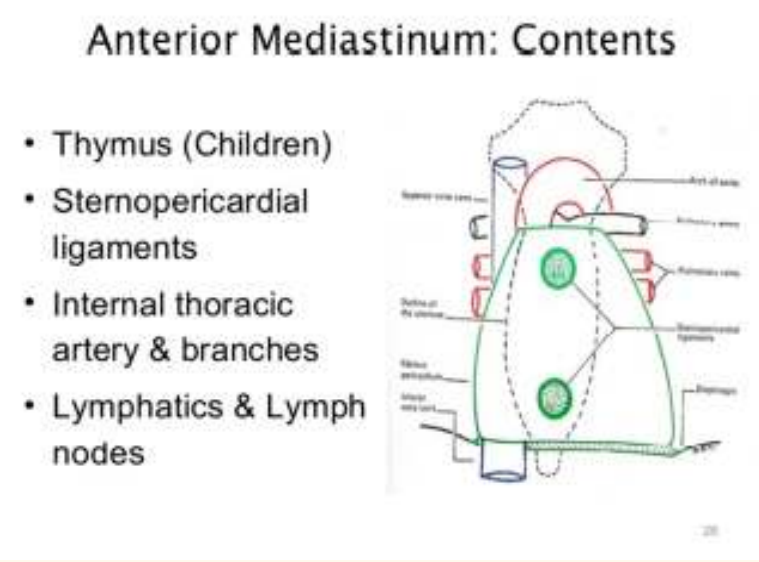
Answer:D Explanation:

- Positive for Rheumatoid factor in blood is seropositivity.
- Patients with positive rheumatoid factor usually present with symptoms like
    - Joint deformities & disability
    - Symmetrical involvement of joints
    - Inflammation
    - Swelling and painful in multiple joints, especially of hands and feet.
    - Morning stiffness (short term)
    - Development of firm lumps near joints - “Rheumatoid nodules”
    - Deterioration of bone & cartilage (X- ray findings)

Question 264:
Which of the following is not seen in Anterior mediastinum

A. **Thyroid tumor**
B. **Thymoma**
C. **Lymphoma**
D. **Neurogenic tumor**

Answer:D Explanation:



- The anterior mediastinum is the portion of the mediastinum anterior to the pericardium and below the thoracic plane.
- It forms the anterior part of the inferior mediastinum
- contains the thymus, lymph nodes, and may contain the portions of a retrosternal thyroid.

Mediastinal Tumors and Other Masses

Superior Mediastinum	Anterior Mediastinum	Posterior Mediastinum	Middle Mediastinum
Lymphoma	Thymoma	Neurogenic tumors	Bronchogenic cyst
Thymoma	Teratoma	Lymphoma	Pericardial cyst
Thyroid lesions	Lymphoma	Gastroenteric hernia	Lymphoma
Metastatic carcinoma	Thyroid lesions		
Parathyroid tumors	Parathyroid tumors		

Question 265:
Struvite stone is caused by which metal?

A> Magnesium
B> Calcium
C> sodium & potassium
D> both (a) & (b)

Ans. Magnesium
Explanation:
Struvite, a crystalline substance is composed of magnesium ammonium phosphate ($MgNH_4PO_4 \cdot 6H_2O$). Struvite urinary stones have also been referred to as “infection stones'' and “triple phosphate” stones. Struvite stones can be caused by alkaline urine, steroid therapy, abnormal retention of urine, a urinary tract infection, or other disorder of the urinary tract.
There are five primary types of commonly encountered urinary stones, i.e., calcium oxalate, calcium phosphate, magnesium ammonium phosphate, uric acid, and cystine.

Question 266:
Which of the following statements about Graves disease is false?

A> Results in hyperthyroidism
B> Autoimmune disorder
C> Common in Male
D> Referred as Toxic diffuse goiter

Ans. Option C - Common in male
Explanation:
Graves' disease:

- Autoimmune system disorder
- Both men and women get affected;
- Yet, 10 times more common in women than men
- Affects younger women < 40 years
- Results in overproduction of thyroid hormones (hyperthyroidism).
- Signs and symptoms:
    - Anxiety
    - Irritability
    - Heat sensitivity
    - Increased perspiration/ warm and moist skin
    - Weight loss
    - Goiter (Glandular enlargement)
    - Menstrual cycle changes
    - Erectile dysfunction/ reduced libido
    - Graves Ophthalmopathy - Bulging eyes - Exophthalmos
    - Graves dermopathy - Thick, red skin on shins / top of feet.

- Antibody for grave disease - Thyrotropin receptor antibody (TRAb) acts on the

regulatory pituitary hormone interfering with the normal secretion of thyroxine.

- TRAb overrides normal regulation causing an overproduction of thyroid hormones (hyperthyroidism).

Question 267:
Aldosterone synthesis is stimulated by which of the following?

A. ACTH
B. Hyperkalemia
C. C.Hypernatremia
D. D.Exogenous steroids

Ans. B
Explanation:

Mineralocorticoid secretion is stimulated by hyperkalemia, angiotensin-H, ACTH and hyponatremia, in reducing order of efficacy.

1. Aldosterone secretion in response to hyperkalemia is the most important and forms the basis for renal regulation of body potassium balance.
2. Stimulation of aldosterone by angiotensin II (through renin-angiotensin system) is important for the correction of hypovolemia and hypotension in conditions like salt depletion or renal ischemia.
3. Stimulation of aldosterone secretion by ACTH results in diurnal variation of aldosterone secretion.
4. However, ACTH is not an important physiological regulator for aldosterone secretion. Hyponatremia is a weak stimulator of aldosterone secretion

Question 268
Which of the following is false about Alzheimer's disease?

A. One in 10 people age 65 and older has Alzheimer’s disease.
B. Alzheimer’s disease is curable.
C. Cause dementia
D. All of the above

Ans. B
Explanation: Alzheimer's disease Also called: senile dementia. A progressive disease that destroys memory and other important mental functions.
Memory loss and confusion are the main symptoms.
Currently, there is no cure for Alzheimer's. But drug and non-drug treatments may help with both cognitive and behavioral symptoms.
The treatments available for Alzheimer’s do not slow or stop the progression of the disease, but they may help with the symptoms for a time.
There are three cholinesterase inhibitors to treat Alzheimer’s:

- Donepezil (Aricept)
- Rivastigmine (Exelon)
- Galantamine (Reminyl)

People may experience:

- Cognitive: mental decline, difficulty thinking and understanding, confusion in the evening hours, delusion, disorientation, forgetfulness, making things up, mental confusion, difficulty concentrating, inability to create new memories, inability to do simple math, or inability to recognise common things
- Behavioural: aggression, agitation, difficulty with self care, irritability, meaningless repetition of own words, personality changes, restlessness, lack of restraint, or wandering and getting lost
- Mood: anger, apathy, general discontent, loneliness, or mood swings
- Psychological: depression, hallucination, or paranoia

- Also common: behavioral symptoms, inability to combine muscle movements, jumbled speech, or loss of appetite

Question 269
Which of the following is true about vitamin K?

A> anticoagulant
B> Prolong use of antimicrobial leads to deficiency
C> dietary allowance is 15-20 mg
D> all of the above

Ans. Prolong use of antimicrobial leads to deficiency
Explanation:
Certain people are at increased risk if they:

- take coumarin anticoagulants such as warfarin, which thins the blood
- are taking antibiotics
- have a condition that causes the body to not absorb fat properly (fat malabsorption)
- have a diet that is extremely lacking in vitamin K

Vitamin K is a group of structurally similar, fat-soluble vitamins the human body requires for complete synthesis of certain proteins that are prerequisites for blood coagulation and which the body also needs for controlling binding of calcium in bones and other tissues
The body needs vitamin K to produce prothrombin, a protein and clotting factor that is important in blood clotting and bone metabolism.
Without vitamin K, blood coagulation is seriously impaired, and uncontrolled bleeding occurs. Preliminary clinical research indicates that deficiency of vitamin K may weaken bones, potentially leading to osteoporosis, and may promote calcification of arteries and other soft tissues
Dietary allowance for adults per day- 50-100 mg.

Question 270
Which drugs need continuous monitoring of prothrombin time?

A.Aspirin
B.Lepirudin
C.Digoxin
D. Coumadin

Ans.D
Explanation: Coumadin (warfarin) is an anticoagulant.
Warfarin is a coumarin anticoagulant used for the prophylaxis and treatment of thromboembolic complications associated with cardiac valve replacement and atrial fibrillation,as well as the prophylaxis and treatment of venous thrombosis and pulmonary embolism.Increased metabolism of warfarin results in insufficient prolongation of prothrombin time.

Question 271
Which of the following are the risk factors for cutaneous lymphoma?

A> Age
B> Gender
C> Weakened immune system
D> All

Answer:D Explanation:
Risk Factors for Lymphoma of the Skin
Age is an important risk factor for this disease, with most cases occurring in people in their 50s and 60s. But some types of skin lymphoma can appear in younger people, even in children.
Gender and race Most (but not all) types of skin lymphoma are more common in men than in women. Most also tend to be more common in African-Americans than in whites. The reasons for this are not known.
Weakened immune systemSkin lymphomas may be more common in people with acquired immunodeficiency syndrome (AIDS), who have a weakened immune system. They may also be more common in people who have had an organ transplant such as a heart, kidney or liver transplant. These people must take drugs that suppress their immune system, which may raise the risk of skin lymphoma (or lymphomas in other parts of the body).
Infection Infection with the human immunodeficiency virus (HIV), the virus that causes AIDS, may increase a person's risk of skin lymphoma.

Question 272:
Which is not included in the AIDS related complex?

A. **Ectopic pregnancy**
B. **Recurrent genital candidiasis**
C. **Generalized lymphadenopathy**
D. **Chronic diarrhea**

Answer- A
Explanation: HIV symptoms: AIDS related complex (ARC)

It belongs to class B of HIV symptoms. The patients at this stage have various diseases that occur because the HI virus has weakened the immune system.
The following HIV signs may have patients with ARC:

- Long-lasting diarrhea (over four weeks)
- Unintended heavy weight loss
- Long lasting fever

- Night sweats
- Bacterial infections caused by bacteria
- Bacterial blood poisoning (sepsis)
- Phthisis
- Herpes zoster
- Oral hairy leukoplakia (whitish changes on the lateral tongue border)
- Fungi caused by fungi
- HIV symptoms – Women: vaginal inflammation caused by fungi, malignant changes in the cervix

Question 273:
Which is the treatment of choice for irradiation in Chordoma?

A> Protons
B> Electrons
C> Gamma radiation
D> 3D - CRT

Answer: Option A - Proton Therapy
Explanation:

- Chordoma:
  - Slow-growing neoplasm
  - Arising from cellular remnants of notochord.
  - Arise from bone in the skull base and along the spinal cord.
  - Most common locations -
    - Cranially at clivus
    - In sacrum at bottom of spine
- Radiation therapy:
  - Are relatively radioresistant
  - High doses of radiation required to control.
  - Hence, high focus radiation like proton therapy and carbon ion therapy are preferred over conventional radiation methods.
  - Close proximity to vital structures like the brain stem, requires high precision and accuracy for any planned surgical resection.
  - Radiation with high accuracy and minimal damage with maximal safety is delivered.

Question 274:
A woman shows symptoms of massive pulmonary thromboembolism.The gross appearance of liver autopsy is shown. Which of the following statements best characterizes the patient's condition?

A> Metastasis from PE
B> Angiosarcoma
C> Colonic adenocarcinoma with metastasis
D>Locally invaded hepatocellular carcinoma

Answer: Option C Explanation:
The figure shows the appearance of metastatic lesions from a malignant neoplasm with multiple tumor masses The liver is the most common site of metastases for tumor sites that drain initially via the portal circulation. Metastatic liver disease is found in 10% to 25% of patients having surgery for primary colorectal cancer
Surgical resection is the most effective therapy for metastatic colorectal cancer isolated to the liver.

Question 275
Which of the following statements is false about the MR vaccination campaign launched by WHO?

A>Children from 9 months to less than 15 vaccinated
B>Congenital rubella syndrome (CRS), responsible for irreversible birth defects
C>India has not yet launched this campaign
D>Will replace routine immunization for measles vaccine

Answer:C Explanation

- One of the world's largest vaccination campaigns against measles, a major childhood killer disease, and congenital rubella syndrome (CRS), responsible for irreversible birth defects.
- India, along with ten other WHO South East Asia Region member countries, have resolved to eliminate measles and control rubella/congenital rubella syndrome (CRS) by 2020
- .All children from 9 months to less than 15 years of age will be given a single shot of Measles- Rubella (MR) vaccination during the campaign
- . Following the campaign, MR vaccine will become a part of routine immunization and will replace measles vaccine, currently given at 9-12 months and 16-24 months of age of child.
- For those children who have already received such vaccination, the campaign dose would provide additional boosting to them.

Question 276.
Which of the following true regarding Hemophilia A

A>Serum levels of factor VIII are decreased.
B>Deficiency of factor IX
C>PT increased
D>FIT decreased

Answer: A
Explanation

- Hemophilia is an X linked disorder of coagulation caused by the deficiency in a circulating plasma protein. Hemophilia A is caused by the deficiency of factor VIII, and hemophilia B is caused by the deficiency of factor IX.
- It is PTT which is affected (increased) and not PT (unaffected).
- Factor VIII is involved in the intrinsic pathwa^{y} which is measured by PTT and not in the extrinsic pathway which is measured as PT.
- Bleeding is the common manifestation of hemophilia and the common bleeding manifestations are hemarthrosis, hematomas, mucocutaneous bleeding, intracranial bleeding, hematuria and pseudotumor.

Question 277
Marked bleeding is seen in which of the following conditions?

A>VMA disease
B>Haemophilia A
C>Haemophilia B
D>ALL

Answer: D
Explanation
Bleeding disorders can be inherited or acquired. Inherited disorders are passed down through genetics. Acquired disorders can develop or spontaneously occur later in life. Some bleeding disorders can result in severe bleeding following an accident or injury. In other disorders, heavy bleeding can happen suddenly and for no reason.
There are numerous different bleeding disorders, but the following are the most common ones:

Hemophilia A and B are conditions that occur when there are low levels of clotting factors in your blood. It causes heavy or unusual bleeding into the joints. Though hemophilia is rare, it can have life-threatening complications.

Factor II, V, VII, X, or XII deficiencies are bleeding disorders related to blood clotting problems or abnormal bleeding problems.

von Willebrand's disease is the most common inherited bleeding disorder. It develops when the blood lacks von Willebrand factor, which helps the blood to clot.

Question 278
Reed sternberg cells are found in

A>Hodgkin's disease
B>Sickle cell anemia
C> Thalassemia
D>CML

Answer: A
Explanation:

- Reed-Sternberg cells
- They are usually derived from B lymphocytes, classically considered crippled germinal center B cells.
- Seen against a sea of B cells, they give the tissue a moth-eaten appearance.
- They are named after Dorothy Reed Mendenhall and Carl Sternberg, who provided the first definitive microscopic descriptions of Hodgkin's disease.
- Reed-Sternberg cells are large and are either multinucleated or have a bibbed nucleus (thus resembling an "owl's eye" appearance) with prominent eosinophilic inclusion-like nucleoli.
- Reed-Sternberg cells are CD30 and CD15 positive, usually negative for CD20 and CD45.
- The presence of these cells is necessary in the diagnosis of Hodgkin's lymphoma - the absence of Reed-Sternberg cells has very high negative predictive value.
- They can also be found in reactive lymphadenopathy (such as infectious mononucleosis, carbamazepine associated lymphadenopathy) and very often in other types of non-Hodgkin lymphomas.
- A special type of Reed-Sternberg cells is the lacunar histiocyte, whose cytoplasm retracts when fixed in formalin, so the nuclei give the appearance of cells that lie with empty spaces (called lacunae) between them.

These are characteristic of the nodular sclerosis subtype of Hodgkin's lymphoma

Question 279
A bedridden patient experiences acute chest pain which is worsened by breathing.Which imaging techniques could be helpful?

A>USG
B>X-ray chest
C>Ventilation perfusion scan
D>CT scan

Answer:
Explanation. Symptoms of pulmonary embolism (PE) are

- Sudden-onset dyspnea
- Tachypnea

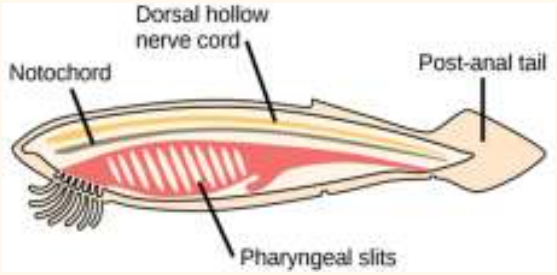
- Chest pain of a "pleuritic" nature (worsened by breathing)
- Cough
- Hemoptysis

More severe cases can include signs such as cyanosis, collapse, and circulatory instability. On physical examination, a pleural rub may be audible by stethoscope over affected areas of the lung. Strain on the right ventricle may be detected as a left parasternal heave, a loud pulmonary component of the second heart sound, raised jugular venous pressure, and more rarely leg swelling.
The gold standard for diagnosing pulmonary embolism (PE) is pulmonary angiography. Pulmonary angiography is used less often due to wider acceptance of CT scans, which are non-invasive.

Question 280:
Chordoma arises from:

A> Pharyngeal bursa
B> Notochord
C> Rathke's pouch
D>Luschka's bursa

Answer: Option - B
Explanation: Chordoma is a rare slow-growing neoplasm thought to arise from cellular remnants of the notochord.
Chordomas can arise from bone in the skull base and anywhere along the spine. The two most common locations are cranially at the clivus and in the sacrum at the bottom of the spine.
There are three histological variants of chordoma: classical (or "conventional"), chondroid and dedifferentiated.



Question 281:
What is the effect of Progesterone only pills?

A> Completely suppresses ovulation
B> Thin lining of uterus
C> Thick cervical mucus
D> All of the above

Answer: Option D - All of the above

Explanation:

- Progestogen-only pills / Progestin-only Pills (POP) / Morning after pills -
  - Contraceptive pills
  - Contain only synthetic progestins & doesnt contain estrogen.
- Mechanism:
  - Mucus thickening in neck of womb:
    - Penetration of sperm to reach the egg and womb becomes difficult.
  - Prevents ovulation:
  - Lining of the uterus becomes thin
    - Fertilized egg implantation is prevented
- Advantages:
  - Doesn't interfere with breastfeeding
  - Also helps in premenstrual symptoms and painful periods

Question 282:
Which metal results in "Saturnine gout" formation?

A> Cadmium
B> Lead
C> Beryllium
D> Mercury

Answer: Option - B - Lead
Explanation:

- One manifestation of chronic lead toxicity is the rheumatologic entity known as saturnine gout.
- Illicitly distilled beverages may inadvertently contain harmful toxins, like metallic lead.
- Lead has been known to play a role in purine metabolism & renal insufficiency

Question 283:
Which drug decreases the bone resorption in osteoporosis?

A>Teriparatide
B> Risedronate
C> Cortisone
D> Cimetidine

Answer: Option B - Risedronate
Explanation: Risedronate bisphosphonates inhibits bone resorption by actions on osteoclast precursors in osteoporosis patients

- Risedronate:
    - Aminobisphosphonate
- Indications:

    - Prevention & treatment of osteoporosis
- Mechanism of action:
    - Inhibits bone resorption by action on osteoclasts
    - Reduce bone remodeling
    - More potent in blocking the bone dissolution process.

- Teriparatide, an PTH analog, recombinant human PTH is also used, yet in severe cases of osteoporosis, improving the skeletal microarchitecture

Question 284
Phenylketonuria is due to deficiency of:

A> Phenylalanine
B>Phenylalanine hydroxylase (PAH)
C> Phenylene
D> All of these

Answer B
Explanation: A birth defect that causes an amino acid called phenylalanine to build up in the body.

PKU is an autosomal recessive metabolic genetic disorder.

PKU is characterized by homozygous or compound heterozygous mutations in the gene for the hepatic enzyme phenylalanine hydroxylase (PAH), rendering it nonfunctional.

This enzyme is necessary to metabolize the amino acid phenylalanine (Phe) to the amino acid tyrosine (Tyr). When PAH activity is reduced, phenylalanine accumulates and is converted into phenylpyruvate (also known as phenylketone), which can be detected in the urine.

The PAH gene is located on chromosome 12 in the bands 12q22-q24.1. More than 400 disease-causing mutations have been found in the PAH gene.

Question 285
WHICH IS NOT CORRECT:

A> MRI needed to access hemorrhage
B> GCS assessment helps in prognosis
C> Haematoma must be operated
D> all of the above

Answer- C
Explanation - Treatment of hematoma depends on the location, symptoms, and the clinical situation. Some may require no treatment at all while others may be deemed a medical emergency.
Simple therapies at home may be utilized in treating superficial (under the skin) hematomas. Most injuries

and bruises can be treated with resting, icing, compression, and elevating the area. This is remembered by the acronym RICE.
These measures usually help to reduce inflammation and diminish its symptoms.

- Rest
- Ice (Apply the ice or cold pack for 20 minutes at a time, 4 to 8 times a day.)
- Compress (Compression can be achieved by using elastic bandages.)
- Elevate (Elevation of the injured area above the level of the heart is recommended.)

Medical treatment for a hematoma

For certain small and symptom-free hematomas no medical treatment may be necessary. On the other hand, symptomatic hematomas or those located in certain locations sometimes require medical or surgical treatment.
Even though no specific mediation is available for the treatment of hematomas, management of any related symptoms can be achieved by medications. For example, pain from a hematoma can be treated with pain medications such as acetaminophen (Tylenol). Surgical drainage is a common method of treatment for certain hematomas.

Question 286
Maastricht classification of donation after cardiac death.What category is stage 3 ?

A>Awaiting cardiac arrest
B>Brought in dead
C>Unsuccessful resuscitation
D>Cardiac arrest after brain-stem death
Answer : A>Awaiting cardiac arrest
Non heart beating donors are grouped according to Maastricht classification .

Question 287
What is the cause of myocardial shock other than MI ?

A> acute mitral regurgitation
B>ventricular septal rupture
C> isolated right ventricular shock
D>all of the above

Answer : D> All of the above
Explanation:

- Left ventricular dysfunction (LVD) - Most frequent cause of cardiogenic shock

Followed by,

- Acute mitral valve regurgitation

- Ventricular septal defect
- Isolated right ventricular shock
- Tamponade/ cardiac rupture

Question 288
Nitric oxide acts by increasing ?

A> BRCA 1
B> BRCA 2
C>Interleukin
D>cGMP

Answer: D> cGMP
Explanation:

- Nitric oxide diffuses to the surrounding smooth muscle cells, increasing cGMP .
- Cyclic guanosine monophosphate (cGMP)
  - Cyclic nucleotide derived from guanosine triphosphate (GTP).
- Function:
  - cGMP acts as a second messenger much like cyclic AMP.
- Mechanism of action:
  - Activation of intracellular protein kinases in response to the binding of membrane- impermeable peptide hormones.

Question 289:
Positive acid schiff macrophages seen in ?

A>Whipple's disease
B> Crohn's disease
C> AIDS
D> None of the above

Answer : A> Whipple's disease.
Explanation : The traditional laboratory diagnosis is based on light microscopy, which shows diastase- resistant, periodic acid-Schiff (PAS)-positive, non-acid-fast granules in The distinction could be made by
acid-fast staining, which is positive for patients infected with M. avium and negative for those with
Whipple's disease.

Question 290:
A boy presented with multiple non suppurative osteomyelitis with sickle cell anemia. What will be the causative organism?

A. **Salmonella**
B. **S. aureus**
C. **H. influenzae**

D. **Enterobacter species**

Ans. A. Salmonella
Explanation:
Following are the various micro -organism involved in osteomyelitis

Age group	Most common organisms
Newborns (younger than 4 mo)	S. aureus, Enterobacter species, and group A and B Streptococcus species
Children (aged 4 mo to 4 y)	S. aureus, group A Streptococcus species, Haemophilus influenzae, and Enterobacter species
Children, adolescents (aged 4 y to adult)	S. aureus (80%), group A Streptococcus species, H. influenzae, and Enterobacter species
Adult	S. aureus and occasionally Enterobacter or Streptococcus species
Sickle cell anemia patients	Salmonella species are most common in patients with sickle cell disease

Question 291:
Term pathology refers to:

A. **Work**
B. **Function**
C. **Details**
D. **Explains**

Ans. A. Work
Explanation:
Pathology is the medical term for the way a disease works.
The science of the causes and effects of diseases, especially the branch of medicine that deals with the laboratory examination of samples of body tissue for diagnostic or forensic purposes.

Question 292:
1 yr child weighing 6 kg is suffering from Acute Gastroenteritis along with signs of sunken eyes & skin pinch going back to normal very rapidly. What will be your management?

A. **RL infusion 120 ml in the first hour followed by 360 ml in the next 5 hours**
B. **RL INFUSION 180 ml in the first hour followed by 420 ml in the next 5 hours**
C. **RL INFUSION 180 ML IN the first hour followed by 480 ml in the next 5 hours**
D. **RL INFUSION 240 ml in the first hour followed by 360 ml in the next 5 hours**

Ans. B.RL INFUSION 180 ml in the first hour followed by 420 ml in the next 5 hours
Explanation:

- Severe dehydration constitutes a medical emergency requiring immediate resuscitation with intravenous fluids.
- Intravenous access should be obtained, and patients should be administered a bolus of 20-30 mL/kg lactated Ringer's (LR) or normal saline (NS).
- If pulse, perfusion, and/or mental status do not improve, a second bolus should be administered.
- After this, the patient should be given an infusion of 70 mL/kg LR or NS over 5 hours (children < 12 months) or 2.5 hours (older children).
- If no peripheral veins are available, an intraosseous line should be placed. Serum electrolytes, bicarbonate, urea/creatinine, and glucose levels should be sent.

Question 293:
What constitutes a Malpighian layer?

A. **Corneum lucidum**
B. **Corneum spinosum**
C. **Spinosum and basale**
D. **Basale granulosum**

Ans.C.Spinosum and basale
Explanation:
The Malpighian layer of the skin is generally defined as both the stratum basale and stratum spinosum as a unit, although it is occasionally defined as the stratum basale specifically,or the stratum spinosum specifically. It is named after Marcello Malpighi.

Question 294:
Mechanism of action colchicine in acute gout

A. **Uric acid nephrolithiasis.**
B. **Deficiency of enzyme Xanthine oxidase.**
C. **Increase in serum urate concentration.**
D. **Renal disease involving interstitial tissues.**

Ans.B.Deficiency of enzyme Xanthine oxidase.
Explanation:
- Gout is a hereditary disorder with increase in serum uric acid due to increased production, or decreased excretion of uric acid and uric salt.
- Thought to be caused by lack of an enzyme needed to completely metabolise purines for renal excretion.

Table 1. Metabolic Risk Factors for Gout
Obesity, eating purine-rich foods (high levels of meat and seafood consumption)
Excessive alcohol intake
Metabolic syndrome • Obesity • Hypertension • Hyperlipidemia • Hyperglycemia
Type 2 diabetes mellitus
• Hypertension • Hyperlipidemia
Serum urate–elevating medications
History of urolithiasis
Chronic kidney disease, glomerular, or interstitial renal disease; polycystic kidney disease
Potential genetic or acquired cause of uric acid overproduction, including malignancy
Lead, or heavy-metal intoxication

Question 295:
Oxygen therapy may not be useful in

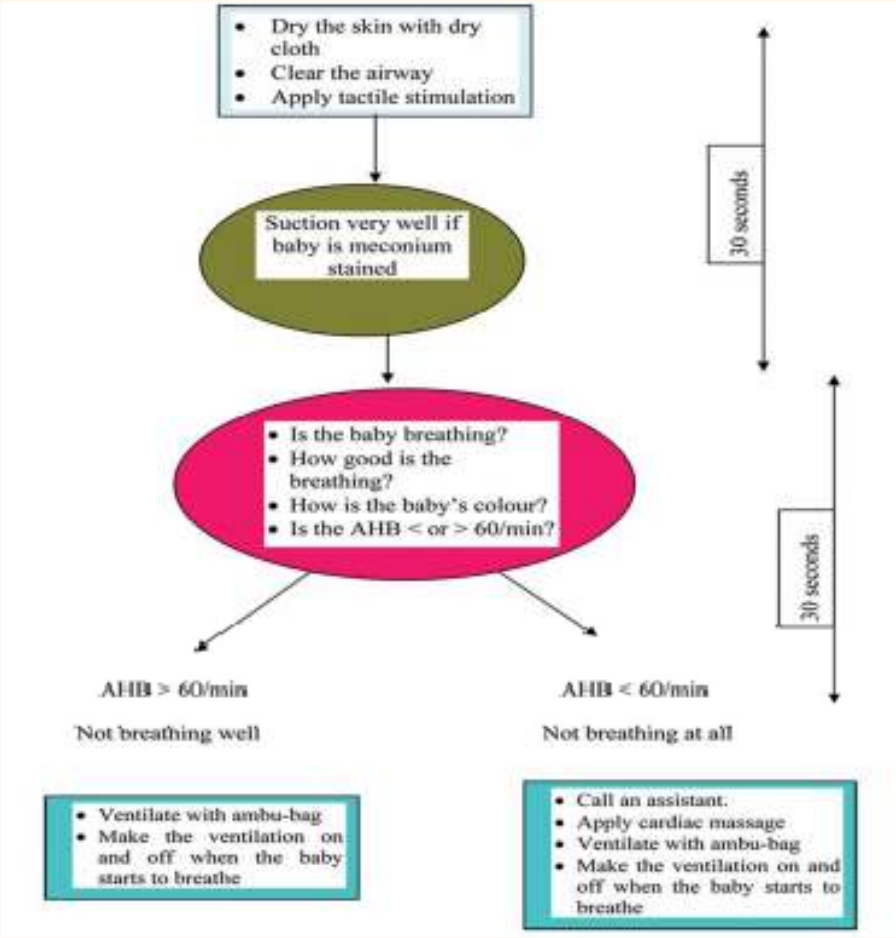
A. **Asthma**
B. **Pneumonia**
C. **Subglottic stenosis**
D. **Pulmonary fibrosis**

Ans: D.Pulmonary fibrosis
Explanation:
Many EMS protocols indicate that oxygen should not be withheld from any patient, while other protocols are more specific or circumspect. However, there are certain situations in which oxygen therapy is known to have a negative impact on a patient's condition like paraquat poisoning,pulmonary fibrosis and lung damage resulting from bleomycin treatment.

Question 296:
New born baby with heart rate less than 60 beats per minute can be resuscitated by all except
A: chest compression
B: oxygen therapy
C: tactile stimulation
D: slapping the back

Ans: D.slapping the backK

Explanation:
The first three options are indicated while slapping the back is not recommended in a newborn who has Heart rate less than 60 beats per minute.



Question 297:
Mobitz type 2 second degree AV block is seen in all except:

A: Hypothyroidism
B: Coronary Artery Disease
C: Sarcoidosis
D: Cushing syndrome

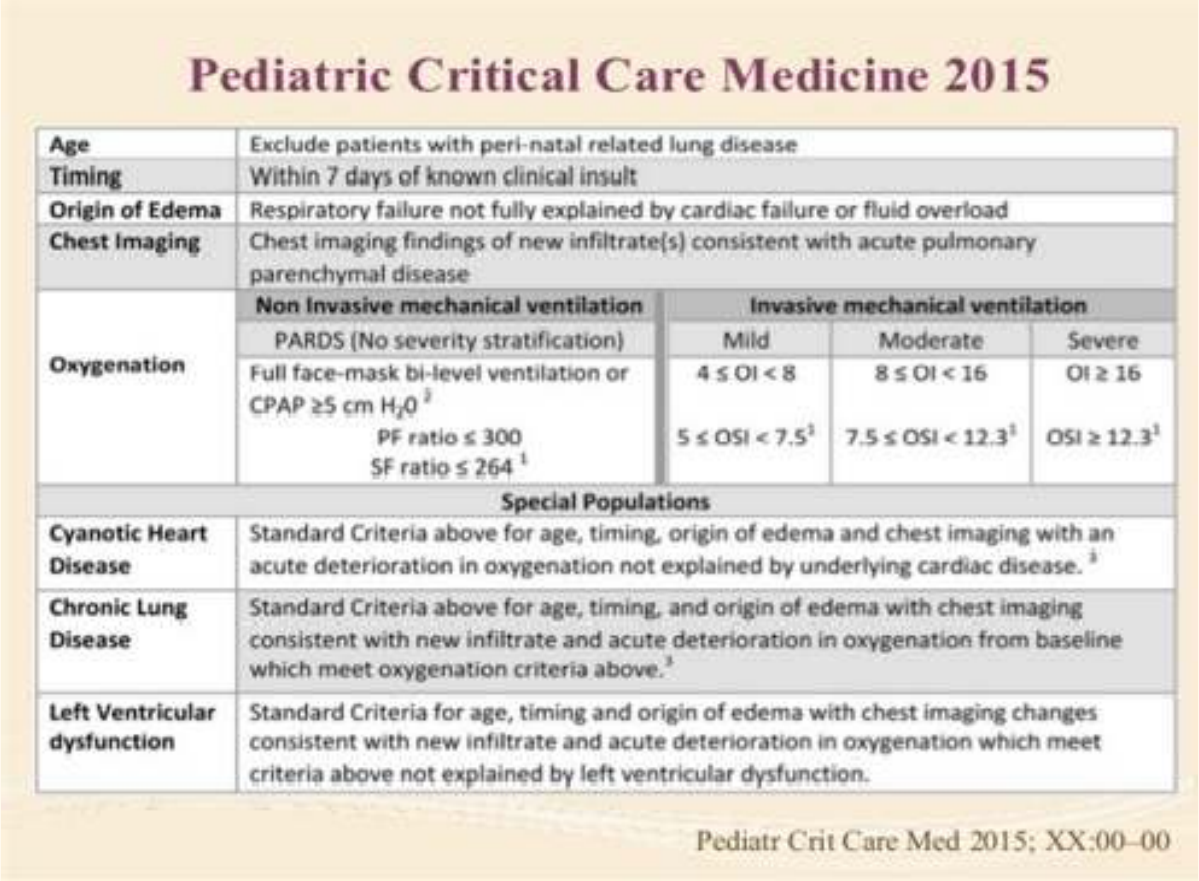
Ans: D. Cushing syndrome
Explanation :
Delay or lack of conduction through the atrioventricular (AV) node and below has multiple causes. Degenerative changes (eg, fibrosis, calcification, or infiltration) are the most common cause of non- ischeamic AV block. Idiopathic fibrosis or calcification of the AV conduction system, commonly seen in the elderly, can cause complete AV block.
Causes of Mobitz type 2 second degree AV block are -
Damage of the conduction system from coronary artery disease, valve surgery, myocardial infarction, myocarditis, infiltrative cardiomyopathies (sarcoidosis, hemochromatosis),

myxedema, Lyme disease, neuromuscular disease, and AV junction ablation [6]

Question 298:
When can one diagnose acute respiratory distress in a child ?

A: Within 7 days of known clinical insult
B: Respiratory failure not fully explained
C: Left ventricular dysfunction
D: All of the above

Ans: D. Explanation



Pediatric Critical Care Medicine 2015

Age	Exclude patients with peri-natal related lung disease			
Timing	Within 7 days of known clinical insult			
Origin of Edema	Respiratory failure not fully explained by cardiac failure or fluid overload			
Chest Imaging	Chest imaging findings of new infiltrate(s) consistent with acute pulmonary parenchymal disease			
Oxygenation	**Non Invasive mechanical ventilation**	**Invasive mechanical ventilation**		
	PARDS (No severity stratification)	Mild	Moderate	Severe
	Full face-mask bi-level ventilation or CPAP ≥5 cm H_2O [2] PF ratio ≤ 300 SF ratio ≤ 264 [1]	4 ≤ OI < 8 5 ≤ OSI < 7.5[1]	8 ≤ OI < 16 7.5 ≤ OSI < 12.3[1]	OI ≥ 16 OSI ≥ 12.3[1]
Special Populations				
Cyanotic Heart Disease	Standard Criteria above for age, timing, origin of edema and chest imaging with an acute deterioration in oxygenation not explained by underlying cardiac disease. [1]			
Chronic Lung Disease	Standard Criteria above for age, timing, and origin of edema with chest imaging consistent with new infiltrate and acute deterioration in oxygenation from baseline which meet oxygenation criteria above.[3]			
Left Ventricular dysfunction	Standard Criteria for age, timing and origin of edema with chest imaging changes consistent with new infiltrate and acute deterioration in oxygenation which meet criteria above not explained by left ventricular dysfunction.			

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Question 299:
A 6-year-old boy experienced life threatening shock ,his CT scan showed large amount of ascites, bowel wall thickening and poor or absent enhancement of the strangulated bowel segment, showing gangrenous bowel on surgical exploration.
True about anastomosis is-

A:Should be done by continuous layers as it takes less time
B: Should be Done with catgut
C: Should be Done by single layer seromuscular lembert sutures
D: Should be Done by Single layer taking submucosa

Ans C
Explanation:

- Diagnosis is of congenital IH with strangulated small bowel with gangrenous small bowel
- Transmesenteric hernia was the most common type in older children as well as in neonates .
- IH results from incomplete closure of surgically created mesenteric defects, and usually acquired resulting from previous abdominal surgery especially Roux-en-Y anastomosis
- Anastomosis should be done by single layer seromuscular lembert sutures
- The Lambert suture generally is used in abdominal surgery. It is an inverting suture, that can be either continuous or interrupted, used to join two segments of an intestine without entering the lumen (the inner channel through which stomach contents flow).

Question 300
In ACLS which drug can be given following ventricular fibrillation after cardiac arrest other than epinephrine?

A. **Amiodarone**
B. **Dopamine**
C. **Adenosine**
D. **Atropine**

Ans. A. Amiodarone
Explanation:
V- Fib or VF is the most common rhythm that occurs immediately after cardiac arrest. In this rhythm, the heart beats with rapid, erratic electrical impulses.
Treatment:

- Shock / Defibrillation: every 2 minutes in a single one shock, successive, shockable increments
  - 200 joules - Followed by immediate CPR for 2 minutes / give and circulate a drug(s)
  - 300 joules - Followed by immediate CPR for 2 minutes / give and circulate a drug(s)
  - 360 joules - Followed by immediate CPR for 2 minutes / give and circulate a drug(s)
- Drugs :
  - Give Epinephrine 1mg of a 1:10,000 solu,on every 3 to 5 minutes [No Limit]

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- Give either:
- Amiodarone [if not contraindicated, can be given 2x]: 300mg first dose / 150mg second dose at 3 to 5 minutes increments.

Lidocaine: First dose: 1mg/kg or 1.5 mg/kg. Can repeat it at half the original dose up to a total of 3 mg/kg [Second and remaining doses are given at either 0.5mg/kg or 0.75mg/kg depending on your star,ng dosage.]