1. All are true about ulnar nerve except:

a) Root value C8TI

b) Pass through cubital tunnel

c) Supply flexor digitorum superficialis

d) Supply flexor carpi ulnaris

e) Passes behind medial epicondyle

Correct Answer - C

Ans. c. Supply flexor digitorum superficialis

Nerve course:

- Root value of ulnar nerve is C7, C8 6 T1.
- Ulnar nerve (C8, T1) arises from the medial cord of the brachial plexus & descends in the interval b/w the axillary artery & vein
- At elbow, ulnar nerve passes behind the medial epicondyle
- The cubital tunnel is a channel which allows the ulnar nerve to travel over the elbow

Various branches of ulnar nerve are :?

- In arm : No branch.

In forearm : There are following branches :?

- Muscular : In proximal part of forearm it supplies flexor carpi ulnaris and **medial** half of flexor digitorumprofundus.
- Cutaneous : There are two cutaneous branches in forearm:- Superficial terminal branch : It supplies palmaris brevis and skin of palmar surface of medial 11/2 fingers.
  - Palmar cutaneous branch : Supplies skin over the hypothenar eminence.
  - Dorsal (posterior) cutaneous branch : Supplies skin over medial 1/3 of dorsum of hand and dorsal surface of medial 11/2 fingers.

- In hand : Ulnar nerve enters the palm by passing superficial to flexor retinaculum and divides into two terminal branches :?
- Deep terminal branch : It supplies adductor pollicis, all interossei, medial two (3^{rd}& 4^{th})lumbricals and all hypothenar muscles except palmaris brevis (i.e. abductor digitiminimi, flexor digitiminimi, opponensdigitiminimi).

2. Branch ofinternal iliac artery is/are:

a) Inferiorvesical artery

b) Inferior epigastric artery

c) Iliolumbar artery

d) Internal pudendal artery

e) Obturator artery

Correct Answer - A:C:D:E

Ans.a. Inferior vesical artery; c. Iliolumbar artery; d. Internal pudendal artery; e. Obturator artery

Branches of anterior division of internal iliac artery are :

- Superior vesical
- Middle rectal
- Inferior vesical (in males),
- Internal pudendal,
- Vaginal (in females),
- Uterine (in females)
- Obturator
- Inferior gluteal.

Branches of posterior division are :

- Iliolumbar
- Lateral sacral
- Superior gluteal.

3. Compression of cervical rib can causes:

a) Thenar hypertrophy

b) Neurovascular symptom

c) Reynaud's phenomenon

d) C8Tl paraesthesia

e) All

Correct Answer - B:C:D

Ans. b. Neurovascular symptom; c. Reynaud's phenomenon; d. C8Tl paresthesia

- The lower trunk of the brachial plexus (C8, Tl), together with the subclavian artery may be angulated over a cervical rib (thoracic outlet syndrome) .
- There is a slow insidious onset of wasting of the small muscles of the hand, which often starts on the lateral side with involvement of the thenar eminence & first dorsal interosseous .
- There is pain & paraesthesia in the medial aspect of the forearm extending to the litde finger

4. True about attachment of suprapleural membrane:

a) Attached to Clavicle

b) Attached to lst rib & its costal cartilage

c) Attached to 2nd rib & its costal cartilage

d) Attached to junction of manubrium & body of sternum

e) Attached to tip of the transverse process of the 7th cervical vertebrae

Correct Answer - B:E

Ans. b. Attached to lst rib & its costal cartilage; e. Attached to tip of the transverse process of the 7th cervical vertebrae

Suprapleural Membrane:

- It is tent shaped fibrous sheet attached laterally to the medial border of the lst rib & costal cartilage .
- Medially it attached to the fascia investing the structures passing from the thorax into the neck .
- It is attached at its apex to the tip of the transverse process of the 7th cervical vertebrae

5. Which of the following sinuses open into middle meatus:

a) Frontal sinus

b) Anterior ethmoidal sinus

c) Posterior ethmoidal sinus

d) Maxillary sinus

e) Sphenoid sinus

Correct Answer - A:B:D

Ans. a. Frontal sinus; b. Anterior ethmoidal sinus; d. Maxillary sinus

Part of lateral nasal wall	**Openings**
Inferior	Nasolacrimal duct
Middle	Frontal sinus, Maxillary sinus, Anterior ethmoidal sinus
Superior	Posterior ethmoidal sinus
Sphenoethmoidal recess	Sphenoid sinus

6. True about anatomy of Eustachian tube:

a) Aerate middle ear

b) Open during swallowing

c) Lager & wider in adult than children

d) More horizontal in infant & children

e) Open in oropharynx

Correct Answer - A:B:D

Ans. a. Aerate middle ear; b. Open during swallowing; d. More horizontal in infant & children

- The Eustachian tube/auditory tube in the adult is 36 mm in length. **(Range 32-38 mm)** From its **tympanic** end, it runs downward forward and medially joining an angle of 45° with horizontal.
- In infants, the tube is shorter, wider and is more horizontal.
- The tympanic end of the eustachian tube is bony and is situated in the anterior wall of middle ear.
- The pharyngeal end of the tube is slit like and is situated in the lateral wall of the nasopharynx, 1-1.25 cm behind the posterior end of inferior turbinate.
- Normally Eustachian tube (ET) is closed and opens intermittently during yawning, swallowing and sneezing through active contraction of Tensor vili palatini muscle.

Normal tubal function:

- Ability of tube to equilibrate positive & negative pressures to ambient pressure.
- Done both in patients with perforated or intact tympanic membrane.

7. True about palatine tonsil:

a) Crypts is lined by squamous epithelium

b) Supplied by IX CN

c) Tongue depressor is used for examination

d) Arterial supply is by tonsillar ascending branch of grater palatine artery

e) Present in oropharynx

Correct Answer - A:B:C:E

Ans. (A) Crypts is lined by squamous epithelium; (B) Supplied by IX CN; (C) Tongue depressor is used for examination; (E) Present in oropharynx

Palatine tonsil

- The Palatine tonsils are two prominent masses situated one on either side between the glossopalatine and pharyngopalatine arches.
- Each tonsil consists fundamentally of an aggregation of lymphoid tissue underlying the mucous membrane between the palatine arches.
- In the child the tonsils are relatively (and frequently absolutely) larger than in the adult
- The follicles of the tonsil are lined by a continuation of the mucous membrane of the pharynx, covered with stratified squamous epithelium

Arteries supplying the tonsil are the:

- Dorsalis linguae from the lingual
- The ascending palatine and tonsillar from the external maxillary
- The ascending pharyngeal from the external carotid

- The descending palatine branch of the internal maxillary
- A twig from the small meningeal.
- The veins end in the tonsillar plexus, on the lateral side of the tonsil
- The nerves are derived from the sphenopalatine ganglion, and from the glossopharyngeal.

8. Features of stellate ganglion lesions include:

a) Miosis

b) Vasodilation in ipsilateral arm

c) Mydriasis in contralateral eye

d) Mydriasis in ipsilateral eye

e) Visual loss

Correct Answer - A:B
Ans. a. Miosis; b. Vasodilation in ipsilateral arm
Horner occur due to injury of Tl sympathetic trunk . There is ptosis, miosis, anhydrosis (vasodilation & lack of thermal sweating), enophthalmos (sunken globe), loss of cilio-spinal reflex, narrow palpebral fissure of affected side

9. True about parietal peritoneum:

a) Supplied by lower 5 thoracic & 1st lumbar

b) Supplied by lower 4 thoracic & upper 3 lumbar

c) Pain is somatic in nature

d) Stretching of parietal peritoneum cause pain

e) None

Correct Answer - A:C

Ans. a. Supplied by lower 5 thoracic & 1st lumbar; c. Pain is somatic in nature

Parietal Peritoneum:

- It is sensitive to pain, temperature, touch & pressure
- The parietal peritoneum lining the anterior abdominal wall is supplied by the lower 6 thoracic & 1st lumbar nerves that is, the same nerves that innervate the overlying muscles & skin .
- The central part of diaphragmatic peritoneum is supplied by the phrenic nerve; peripherally, diaphragmatic peritoneum is supplied by lower six thoracic nerves .
- The parietal peritoneum in the pelvis is mainly supplied by the obturator nerve, a branch of the lumbar plexus

10. True regarding saphenous vein:

a) Long saphenous vein-formed as continuation of medial side of deep venous arch

b) Long saphenous vein- situated posterior to medial malleolus

c) Long saphenous vein- closely related to saphenous nerve

d) Short saphenous vein- open into great saphenous vein

e) Short saphenous vein- associated with sural nerve

Correct Answer - A:C:D:E

Ans. a. Long saphenous vein-formed as continuation of medial side of deep venous arch; c. Long saphenous vein- closely related to saphenous nerve; d. Short saphenous vein- open into great saphenous vein; e. Short saphenous vein- associated with sural nerve

Long Saphenous Vein

- Formed by the union of the medial end of dorsal venous arch with the medial marginal vein
- Passes upwards in front of the medial malleolus, crosses the lower one-third of the medial surface of tibia obliquely & runs along its medial border to reach the back of the knees
- The saphenous nerve runs in front of the great saphenous Vein

Small/Short Saphenous Vein :

- Formed on the dorsum of foot by the union of the lateral end of dorsal venous arch with the lateral marginal vein
- Enters the back of the leg by passing behind the lateral malleolus
- Connected with the great saphenous vein & with the deep veins & is accompanied by the sural nerve

11. True about Hering-Breuer reflex:

a) Signal initiated through mechanoreceptor receptors of lung

b) Signal initiated through Chemoreceptor of lung

c) Signal initiated through Carotid & aortic body

d) Transmit signals through the vagus nerve

e) None

Correct Answer - A:D

Ans, (A) Signal initiated through mechanoreceptor receptors of lung (D) Transmit signals through the vagus nerve

[Ref: Ganong 25th/662, 24th/664; Guyton 12th/372; A.K.lain 5th/461, 463,465]

Hering-Breuer inflation Reflex-Lung inflation Signals Limit Inspiration:

- Hering-Breuer inflation reflex is an increase in the duration of expiration produced by steady lung inflation, and the Hering-Breuer deflation reflex is a decrease in the duration of expiration produced by marked deflation of the lung.
- In human beings, the Hering-Breuer reflex probably is not activated until the tidal volume increases to more than three times normal (greater than about 1.5 liters per breath).

Lung Inflation Signals Limit Inspiration-The Herireuer Inflation Reflex:

- Stretch receptors to mechanoreceptor class.
- Stretch receptors, located in the muscular portions of the walls of the bronchi and bronchioles throughout the lungs, transmit signals through the vagi into the dorsal respiratory group of neurons when the lungs become overstretched.

12. True about blood supply of kidney:

a) Flow is 600 ml/min each kidney

b) It receives more blood supply per unit mass than the brain

c) Renal medulla have more supply than renal cortex

d) It is under direct sympathetic control

e) None

Correct Answer - A:B:D

Ans. (A) Flow is 600 ml/min each kidney (B) It receives more blood supply per unit mass than the brain (D) It is under direct sympathetic control

[Ref: Ganong 25th/602, 674, 24th/676-77; Guyton 12th/466-67]

- Essentially all the blood vessels of the kidneys, including the afferent and efferent arterioles, are richly innervated by sympathetic nerve fibers.
- Blood flow to the two kidneys is normally about 22 percent of the cardiac output, or 1100 ml min
- The outer part of the kidney, the renal cortex, receive most of the kidney's blood flow.
- Blood flow in renal medulla accounts for only 1 to 2% of the total renal flow
- On a per-gram-weight basis, the kidneys normally consume oxygen at twice the rate of the brain but have almost seven times the blood flow of the brain.
- In a resting adult, the kidneys receive 1.2-1.3 L of blood per minute, or just under 25% of the cardiac output

13. All are true about Brunner's gland except:

a) It lies in duodenum only

b) It lies in duodenum & ileum

c) It secretes bicarbonate rich fluid

d) It secretions neutralizes acidic pH of stomach

e) Secretes mucus rich fluid

Correct Answer - B

Ans. B. It lies in duodenum & ileum

[Ref Guyton 12th/400; A.K.lain 5th/202-03]

Brunner's Gland:

- Sub-mucous glands & are tortuous, long & penetrate the muscularis mucosa
- Drains into the crypts of lieberkuhn.
- Numerous in first part of duodenum (duodenal cap or bulb) meager below the common opening of bile & pancreatic ducts.
- Ingestion of fatty food or secretin injection produces large volume of thick alkaline mucous secretion which probably helps to protect the duodenal mucosa from the gastric acid.
- In the duodenum there are in addition the small, coiled acinotubular duodenal glands (Brunn er's glands

Functions:

- Protects the duodenal wall from digestion by the highly acidic gastric juice emptying from the stomach.
- Mucus contains a large excess of bicarbonate ions, which add to the bicarbonate ions from pancreatic secretion and liver bile in neutralizing the hydrochloric acid entering the duodenum from the stomach"

14. Blood brain barrier is absent in ?

a) Adenohypophysis

b) Neurohypophysis

c) Hypothalamus

d) Thalamus

e) None

Correct Answer - B

Ans. is 'b' i.e., Neurohypophysis

Blood brain barriers exist both at the choroid plexus and at the tissue capillary membranes in essentially all areas of the brain parenchyma except in some areos of the hypothalamus, pineal gland, a d arca posttema, where substances diffuse with greater ease into the tissue spaces.

Four areas that are outside of BBB are (l) the posterior pituitary (neurohypophysis) and the adjacent ventral part of the median eminence of the hypothalamus, (2) the area postrema, (3) the organum vasculosum of the lamina terminalis (OVLT, supraoptic crest), and (4) the subfornical organ (SFO).

Referred to collectively as the circumventricular organs

15. Oxygen binding to hemoglobin cause allosteric activation. This allosteric property of Hb results in :

a) Maintaining iron in ferrous state (Fe2+)

b) Increase oxygen supply to tissue

c) Increases oxygen binding

d) Increases 2,3-DPG in blood

e) None

Correct Answer - B:C

Ans. (B) Increase oxygen supply to tissue (C) Increases oxygen binding

[Ref Harper 30th/ 5 4- 5 5, 29th/ S0 - 5 1 ; Ganong 2 STH/ 6 39 -4 I, 24th/ 64 I - 44; Guyton 12th/353-56; A.KIain 5th e/p.57]

- The iron in haem ls in fenous state (Fe2+) form.
- Each Fe2+ combine loosely & reversibly with one molecule of oxygen.
- Combination of haem with oxygen is called oxygenation & not oxidation, because after combination with orygen, iron in haem stay in Fe2+ state

Oxygenation of Hemoglobin Triggers Conformational Changes in the Apoprotein:

- Hemoglobins bind four molecules of 02 per tetramer, one per heme.
- A molecule of O2 binds to a hemoglobin tetramer more readily if other O2 molecules are already bound.
- Termed cooperative binding, this phenomenon permits hemoglobin to maximize both the quantity of O2 loaded at the PO2 of the lungs

and the quantity of O2 released at the PO2 of the peripheral tissues.

- The Allosteric Properties of Hemoglobins Result froM Their Quaternary Structures.
- The properties of individual hemoglobins are consequences of their quaternary as well as of their secondary and tertiary structures.
- The quaternary structure of hemoglobin confers striking additional properties, absent from monomeric myoglobin, which adapts it to its unique biological roles.

16. Secretion of insulin is increased by:

a) Fatty acid

b) Aminoacid

c) Adrenaline

d) Acetylcholine

e) Somatostatin

Correct Answer - A:B:D

Ans. (A) Fatty acid (B) Aminoacid (D) Acetylcholine

[Ref Ganong 25TH/439, 24th/441; Guyton 12th/615]

Increase insulin Secretion:

- Increased blood glucose
- increased blood free fatty acids
- Increased blood amino acids
- Gastrointestinalhormones (gastrin, cholecystokinin, secretin, gastric inhibitory peptide)
- Glucagon, growth hormone, cortisol
- Parasympathetic stimulation; acetylcholine
- Beta-adrenergic stimulation
- Insulin resistance; obesity
- Sulfonylurea drugs (glyburide, tolbutamide)

17. Nerve velocity is increased by:

a) Myelination

b) Smaller axon diameter

c) Decreased temperature

d) Increase in intracellular calcium

e) Increase in extracelluar sodium

Correct Answer - A
Ans. A. Myelination
[Ref Ganong 25TH/94, 24th/91; Guyton 12th/72-7j; A.K'lain 5th/147]
Greater the diameter of a given nerve fibre, the greater is its speed (because a large fiber offers less resistance to high current.
In myelinated fibres, the speed of conduction is approximately 6 times the fiber diameter.
The diameter of myelinated fibers range from 1-20 micro/m, therifore conduction velocity varies from 6-120 mts/sec

18. True about carbohydrate metabolism:

a) It supplies 4 kcals per gram

b) It increases insulin secretion

c) Stored in liver

d) In starvation glycogen in liver is exhausted only after 24-48 hr

e) It provide 80% calorie need of body

Correct Answer - A:B:C:E

Ans. A,It supplies 4 kcals per gram B,It increases insulin secretion C,Stored in liver & E,It provide 80% calorie need of body

[Ref: Harper 30th/176; Park 23rd/613; Lippincott Biochemistry 6th/329: Ganong 25TH/24, 24th/441; A.KIain 5th/622-29]

Carbohydrate metabolism:

- After 12 to 18 hours of fasting, liver glycogen is almost totally depleted.
- The liver serves as receiving, manufacturing, storing & distributing centre for glucose.
- Liver glycogen is nearly exhausted after 10-18 hour of fasting.
- Provides 4 k/cals per grams (protein-4; fat-9; dietary fibre-2)
- The main source of energy in diets is carbohydrates are carbohydrates derived largely from cereals.
- These cereals constitute about 80% of our diet & provides 50-80% of daily energy intake.

19. Calcitriol in children is formed in:

a) Glomerulus

b) Bowmann capsule

c) PCT

d) DCT

e) Collecting duct

Correct Answer - C

Ans. (C) PCT

[Ref: Ganong 25th/ 377 -7 8, 24th/ 46 1 Nelson 19th/ 204; A.K.lain Sth/ 7 30: OP Ghai 8th/112]

- Calcitriol is produced in the cells of the proximal tubule of the nephron in the kidneys by the action of 25-hydroxyvitamin D3 1-alpha-hydroxylase, a mitochondrial oxygenase and an enzyme which catalyzes the hydroxylation of 25-hydroxycholecalciferol (calcifediol).
- The actIVIty of the enzyme is stimulated by pTH.
- The reaction is an important control point in Ca2+ homeostasis.

20. Which of the following is/are Pain scale:

a) McGill Pain Questionnaire

b) Visual analogue scale

c) Coloured Analogue Scale

d) All of the above

e) None of the above

Correct Answer - D

Ans. A,McGill Pain Questionnaire B, Visual analogue scale & C, Coloured Analogue Scale

List of Pain Measurement Scales:

- Wong-Baker FACES Pain Rating Scale
- Visual analog scale (VAS)
- McGill Pain Questionnaire (MPQ)
- Neck Pain and Disability Scale -NPAD
- Lequesne algofunctional index.
- Behavioral Pain Scale (BPS)
- Brief Pain Inventory (BPI)
- Clinical Global Impression (CGI)
- Critical-Care Pain Observation Tool (CPOT)
- COMFORT scale
- Faces Pain Scale -Revised (FPS-R)

21. Terminal product(s) of phenylalanine is :

a) Fumarate

b) Acetyl CoA

c) Oxaloacetate

d) Acetoacetate

e) None

Correct Answer - A:B:D

Ans: a. Fumarate, b. Acetyl CoA & d. Acetoacetate

[Ref Harper 30th/285, 304, 29th/269, 290; Lippincott 6th/263, 262; Satyanarayan 3rd/345-47; Vasudevan 5th/202-03]

- "The predominant metabolism of phenylalanine occurs through tyrosine. During the course of degradation, phenylalanine & tyrosine are converted to metabolite, fumarate & acetoacetate, which can serve as precursors for the synthesis of glucose (fumarate- It is an intermediate of the citric acid cycle & can also serve as precursor for gluconeogenesis) & fat (acetoacetate- It is a ketone body from which fat can be synthesized)" .
- Phenylalanine hydroxylase is an enzyme that catalyzes the hydroxylation of the aromatic side-chain of phenylalanine to generate tyrosine.
- Phenylalanine is first converted to tyrosine . Subsequent reactions are those of tyrosine" (Harper 30th/304, 29th/288) "Hydroxylation of phenylalanine produce tyrosine. Metabolism of phenylalanine & tyrosine merge, leading ultimately to the formation of fumarate er acetoacetate. phenylalanine & tyrosine are, therefore, both glucogenic or ketogenic.

22. NADPH is produced by:

a) Pyruvate dehydrogense

b) Isocitrate dehydrogense

c) a-ketoglutaryl Dehydrogense

d) Succinate Dehydrogense

e) Malate dehydrogense

Correct Answer - A:B:C:E

Ans: a. Pyruvate..., b. Isocitrate.... c. a-ketoglutaryl..., & e. Malate...,

[Ref Harper 30th/169, 29th/177; Lippincott 6th/109-13, 155; Shinde 7th/321]

Pathway	Reaction catalyzed by	Method of ATP formation	ATP
Citric acid cycle	1.Pyruvate dehydrogenase	1. Respiratory chain oxidation of 2 NADH	5
	2. Isocitrate dehydrogenase	2. Respiratory chain oxidation of 2 NADH	5
	3. a-Ketoglutarate dehydrogenase	3. Respiratory chain oxidation of 2 NADH	5
	4. Succinate thiokinase	4. Substrate level phosphorylation	2
	5. Succinate dehydrogenase	5.Respiratory chain oxidation of 2 ADH2	3
	6. Malate dehydrogenase	6. Respiratory chain oxidation of 2 NADH	5

23. Optically inactive amino acid is/are:

a) Threonine

b) Thyronine

c) Valine

d) Glycine

e) Serine

Correct Answer - D

Ans: d. Glycine *[Ref Vasudevan 5th/20; Shinde 7th/78]*

- Amino acids having an asymmetric carbon atom exhibit optical activity. Asymmetry arises when 4 different groups are attached to the same carbon atom
- Glycine is the simplest amino acids & has no asymmetric carbon atom & therefore shows no optical activity. All others are optically active
- The mirror image forms produced with reference to the alpha carbon atom, are called D & L isomers
- Isoleucine er threonine have 2 optically active centres & therefore each has 4 diastereo isomers

24. In forming 3D structure of protein following components help:

a) Hydrogen bonds

b) Amino acid sequence

c) Interaction between amino acid side chains

d) Chaperon

e) all of these

Correct Answer - E

Ans: (E) all of these ***[Ref Harper 30th/39-41, 29th/36-40; Vasudevan 5th/27; Lippincott 6th/18-19, 22; Shinde 7th/86-88]***

- The 3-dimensional arrangement of protein structure is referred to as tertiary structure. This type of arrangement ensures stability o f the molecule. Besides the hydrogen bonds, disulfide bonds, ionic interactions (electrostatic bonds) & hydrophobic interactions also contribute to the tertiary structure of protein.
- The unique 3 dimensional structure of the native conformation is determined by its primary structure, that is, its amino acid sequence, Interactions b/w the amino acid side chains guide the folding of the polypeptide chain to form secondary, tertiary & (sometimes) quaternary structures, which cooperate in stabilizing the native conformation of the protein.
- In addition, a specialized group of protein named chaperones is required for the proper folding of many species of proteins.

25. Test used for protein is/are:

a) Western blot

b) Southern blot

c) ELISA

d) CHIP essay

e) Dot blotting

Correct Answer - A:C:D

Ans: a. Western blot, c. ELISA d. CHIP essay

[Ref Harper 30th/457, 29th/439; Lippincott 6th/484, 473, 485; Satyanarayan 3rd/589]

- Western blot- Measures protein amount
- ELISA- detects proteins(antigen or antibodies)

26. Full form of LCAT is:

a) Lecithin cholesterol acyltransferase

b) Lecithin choline acyl transferase

c) Lecithin cholesterol alkyl transferase

d) Lecithin choline alcohol transferase

e) Lecithin CoA transferase

Correct Answer - A

Ans: a. Lecithin cholesterol… ***[Ref Harper 30th/272, 29th/242, 256; Lippincott 6th/234-36]***

- Plasma LCAT Is Responsible for Virtually All Plasma Cholesteryl Ester in Humans (Harper 29th/256). LCAT activity is associated with HDL containing apo A-I. As cholesterol in HDL becomes esterified, it creates a concentration gradient and draws in cholesterol from tissues and from other lipoproteins, thus enabling HDL to function in reverse cholesterol transport.
- This protein, associated with HDL, is found in plasma of humans and many other species. It facilitates transfer of cholesteryl ester from HDL to VLDL, IDL, and LDL in exchange for triacylglycerol, relieving product inhibition of LCAT activity in HDL.

27. Which vitamin deficiency cause dementia:

a) Vitamin A

b) Vitamin C

c) Vitamin B12

d) Vitamin B1

e) Nicotinic acid

Correct Answer - C:D:E

Ans: c. Vitamin..., d. Vitamin... & e. Nicotinic...*[Ref Lippincott 6th/379-80; Harrison 19th/463]*

- Niacin or nicotinic acid deficiency causes pellagra. The symptom of pellagra progress through the three Ds: dermatitis, diarrhea & *dementia"*
- Niacin → pellagra: pigmented rash of sun-exposed areas, bright red tongue, diarrhea, apathy, memory loss, disorientation
- Folate → Megaloblastic anemia, atrophic glossitis, depression, T homocysteine
- Vitamin → Megaloblastic anemia, loss of vibratory and position
- B12 → sense, abnormal gait, dementia, impotence, loss of bladder and bowel control, Thomocysteine, Methylmalonic acid
- Vitamin C → Scurvy: petechiae, ecchymosis, coiled hairs, inflamed and bleeding gums, joint effusion, poor wound healing, fatigue
- Vitamin A → Xerophthalmia, night blindness, Bitot's spots, follicular hyperkeratosis, impaired embryonic development, immune dysfunction

28. Which of the following organ can not use ketone body:

a) Brain

b) RBC

c) Muscle

d) Heart

e) Liver

Correct Answer - A:E

Ans: a. Brain, e. Liver ***[Ref Harper 30th/150, 211-12, 29th/161, 211-12; Lippincott 6th/196; Vasudevan 5th/1451.***

- Ketone bodies can be used by extrahepatic tissue such as skeletal & cardiac muscle, intestinal mucosa & renal cortex. Even the brain can use ketone bodies to help meet its energy needs if the blood levels rise sufficiently.
- The ketone bodies are formed in the liver; but they are utilized by extrahepatic tissues. The heart muscle & renal cortex prefer the ketone bodies to glucose as fuel. Tissue like skeletal muscle & brain can also utilize the ketone bodies as alternate sources of energy, if glucose is not available·

29.

All of the following are part of innate immunity except:

a) Complement

b) NK cells

c) Macrophages

d) T cells

e) None

Correct Answer - D

Ans. (d) T **cells** *Ref Harrison 17/e; p 2021, 2031, 18/e, p 2651. 2668*

Components of the Adaptive Immune System

Cellular	Thymus-derived (T) lymphocytes - T cell precursors in the thymus; naive mature T lymphocytes before antigen exposure; memory T lymphocytes after antigen contact; helper T lymphocytes for B and T cell responses; cytotoxic T lymphocytes that kill pathogen- infected target cells.
Humoral	Bone-marrow-derived **(B)** lymphocytes - B cell precursors in bone marrow; naive B cells prior to antigen recognition; memory B cells after antigen contact; plasma cells that secrete specific antibody.
Cytokines	**Soluble proteins that direct focus and regulate specific T versus B lymphocyte immune responses.**

Major Components of the Innate Immune System

Pattern recognition	**C type lectins, leucine-rich proteins, scavenger receptors, pentraxins, lipid transferases;**

receptors(PRR)	**integrins**
Antimicrobial peptides	a-Defensins, 8-defensins, cathelin, protegrin, granulysin, histatin, secretory leukoprotease inhibitor, and probiotics
Cells	Macrophages, dendritic **cells, NK cells, NK-T cells, neutrophils, eosinophils, mast cells, basophils, and epithelial cells.**
Complement components	Classic and altAutocrine, paracrineernative complement pathway, and proteins that bind complement components
Cytokines	Autocrine, paracrine, endocrine cytokines that mediate host defence and inflammation, as well as recruit, direct, and regulate adaptive immune **responses**

30. Which of the following disease occurs due to DNA molecule repair defect:

a) Krabe's disease

b) Angelmann syndrome

c) Xeroderma pigmentosum

d) Marfan syndrome

e) Ataxia telangiectasia

Correct Answer - C:E

Ans: c. Xeroderma..., e. Ataxia… [Ref Harper 30th/390, 29th/374, 28th/330-333; Lippincott 6th/410-13; Harrison 18th/496, 17th/395]

- Angelmann syndrome results from genetic disorder that results from defect in gene that encodes ubiquitin"; "Marfan syndrome: It is caused by mutation in gene for fibrillin" ; "Krabbe disease: due to 13 – galactosidase enzyme deficiency.
- Xeroderma Pigmentosum (XP): An autosomal recessive genetic disease; more than 10 genes are involved; The clinical syndrome includes marked sensitivity to sunlight (ultraviolet) with subsequent formation of multiple skin cancers and premature death, The risk of developing skin cancer is increased 1000- to 2000-fold.

31. cDNA is used in gene amplification in bacteria instead of genomic DNA because:

a) Easy to replicate because of small size

b) cDNA lacks intron whereas this is present in genomic DNA

c) Promotor are not found in bacteria

d) Complete genome can not easily replicated in bacteria

e) None

Correct Answer - A:B:D

Ans: a. Easy..., b. cDNA... & d. Complete [Ref Harper 30th/455-56, 29th/438-39; Lippincott 6th/469-70; Vasudevan 5th/449]

- Because cDNA has no intervening, it can be cloned into an expression vector for the synthesis of eukaryotic proteins by bacteria" ; "cDNA lacks introns & the control regions of the gene, whereas these are present in genomic DNA" (Lippincott 6th/469) "Bacterial promoters are relatively simple.
- cDNA libraries contain those DNA sequences that only appear as processed messenger RNA molecules & these differ from one cell type to another. A cDNA library comprises complementary DNA copies of the population of mRNAs in a tissue.
- cDNA probes are used to detect DNA fragments on Southern blot transfers and to detect and quantitate RNA on Northern blot transfers

32. Function of miRNA is/are:

a) Gene silencing

b) Gene activation

c) Transcription inhibition

d) Translation repression

e) Breaking of messenger RNA

Correct Answer - A:D:E

Ans: a. Gene..., d. Translation... & e. Breaking… ***[Ref Harper 30th/368, 29th/351-52; Lippincott 6th/459; Vasudevan 5th/436]***

- RNA interference is a mechanism of gene silencing through decreased expression of mRNA, either by repression of translation or by increased degradation.
- miRNA bind to matching pieces of messenger RNA, turn it into a double strand & keep it from doing its job. The process effectively blocks the production of corresponding protein.
- miRNAs are typically 21-25 nucleotides in length and are generated by nucleolytic processing of the products of distinct genes/transcription units . miRNA precursors are single stranded but have extensive intramolecular secondary structure.

33. Which of the following is CD 15 & CD30 positive:

a) Lymphocyte predominance Hodgkin's lymphoma

b) Mantle cell lymphoma

c) Burkit's lymphoma

d) Mixed cellularity Hodgkin's lymphoma

e) Diffuse large B cell lymphoma

Correct Answer - D
Answer- D. Mixed cellularity Hodgkin's lymphoma
CD15-

- Granulocytes; also expressed by Reed-Sternberg cells and variants in classical Hodgkin lymphoma

CD30-

- Activated B cells, T cells, and monocytes; also expressed by Reed-Sternberg cells and variants in classical Hodgkin lymphoma.

34. B cell antigens are:

a) CD 1

b) CD 2

c) CD 3

d) CD 19

e) CD 20

Correct Answer - D:E
Answer- (D) CD 19 (E) CD 20
CD1- Cortical thymocytes and Langerhans histiocytes
CD3- Thymocytes, peripheral T cells
CD19- Marrow pre-B cells and mature B cells but not plasma cells
CD20- Marrow pre-B cells after CD19 and mature B cells but not plasma cells

35. True about proto oncogene :

a) Only found in virus

b) Only found in malignant cell

c) Normally involved in cell cycle proliferation

d) Can be converted to oncogene

e) On mutation it causes cancer

Correct Answer - C:D:E

Answer- (C) Normally involved in cell cycle proliferation (D) Can be converted to oncogene (E) On mutation it causes cancer

Genes that promote autonomous cell growth in cancer cells are called oncogenes, and their normal cellular counterparts are called protooncogenes.

Proteins encoded by protooncogenes may function as growth factor malignants and receptors, signal transducers, transcription factors, and cell-cycle components.

36. Thrombosis is predisposed by:

a) Protein S deficiency

b) Complement deficiency

c) Antiphospholipid antibody syndrome

d) Homocysteinuria

e) All

Correct Answer - A:C:D

Answer- (A) Protein S deficiency (C) Antiphospholipid antibody syndrome (D) Homocysteinuria

Hypercoagulable states-

Primary (Genetic)-

- Protein C deficiency
- Protein S deficiency
- Homozygous homocystinuria

Secondary (acquired)-

- MI
- Atrial fibrillation
- Prosthetic cardiac valves
- DIC
- Thrombocytopenia

37. Pancytopenia can occur in:

a) CML

b) Kala-azar

c) Typhoid

d) Hairy cell leukemia

e) None

Correct Answer - B:D

Answer- (B) Kala-azar (D) Hairy cell leukemia

Primary bone marrow diseases-

- Myelodysplasia
- Paroxysmal nocturnal hemoglobinuria
- Myelofibrosis
- Bone marrow lymphoma Hairy cell leukemia
- Sarcoidosis
- Tuberculosis
- Leishmaniasis

38. Non-small cell lung carcinoma is/are associated:

a) K-ras

b) EGFR

c) WT1

d) P53

e) All

Correct Answer - A:B:D
Answer- (A) K-ras (B) EGFR (D) P53
K- RAS mutations are seen primarily in adenocarcinoma.
p53 and RB tumor suppressor genes are frequently mutated- Squamous cell carcinomas
EGFR- Adenocarcinoma

39. True about carotid body tumor:

a) Slow growing tumour

b) Uncapsulated

c) Mostly Bilateral

d) Mostly benign

e) All

Correct Answer - A:D
Answer- (A) Slow growing tumour (D) Mostly benign
Rare tumour occur b/w 3rd & 6th decade of life with slight female preponderance
A few are bilateral & some show familial incidence
Grossly they are small, firm, dark tan, encapsulated nodules
Tumours are usually benign with only a small number of cases producing proven metastases.
There is often a long history of a slowly enlarging, painless lump at the carotid bifurcation.

40. Which of the following is/are true about autosomal dominant polycystic kidney disease except:

a) Many patients may be asymptomatic till 3rd or 4th decade

b) Pancreatic cyst

c) Associated with hypertension

d) Subarachnoid haemorrhage is most common extra renal complication

e) None

Correct Answer - D

Answer- D. Subarachnoid haemorrhage is most common extra renal complication

ADPKD is characterized by the progressive bilateral formation of renal crisis.

Inheritance- autosomal dominant

Characterized by multiple expanding cysts of both kidneys.

In gross appearance, the kidneys are bilaterally enlarged.

The pain may result from renal cyst infection, haemorrhage, or nephrolithiasis.

'Intravenous urography polycystic kidney disease: The spider legs, deformity of the calyces

Focal renal cysts are typically detected in affected subjects before 30 years of age.

Complications-

Hematuria, flank pain, urinary tract infection, renal stones, hypertension

41. Which of the following is not a feature of reversible cell injury?

a) Diminished generation of adenosine triphosphate (ATP)

b) Formation of amorphous densities in the mitochondrial matrix

c) Formation of blebs in the plasma membrane

d) Detachment of ribosomes from the granular endoplasmic reticulum

e) Creation of myelin figures

Correct Answer - B

Answer- B. Formation of amorphous densities in the mitochondrial matrix

Large flocculent, amorphous densities in the mitochondrial matrix occur as a result of irreversible cell damage.

Membrane damage plays a central role in the pathogenesis of irreversible cell injury.

It is morphologically associated with severe swelling of the mitochondria, damage of plasma membranes and swelling of lysosomes.

42. Red infarct occur in:

a) In tissues with dual circulations

b) Occur only when both arterial & venous obstruction occurs simultaneously

c) Organs which are previously congested

d) Organs with loose tissue

e) All

Correct Answer - A:C:D

Answer- (A) In tissues with dual circulations (C) Organs which are previously congested (D) Organs with loose tissue

Red infarcts (Haemorrhagic) : occur with :

- Venous occlusions (eg ovarian torsion);
- In loose tissues (such as lungs);
- In tissues with dual circulation (e.g. Lung & S. intestine)
- In tissues that were previously congested because of sluggish venous out flow.
- When flow is reestablilshed to a site of previous arterial occulusion and necrosis.

43. True about fibrolamellar carcinoma of liver:

a) Better prognosis than typical hepatocellular carcinoma

b) Associated with cirrhosis

c) AFP-positive

d) Occur in younger adults

e) More common in females

Correct Answer - A:D:E

Answer- (A)Better prognosis than typical hepatocellular carcinoma (D)Occur in younger adults (E)ore common in females

It is a distinctive variant of hepatocellular carcinoma
It is seen in young adults (20-40 yrs of age)
It has equal sex incidence
It has better prognosis
It has no association with HBV or cirrhosis
It is grossly encapsulated mass.
AFP elevation is not seen in Fibrolamellar Ca

44. Which of the following is/are true about Prothrombin time:

a) Assess extrinsic pathways

b) T in Liver disease

c) L in Vit. K deficiency

d) Normal value is 2-4 minute

e) None

Correct Answer - A:B
Answer- (A) Assess extrinsic pathways (B) T in Liver disease
Prothrombia time assay assesses the function of the proteins in the extrinsic pathways.
Normal value- 10 to 14 sec
Evaluation of extrinsic & common pathway.
Increased in oral anticoagulation therapy, DIC and liver disease, Vitamin K deficiency.

45. True about Thrombotic thrombocytopenic purpura:

a) Indirect hyperbilirubemia

b) Spherocytosis with thrombocytopenia

c) Scistocytosis with thrombocytopenia

d) Thrombi formation

e) All

Correct Answer - A:C:D

Answer- (A) Indirect hyperbilirubemia (C) Scistocytosis with thrombocytopenia (D) Thrombi formation

It is characterized by a pentad-

- Micromgiopathic hemolytic anemia, thrombcytopenia, renal failure, neurologic findings, and fever.
- TTP diagnosis include an increased lactate dehydrogenase and indirect bilirubin, decreased haptoglobin, and increased reticulocyte count.
- The peripheral smear should be examined for evidence of schistocytes.

46. In which of the following diseases antineutrophil cytoplasmic antibodies(ANCA) are not found:

a) Polyarteritis nodosa

b) Microscopic polyangitis

c) Wegener granulomatosis

d) Bechet syndrome

e) Churg-Strauss syndrome

Correct Answer - A:D

Answer- (A) Polyarteritis nodosa (D) Bechet syndrome

- ANCA positive
- Wegner's granulomatosis
- Microscopic polyarteritis
- Churg's trauss syndrom e
- Renal -limited vaculitis
- (crescentric glomerulonephritis)

47. Anti-nuclear antibodies are not found in:

a) SLE

b) Diffuse Scleroderma

c) Drug induced lupus

d) Limited sceleroderma

e) Sarcoidosis

Correct Answer - E
Answer- (E) Sarcoidosis
Found in-

- Drug induced lupus
- Sjogren's syndrome
- Scleroderma
- Polymyositis
- Dermatomyositis
- Arthritis

48. at 30 yr of age, blood forming bone marrow are found in

a) Sternum

b) Sacrum

c) Pelvis

d) Upper end tibia

e) Upper end humerus

Correct Answer - A:B:C:D:E
Answer- (A) Sternum (B) Sacrum (C) Pelvis (D) Upper end tibia (E) Upper end humerus
By age 18 only the vertebrae, ribs, sternum, skull, pelvis, and proximal epiphyseal regions of the humerus and femur.

49. Pericardial effusion is/are seen in all except:

a) Uraemia

b) SLE

c) Rheumatic fever

d) Myxedema

e) Hyperthyroidism

Correct Answer - E

Answer- (E) Hyperthyroidism

Infectious

- Viral
- Bacterial
- Fungal
- Parasite
- Rickettsia

Postinjury

- Trauma
- Surgery
- Myocardial infarction
- Radiation

Metabolic diseases

- Uremia
- Medications

Systemic diseases

- Rheumatoid arthritis
- Systemic lupus erythematosus

- Sarcoidosis
- Scleroderma
- Dermatomyositis
- Amyloidosis Tumors
- Aortic dissection

50. Epidermal growth factor is/are formed by:

a) Platelet

b) Fibroblast

c) Mast cell

d) Endothelial cell

e) Keratinocyte

Correct Answer - A:E

Answer- (A) Platelet (E) Keratinocyte

In healing wounds of the skin, EGF is produced by keratinocytes, macrophages, and other inflammatory cells that migrate into the area.

51. Cyclin dependent kinase-2 (CDK-2) acts via:

a) Cyclin A

b) Cyclin B

c) Cyclin C

d) Cyclin D

e) Cyclin E

Correct Answer - A:E
Answer- (A) Cyclin A (E) Cyclin E
Forms a complex with cyclin E in late G1, which is involved in the G1/S transition.
Forms a complex with cyclin A at the S phase that facilitates the G2/M transition.

52. Which of the following pair of G receptor is correctly matched with its action:

a) Gi- Activation of calcium channel

b) Gq- T cytoplasmic calcium

c) Gs- Opening of calcium channel

d) Go- Opening of potassium channel

e) Gt- Activation of potassium channel

Correct Answer - B:C:D

Ans. B,Gq- T cytoplasmic calciumC,Gs- Opening of calcium channel & D, Go- Opening of potassium channel

[Ref KDT 7th/a5-49; Katzung 31]

- Gs open Ca2+ channels in myocardium 6 skeletal muscle, while Gi & Go open K+ channel in heart & smooth muscle as weII as inhibit neuronal Ca2+ channel

G Receptor:

- Gs: Adenylyl cyclase activation, Ca2+ channel opening
- Gi: Adenylyl cyclase inhibition, K+ channel opening
- Go: Ca2+ channel inhibition.
- Gq: Phospholipase C activation

53. Mineralocorticoid receptors antagonist(s) is/are:

a) Spironolactone

b) Triamterene

c) Epleroenone

d) Amiloride

e) Acetazolamide

Correct Answer - A:C
Ans. (A)Spironolactone & (C) Epleroenone
[Ref KDT.Tth/578; Katzung 12th/261 -62]
Potassium Sparing Diuretics

- Aldosterone antagonists: Spironolactone, eplerenone
- Inhibitors of renal epithelial Na+ channel: Triamterene, Amiloride

MOA:

- Act by direct pharmacologic antagonism of mineralocorticoid receptors (spironolactone, eplerenone) or by inhibition of Nat influx through ion channels in the luminal membrane (amiloride, triamterene).

54. All of the following are actions of muscarinic antogonists, except :

a) Decrease gastric secretions

b) Decrease respiratory secretions

c) Contract radial muscles of iris

d) Fascilitates AV conduction

e) None

Correct Answer - C

Ans is 'c' i.e. Contract radial muscles of iris

- Radial muscles are innervated by sympathetic systems not by parasympathetic (muscarinic) system

Iris muscles that control the size of pupil

There are two types of muscles in iris that control the size of pupil:

1. The iris sphincter or constrictor pupillae (circular muscles): These muscles are innervated by the parasympathetic system and cause constriction of pupil (miosis).
2. The iris dilator or dilator pupillae (radial muscles): These muscles are innervated by sympathetic (a, adrenergic) system and cause dilatation of pupil (mydriasis)

- So, pupil size may be altered by following mechanisms by different ANS drugs:

A. Mydriasis (dilatation of pupil)

- Sympathomimetic drugs (a, agonists): By contraction of radial muscles (dilator).
- Antimuscarinic drugs: By blocking the action of circular muscles

(pupillary sphincter).

B. Miosis (constriction of pupil)

.. Parasympathomimetic (muscarinic) drgus: By stimulating the contraction of circular muscles (pupillary sphincter).

2. Sympatholytic drugs (a, antagonists): By blocking the action of radial muscles (iris dilator) About other options

- Muscarinic antagonists (antimuscarinic drugs) decrease both gastric and respiratory (bronchial) secretions o Antimuscarinic drugs facilitate AV conduction (see previous explanations).

55. Unwanted interactions of MAO inhibitors occur with:

a) Levodopa

b) Hydrochlorothiazide

c) Reserpine

d) Pethidine

e) None

Correct Answer - A:C:D
Ans.A,Levodopa C, Reserpine & D, Pethidine
Non Selective MAO Inhibitors: Interactions:
Cheese reaction -

- Varieties of cheese, beer, wine, pickled meat & fish, yeast extract contain large quantities of tyramine, dopa etc.
- In MAO inhibited patients cause hypertensive crisis & cerebrovascular accidents.
- **Cold & cough remedies -** Ephedrine.
- Reserpine, guanethidine, tricyclic antidepressants

Levodopa:

- Excitement & hypertension.

Antiparkinsonian anticholinergics:

- Hallucinations & symptoms similar to those of atropine poisoning

Barbiturates, alcohol, opioids, antihistamines:

- Actions of these drug is intensified & prolonged. Respiration may fail..

Pethidine:

- High fever, sweating, excitation, delirium, convulsions & severe

respiratory depression.

Note:

- Hydrochlorothiazide drug interactions not include MAO- Inhibitors

56. Which of the following is/are true about Sulfonylurea except:

a) Increase insulin secretion

b) Cause hypoglycemia

c) Cause weight loss

d) Disulfiram-like reaction after alcohol intake

e) Safe in pregnancy

Correct Answer - C:E

Ans. C, Cause weight loss & E, Safe in pregnancy

[Ref KDT 7th/270-73; Katzung 12th/754-5]

Sulfonylureas:

- Provoke a brisk release of insulin from pancreas.
- Hypoglycemia is the most common problem.
- Majority of diabetics started on SUs tend to gain 1-3 kg.
- Flushing & disulfiram-like reaction after alcohol occur in some individuals taking SUs
- Safety during pregnancy is not established.

57. Weight gain is not seen with:

a) Clozapine

b) Risperidone

c) Olanzapine

d) SSRI

e) Zotepine

Correct Answer - D

Ans. (D) SSRI

[Ref KDT 7th/aal,442; Katzung 12d/512, 509]

- **Clozapine Metabolic complications (Major)** - Weight gain, hyperlipidemia & precipitation of diabetes.
- Olanzapine causes weight gain.
- Risperidone causes weight gain & incidence of new onset diabetes is less than with clompine
- increased appetite & weight gain is noteil with most TCAs & trazodone, but not with SSRIs, SNRIs & bupropion.
- **Zotepine:** Weight gain, hyperglycemia & dyslipidemia are Likely as with clozapine
- **Quetiapine:** Weight gain & rise in blood sugar is moderate.
- **Aripiprazole:** Little tendency to weight gain.

58. Which of the following is/are true about dobutamine:

a) Selective (3 2 receptor agonist

b) T ventricular filling pressure

c) Half life is about 2 min

d) Dopamine receptor agonist

e) None

Correct Answer - C

Ans. (C) Half life is about 2 min

[R4 KDf 7th/134; Katzung 12th/141-42, 218, 225; Goodman & Gilman 11th/251]

Dobutamine:

- Derivative of dopamine, but not a Dl ot D2 receptor agonist.
- Has action on alpha & beta receptors also.
- Yet, only prominent action of clinically employed doses is increased force of cardiac contraction & outPut, without significant change in heart rate, peripheral resistance & BP.
- Considered to be a relatively selective beta-1 agonist.
- Half-life of about 2 minutes & onset of action is rapid.
- Used as an inotroPic agent in pump failure accompanying myocardial infarction, cardiac surgery & for short term management of severe congestive heart failure.

59. A person has given 0.175 gm oral digoxin with bioavailabilty 70%. The amount of drug reaching in systemic circulation is:

a) 0.175

b) 0.175 x 0.7

c) 0.175/7

d) 0.175 + 0.7

e) 0.175 + 1/0.7

Correct Answer - B

Ans. (B) 0.175 x 0.7

[Rd KDT 7th/16, 515; Katzung t2th/43]

- Amount of drug reaching in systemic circulation= drug dose given x bioavailability
  = 0.175 gm x 70/100
  = 0.175 gm x 0.7

60. True about Placebo:

a) It works only in psychiatric person

b) Response is both objective & subjective

c) Effect also seen in normal person

d) It is an inert substance

e) None

Correct Answer - B:C:D

Ans. B,Response is both objective & subjective C, Effect also seen in normal person & D, It is an inert substance

[Ref KDT 7th/67; Katzung 12th/72]

Placebo:

- An inert substance which is given in the garb of a medicine.
- Work by psychodynamic rather than pharmacodynamic means & often produces responses equivalent to the active drug
- Placebo do induces physiological responses, e.g., they can release endorphins in brain- causing analgesia.
- Substances commonly used as placebo are lactose tablets/capsules & distilled water injection.
- The manifestation of this phenomenon in the subject is the placebo response (Latin, 'I shall please') and may involve objective physiologic and biochemical changa as well as changes in subjective complaints associated with the disease

61. Treatment of nocardia infection includes:

a) Ampicillin

b) Floroquinolones

c) Azithromycin

d) Cotrimoxazole

e) Amikacin

Correct Answer - A:B:D:E

Ans. A,Ampicillin B, Floroquinolones D, Cotrimoxazole & E, Amikacin

[Ref KDf 7th/706,755; Hanison lgth/1087]

Nocardiosis:

- Sulfonamides are of value in treating infections due to Nocardia grp.
- Sulfisoxazole or sulfadiazine may be given in dosaga of 6-8 g daily and is continued for several months after aII manifestations have resolved.
- administration of a sulfonamide with 2nd gen. antibiotic (ampicillin, erythromycin, ard streptomycin) advised.
- Co Trimoxazole is used in nocardiosis.

62. True about morphine:

a) Act as antagonist on IA receptor with no agonist action

b) Activation in liver

c) Half life 4 hr

d) Cause miosis

e) Clearance time is around 20 hr

Correct Answer - B:D:E

Ans. (B) Activation in liver (D) Cause miosis (E) Clearance time is around 20 hr

[Ref: KDT 7th/469-75; Katzung 13th/531-44; Goodman & Gilman p62-66]

Morphine:

- Primarily metabolized in liver by glucuronide conjugation.
- Morphine-6-glucuronide is an active metabolite (more potent than morphine on p opioid recePtors), which contribute to analgesia.
- Another metabolite morPhine-3- glucuronide has neuroexcitatory proPerty.
- Plasma half life morphine averages 2-3 hours
- Effect of a parenteral dose lasts 4-6 hours.
- Elimination is almost comPlete in 24hours.
- Morphine stimulate Edinger Westphal nucleus of 3rd nerve is stimulated producing miosis.
- No meiosis occur on topical aPPlication of morPhine to the eye, since this is a central action

63. Which of the following is/are true about phenytoin -

a) Inactivation by Liver enzyme

b) Causes Vit B12 deficiency

c) Causes thiamine deficiency

d) Gum hypertrophy is commonest side-effect

e) Inhibitor of CYP3A4/5

Correct Answer - A:D

Ans. (A) Inactivation by Liver enzyme (D) Gum hypertrophy is commonest side-effect

[Ref: KDT 7th/a13-15; Katzung 13th/2100-N2; A to Z Drug Facts 2003 by Daild S. Tatro; Goodman 6 Gilman 11th/335; Hanison l9ttt/2554' 18th/893,888]

Phenytoin:

- Metabolized in liver by hydroxylation involving CYP2C9 & 2C19 as well as by glucuronide conjugation.
- Megaloblastic anaemia: It decreased folate absorption & increase its excretion.
- It interferes with metabolic activation of Vit D & with calcium absorPtion/metabolism.
- Gum hypertrophy: commonest (20% incidence)
- Potent inducer of CYP2C8/9, CYP3A4/5 & some other CYPs.
- It competitively inhibits CYP2C9/19

64. Drugs active against MRSA:

a) Vancomycin

b) Ceftriaxone

c) Linezolid

d) Piperacillin-tazobactam

e) Meropenam

Correct Answer - A:C

Ans. (A) Vancomycin (C) Linezolid

[Ref KDT 7th/731, 757, 6th/700, 708,732,7i4; G 6 G 11th/1132; Kntzung 1 3th/779, 781 ; Harrison 19th/96 1-62. 18th/2134]

MRSA:

- Vancomycin and daptomycin are now recommended as the drug of choice for the treatment of MRSA infections.
- Imipenema, Dalfopristino/Quinpristin, Mupirocin, Teicoplanina are also effective against MRSA
- Ceftaroline is a 5th gen. cephalosporin with bactericidal activity against MRSA (including strains with reduced susceptibility to vancomycin and daptomycin) - Approved for use in nosocomial pneumonias and for skin and soft tissue infections.
- Other drugs are- Linezolid, daptomycin, Quinupristin/ dalfopristin.

65. True about daptomycin:

a) Causes diarrhea as side-effect

b) It is a glycopeptide antibiotic

c) Cause myopathy

d) It can be used orally

e) Excretion through kidney

Correct Answer - C:D

Ans. (C) Cause myopathy (D) It can be used orally

[Ref Katzung 13th/783-85; Goodman & Gilman 11th/1197-98: Harrison 19th/961]

Daptomycin:

- Cyclic lipopeptide fermentation product of Streptomyces roseosPorus.
- Newly-approved antibacterial agent, the first lipopeptide agent to be released onto the market.
- Its spectrum of activity is limited to Gram-positive organisms, including a number of highly resistant species (MRSA, VISA, VRSA, VRE)

MOA:

- Precise mechanism of action is not known, but if appears to bind to and depolarize the cell membrane, causing Potassium efflux and rapid cell death.

Features:

- Only administered intravenously.
- Cleared renally.
  - Approximately 80% of the administered dose is recovered in urine.
- Can cause myopathy, and creatine phosphokinase levels should be

monitored.

66. True about doxorubicin:

a) Antineoplastic drug

b) Alkylating agent

c) Topoisomerase III inhibitor

d) Anthracycline antibiotic

e) Cardiotoxic

Correct Answer - A:D:E

Ans. (A) Antineoplastic drug (D) Anthracycline antibiotic (E) Cardiotoxic

[Ref KDT 7th/867; Katzung 13th/934-35]

Doxorubicin:

- Anthracycline antibiotic having antitumor activity
- It intercalate b/w DNA strands & block DNA as well as RNA synthesis.
- They are also capable of causing breaks in DNA strands by activating topoisomerase-2 & generating quinine type free radicals.
- Cardiotoxic adverse effect.

67. TNF-a inhibitors are:

a) Bevacizumab

b) Ranibizumab

c) Adalimumab

d) Infliximab

e) Etanercept

Correct Answer - A:B:D

Ans. (A) Bevacizumab (B) Ranibizumab (D) Infliximab

- TNF alpha- inhibitor: Etanercept, infliximab, certolizumah, golimumab, & Adalimumab.

MOA:

- Binds TNF-alpha, a proinflammatory cytokine.
- Blocking TNF-alpha from binding to TNF receptors on inflammatory cell surfaces results in suppression of downstream inflammatory cytokines such as IL-1 & IL-6 and adhesion molecules involved in leukocyte activation and migration.
- An increased risk of lymphoma is common to each of these agents.

68. Which of the following is a common side-effect of Cisplatin -

a) Diarrhea

b) Vomiting

c) Pulmonary fibrosis

d) Alopecia

e) None

Correct Answer - B

Ans. is 'b' i.e., Vomiting

- Most common side-effect of Cisplatin is : Vomiting (highly emetic drug).
- The most important dose dependent toxicity is renal impairment.
- **Amifostine** is labelled for reduction of cisplatin induced nephrotoxicity.
- Tinnitus, deafness, sensory neuropathy & hlperuricaemia are other problems.
- Shock like state sometimes occur during i.v infusion.

69. Which of the following CLASP human experiment:

a) Main center for the experiment was Geneva

b) Main center for the experiment was Tokoyo

c) Main center for the experiment was in United kingdom

d) Heparin low dose given

e) Drug used in experiment significantly reduces eclampsia in subjects

Correct Answer - C

Ans. C. Main center for the experiment was in United kingdom

[Ref ; http: /www.researchgate.net; httP://www.ncbi.nlm,nih.gov/pubmed/7905809]

CLASP human experiment:

- Correspondence to: CLASP Co-ordinating Centre, Harkness Building, Radcliffe Infirmary, Oxford OX2 6HE, UK- http: // www,researchgate.net

CLASP

- The impact of aspirin on proteinuric preeclampsia and its fetal sequelae in CLASP was certainly smaller than in some previous reviews.
- The results of available trials do not support the widespread routine prophylactic or therapeutic use of antiplatelet therapy in pregnancy among all women judged to be at risk of pre-eclampsia or IUGR.
- Overall, the use of aspirin was associated with a reduction of only 12% in the incidence of proteinuria pre-eclampsia, which was not significant.

- Nor was there any significant effect on the incidence of IUGR or of stillbirth and neonatal death.

70. During separation, sexual intercourse between husband & wife:

a) Non-bailable offence

b) Only a crime if complained by victim

c) It is defined under IPC 376 C

d) Minimum punishment of 2year

e) Minimum punishment of 5 year

Correct Answer - B:D

Ans: b. Only..., d. Minimum...*[Ref Reddy 33rd/412; http: llindianlawcases.com/Act-Indian.Penal. Code, 1860-1835]*

- Section 376B, I.P.C: Whoever has sexual intercourse with his own wife, who is living separately, whether under a decree of separation or otherwise, without her consent, shall be punished with imprisonment of either description for a term which shall not be less than two years but which may extend to seven years & shall also be liable to fine.
- Section 376 C, I.P.C: Whoever, being the superintendent or manager of a jail, remand home or other place of custody established by or under any law for the time being in force or of a woman 's or children's institution takes advantage of his official position and induces or seduces any female inmate of such jail, remand home, place or institution to have sexual intercourse with him, such sexual intercourse not amounting to the offence of rape, shall be punished with imprisonment of either description for a term which may extend to five years and shall also be liable to fine.

71. True about euthanasia are all, except:
PGI 14

a) Passive euthanasia is legal in India

b) Active euthanasia is allowed in the UK

c) Physician assisted suicide is legal in some States of the US

d) Active euthanasia is legal in Netherlands and Belgium

e) None

Correct Answer - B
Ans. (B) Active euthanasia is allowed in the UK

72. Early onset rigor mortis is/are seen in:

a) TB

b) Cholera

c) Asphyxia

d) Arseni

e) Aconite

Correct Answer - A:B

Ans: a. TB, b. Cholera

[Ref Reddy 33rd/162; Parikh 6th/3.171

- The onset of rigor is early & duration is short in deaths from diseases causing great exhaustion & wasting e.g., cholera, typhoid, tuberculosis, cancer etc & in violent death as by cut-throat, firearms, electrocution, lightening & in strychnine poisoning
- In organophosphate poisoning rigidity appears early, CO poisoning delays disappearance
- The onset is delayed in deaths from asphyxia, severe haemorrhage, apoplexy, pneumonia & nervous disease causing paralysis of muscle
- In death due to poisoning from HCN & strychnine, it starts early & persists longer
- Arsenic delays putrefaction"- Reddy 33rd/541
- "Rigor mortis lasts longer than usual in Arsenic poisoning, Aconite is extremely unstable & is destroyed by putrefaction

73. True about organophosphorus poisoning:

a) Atropine is best for early treatment & maintenance

b) Pralidoxime is important for restoring neuromuscular transmission

c) Phenytoin is the primary drug used for seizure control

d) Mydriasis present

e) Pralidoxime & atropine works synergistically

Correct Answer - A:B:E

Ans. (A) Atropine is best for early treatment & maintenance (B) Pralidoxime is important for restoring neuromuscular transmission (E) Pralidoxime & atropine works synergistically

[Ref Reddy 32nd/495-97;G & G ltth/21};KDT 7th/111: 1 3th/979-80; Pharmacology by Satoskar 24th/ 297]

OrganophosPhorus Poisoning:

- AII case of Anti-ChE poisoning must be promptly given atropine 2 mg i. V repeated every 10 min till dryness & other signs of atropinization appear.
- Continued treatment with maintenance doses may be required for 1-2 weeks
- The use of oximes in organophosphate poisoning is secondary to that of atropine. Moreven the clinical benefit of oximes is highly variable.
- Control of convulsions with judicious use of diazepam.
- Ocular manifestations include marked miosis' ocular pain' conjunctival congestion, diminished vision, ciliary spasm, And brow ache.
- Atropine in sufficient dosage effectively antagonizes the actions at

muscarinic receptor sites, and to a moderate extent at peripheral ganglionic and central sites

74. Pinpoint pupil not seen in:

a) Aconite

b) Opium

c) Alcohol

d) Cannabis

e) Organophosphorus

Correct Answer - A:C:D

Ans: a. Aconite, c. Alcohol & d. Cannabis

[Ref Reddy 33rd/6191]

Aconite: The pupils alternately contract & dilate (hippus), but remain dilated in later stages. *Acute alcohol poisoning: pupil dilated & reacting"*

Opium poisoning: The pupils are contracted to pin point size & do not react to light but dilate during the agonal asphyxia phase caused by respiratory depression & ultimate paralysis.

Phenothiazines,Resting (deep sleep), Opiates, Narcotics, Stroke (pontine hemorrhage), Lomotil (diphenoxylate), Insecticides, Mushrooms/Muscarinic (inocybe, clitocybe)

75. Which of the following is not niacin positive:

a) Mycobacterium bovis

b) Mycobacterium sonei

c) Mycobacterium chelonae

d) Mycobacterium tuberculosis

e) Mycobacterium simiae

Correct Answer - C:D:E

Ans: c. Mycobacterium..., d. Mycobacterium..., e. Mycobacterium..

[Ref Ananthanarayan 9th/347-48; Medical Microbiology by Greenwood 16th/201; Harrison 19th/1102-05]

- Human tubercle bacilli form niacin when grown on an egg medium
- The test is positive with human type (M.tuberculosis) negative with bovine type of the bacilli
- It can, however, be positive for M.simiae & a few strains of M.cheloneii

76. Feed oral transmission occur in :

a) Hepatitis A

b) Hepatitis B

c) Hepatitis E

d) Rotavirus

e) Herpes simplex

Correct Answer - A:C:D
Ans: a. Hepatitis A, c. Hepatitis E & d. Rota..*[Ref Ananthanarayan 9th/561; Harrison 19th/2013]*
Herpes simplex: Humans are the only natural hosts & the source of infection are *saliva, skin lesions* or *respiratory secretions.* Transmission occurs by close contact & may be venereal in genital herpes.

77. Oroya fever is caused by:

a) B. bacilliformis

b) B. henselae

c) B. quintana

d) B. elizabethae

e) B. clarridgeiae

Correct Answer - A

Ans: a. B. bacilliformis ***[Ref Ananthanarayan 9th/412; Medical Microbiology by Greenwood 16th/325-26]***

- Bartonellosis, or Carrion's disease, is caused by B. bacilliformis
- Bartonellosis, or Carrion's disease, is caused by B. bacilliformis. The disease is characterized by two distinct phases:

1. an acute febrile hematic phase, known as Oroya fever; and
2. an eruptive phase manifested by cutaneous lesions, known as verruga peruana

78. Vector for O.tsugami is/are :

a) Chigger

b) L.deliensis larva

c) Xenopsylla cheopis

d) Pediculus humanus corporis

e) None

Correct Answer - A:B

Ans: a. Chigger, b. L.deliensis...*(Ref Ananthanarayan 9th/408; Medical Microbiology by Greenwood 16th/369-72; Harrison 19th/1155, 1159]*

- Scrub typhus is caused by orientia tsutsugamushi (formerly R. tsutsugamushi or R.orientalis). The vectors are trombiculid mites of genus Leptotrombidium- L.akamushi in Japan & L.deliensis in India. Humans are infected when are bitten by mite larvae (chiggers)"
- 0. tsutsugamushi differs substantially from Rickettsia species both genetically and in terms of cell wall composition (i.e., it lacks lipopolysaccharide). 0. tsutsugamushi is maintained by transovarian transmission in trombiculid mites.
- Illness varies from mild and self-limiting to fatal. After an incubation period of 6-21 days, onset is characterized by fever, headache, myalgia, cough, and gastrointestinal symptoms.
- Some patients recover spontaneously after a few days. The classic case description includes an eschar where the chigger has fed, regional lymphadenopathy, and a maculopapular rash—signs that are seldom seen in indigenous patients

79. Weil felix reaction in scrub typhus is/are positive for:

a) OX -19

b) OX-2

c) Both OX -19 & OX-2

d) OX -K

e) OX -19, OX-2 & OX -K

Correct Answer - D

Ans: d. OX -K *[Ref Ananthanarayan 9th/410; Medical Microbiology by Greenwood 16th/373]*

- This reaction is an agglutination test in which sera are tested for agglutinins to the 0 antigens of certain non-motile Proteus strains OX-19, OX-2 & OX-X
- The basis of test is the sharing of an alkali-stable carbohydrate antigen by some rickettsiae & by certain strains of proteus, P. vulgaris OX 19 & OX 2 & P.mirabilis OX K.

disease	OX-19	OX-2	OX-K
Epidemic typhus	+++	+	–
Brill-Zinsser disease	Usually(–ve)or weakly (+ve)		-
Endemic typhus	+++	+/-	-
Tickborne spotted	++	++	-

fever			
Scrub typhus	-	-	+++

80. Minimum infective dose of shigella is :

a) 1-10

b) 10-100

c) 103-106

d) Same as enteric fever

e) Same as V.cholera

Correct Answer - B

Ans: b. 10-100 ***[Ref Ananthanarayan 9th/287, 307, 341]***

- It has been shown that 106 pathogenic vibrios administered to fasting normal chlorhydric volunteers, without food or buffer, did not produce infection, while the same dose along with food or sodium bicarbonate caused clinical cholera in 80-100 % of them.
- Shigella cause bacillary dysentery. Infection occurs by ingestion. The minimum infective dose is low- as few as 10-100 bacilli are capable of initiating the disease, probably because they survive gastric acidity better than other enterobacteria.

81. Acute hemorrhagic conjunctivitis is/are caused by:

a) Coxsackie virus type A 24

b) Corona virus

c) Enterovirus-70

d) Herpes simplex

e) Adeno virus

Correct Answer - A:C:E

Ans: a. Coxsackie..., c. Enterovirus-70 & e. Adeno..*[Ref Ananthanarayan 9th/491, 493; Greenwood 16th/459]*

- Acute hemorrhagic conjunctivitis is caused by enterovirus type 70: The symptoms are sudden swelling, congestion, watering & pain in the eyes. Subconjunctival hemorrhage is a characteristic feature. Coxsackievirus type A24 also produces the same disease
- Corona virus cause severe acute respiratory syndrome, Adenovirus 11 also causes Acute hemorrhagic conjunctivitis.

82. Zones of operation theatre includes all except:

a) Septic zone

b) clean zone

c) Protective zone

d) Sterile zone

e) Disposal zone

Correct Answer - A

Ans: a-septic zone...[Ref http: www.peerlesshospital.com/services/ot.html]

Protective Zone: Areas included in this zone are:

- Reception
- Waiting area
- Trolley bay
- Changing room

Clean Zone: Areas included in this zone are:

- Pre-op room
- Recovery room
- Plaster room
- Staff room
- Store

Sterile Zone: Areas included in this zone are:

- Operating Suite
- Scrub Room
- Anesthesia Induction Room
- Set up Room

Disposal Zone: Areas included in this zone are:

- Dirty Utility
- Disposal corridor

83. True about acanthamoeba infection :

a) Causes keratitis

b) Contact lens increases risk of keratitis

c) Cause keratitis in contact lens wearer

d) Also causes encephalitis

e) Immunodeficiency is a risk fact

Correct Answer - A:B:D:E

Ans: (A) Causes keratitis (B) Contact lens increases risk of keratitis (D) Also causes encephalitis (E) Immunodeficiency is a risk fact

[Ref Paniker's Parasitology 7th/27-28; Khurana 6th/112-13; Harrison 19th/1367-68, 245e; Greenwood 16th/595; Parson 22nd/208]

- **Acanthamoeba keratitis:** It has also been seen to occur in non-contact lens wearers & may be related to swimming or bathing in contaminated water.
- This is an opportunistic protozoan pathogen found worldwide in the environment in water & soil, Infection usually occur in patients with immunodeficiency, diabetes, malignancies, malnutrition, SLE or alcoholism, It presents chiefly as 2 chronic conditions- **keratitis** encephalitis
- Acanthamoeba keratitis: majority of such cases have **been associated with the use of contact lens.**

84. H.parainfluenzae requires factor:

a) V

b) VI

c) VII

d) X

e) XII

Correct Answer - A

Ans: (A) V [Ref Ananthanarayan 9th/328]

- Factor V &X are accessory growth factors which is present in blood- (Ananthanarayan 9th/327)

species	Growth requirement			Hemolysis on horse blood agar
	X	V	CO_2	
H influenzae	+	+	-	-
H aegyptius	+	+	-	-
H ducreyi	+		VARIABLE	VARIABLE
H. parainfluenzae	-	+	-	-
H. haemolyticus	+	+	-	+
H. parahaemolyticus	-	+	-	+
h aphrophilus	+	-	+	-
H paraphrophilus	-	+	+	-

85. Meningococcal infection is predisposed by which of the following deficiency of complement factor

a) C1-C3

b) C3-C4

c) C5-C9

d) C1-C4

e) Properdin

Correct Answer - C:E

Ans: (C) C5-C9 (E) Properdin[Ref: Ananthanarayan 9th/ 229; Harrison 19th/2 106-07

- Meningococcal disease is favoured by deficiency of the terminal complement components (C5-C9
- Deficiencies in the alternative pathway (factors D and properdin) are associated with the occurrence of invasive Neisseria infections.
- Lastly, deficiencies of any complement component involved in the lytic phase (C5, C6, C7, C8, and, to a l*ser extent, C9) predispose affected individuals to systemic infection by Neisseria. This is explained by the critical role of complement in the lysis of the thick cell wall possessed by this class of bacteria.

86. True about 8th pandemic of cholera:

a) Caused by serotype 0 classical

b) Caused by serotype 0 Eltor

c) Caused by serotype 0 139

d) It spread in Indonesia in 1961

e) It spread in Bangladesh in 1992-93

Correct Answer - C:E

Ans: (C) Caused by serotype 0 139 & (E) It spread in Bangladesh in 1992-93

- As event of great significance was the sudden emergence of non-O-l V.cholera (formely NAG vibrio) as the cause of epidemic cholera (8th pandemic).
- In october 1992, a new non-O-| vibrio was isolated from a cholera outbreak in Madras (Chennai). Similar outbrealcs soon followed in dffirent parts of India. By January 1993,
- Some consider the cholera causedby the serotype Oli9 strain to be the eighth pandemic that began in the Indian subcontinent in 1992-1993, with spread to Asia. The disease has been rare in North America since the mid 1800s, but an endemic focus exists on the Gulf Coast of Louisiana and Texas.

87. Which is not spirochetes:

a) Borrelia

b) Leptospira

c) Fusobacterium

d) Lactobacillus

e) Varicella

Correct Answer - C:D:E

Ans: c. Fusobacterium. d. Lactobacillus & e. Varicella
[Ref.Ananthanarayan 9th/j7 1; Hanison l9th/ I l 32.

- "Lactobacillus genus consists of anaerobic gram positive bacilli"
- "Veillonella are anaerobic gram negative cocci" .
- Spirochetes are Elongated, motile, flexible bacteria twisted spirally along the long axis are termed spirochetes (from speira, meaning coil & chaite, meaning hair)
- Spirochetes belong to the order spirochaetales, comprising 2 families- spirochaetaceae & leptospiraceae
- Spirochaetaceae contains genera spirochaeta, cristispira, treponema & borrelia, leptospiraceae containing the genus leptospira

88. Which of the following is/are true regarding population growth in India:

a) During 1921-1971: It become more than double

b) In 1971, population was more than 500 million

c) In 1991, population was around 1 billion

d) Between 1971-2011, the decadal growth rate was > 20%

e) 1921-2011, the decadal growth rate was in double digit

Correct Answer - A:B:E

Ans: (A) During 1921-1971: It become more than double, (B) In 1971, population was more than 500 million (E) 1921-2011, the decadal growth rate was in double digit

[Ref: Park 23rd/afl]

Year	Total population (Million)	Decadal growth rate
1901	238.4	?
1911	252.1	0.75
1921	251.3	(-) 0.31
1931	279	11
1941	318.7	14.22
1951	361.1	13.31
1961	439.2	21.64
1971	548.2	24.80
1981	683.3	24.66
1991	846.3	23.87
2001	1028.6	21.52
2011	1210.1	

2011	1210.1	17.64

89. True about Pasteurization of milk is all except

a) Does not kill thermoduric bacteria

b) Does not kill spores

c) Cause > 95% decrease in bacterial count

d) Kills tubercle bacillus

e) None

Correct Answer - C

Ans. is 'c' i.e., "Causes > 95% decrease in bacterial count

Pasteurization

- Pasteurization is done to destroy the pathogens that may be present in milk, while causing minimal change in the composition. flovour and nutritive value.
- Pasteurization kills nearly 90% of the bacteria in milk, including the more heat resistant - Tubercle bacilli - Qfever organisms
- It does not kill the thermoduric bacteria.
- It does not kill bacteria spores.

There are 3 w idelv used methods for pasteurization :

1. Holder method : Milk kept at 63-66°C fur 30 minutes is rapidly cooled to 5°C.
2. HTST method : 'High temperature short time' method (Flash method)

- I leated to 72°C for 15 **sec. and** then rapidly cooled to 4°C
- This is now the most widely used method.

method :

- Ultra-high temprature method.

- Rapidly heated in **two** stages to **125°C for few seconds.**
- **The second stage is being under pressure.**
- **It** is **then rapidly cooled.**

90. True about anopheles mosquito ?

a) Larvae have siphon tube

b) Larvae are surface feeder

c) Larvae are bottom feeder

d) Larvae tie at an angle to water surface

e) None

Correct Answer - B

Ans. is 'b' i.e., Larvae are surface feeder

Tribe genus	**Anophelini anopheles**	**Culcini culex, aedes, Mansonia**
Eggs	1. Laid singly 2. Eggs are boat-shaped containing 100-& provided with lateral float	1. Laid in clusters or raft, each raft containing 100-250 eggs (except aedes) 2. Eggs are oval shaped & not provided with lateral floats
Larvae	1. Rest parallel to water surface 2. No siphon tube 3. Palmate hairs present on abdominal segment	1. Suspended with head downwards at an angle to water surface. 2. Siphon tube present 3. No palmate hairs
Pupae	**Siphon tube is broad & short**	**Siphon tube is long & narrow**

Adult	1. When at rest, inclined at an angle to surface 2. Wings spotted 3. Palpi long in both sexes	1. When at rest, the body exhibits a hunch back 2. Wings unspotted 3. Palpi short in female

91. Which of the following is/are source of mortality related data:

a) Sample registration system

b) Death certificate

c) Central births & deaths registration act

d) All of the above

e) None

Correct Answer - D

Ans: d. All of the above *[Ref Park 23rd/840-41]*

- The SRS is a dual-record system, consisting of continuous enumeration of births & deaths by an enumerator & an independent survey every 6 months by an investigator-supervisor
- Since the introduction of this system, more reliable information on birth & death rates, age-specific fertility & mortality rates, infant, under-five & adult mortality etc. have become available.
- The act came into force on 1 april 1970, The act provides for compulsory registration of births & deaths throughout the country
- The time limit for registering the event of births & that of deaths is 21 days uniformly allover India

92. Mean, Median and mode all are zero. The type of distribution is ?

a) Standard normal

b) Negatively skewed

c) Positively skewed

d) J shaped

e) None

Correct Answer - A
Ans. is 'a' i.e., Standard normal

93. Which of the following is/are probability sampling :

a) Judge sampling

b) Cluster sampling

c) Simple random sampling

d) Snowball sampling

e) Stratified sampling

Correct Answer - B:C:E

Ans: (B)Cluster sampling (C) Simple random sampling (E) Stratified sampling

[Ref McGraw-Hill Basic & Clinical Biostatistics, 4th Edition Chap 4; Park 23rd/850; Biostatistics by B.K.Mahajan 7th/83-91; Biostatistics by KV Rao 2nd/12-15; Park 23rd/850]

- The best way to ensure that the sample will lead to reliable and valid inferences is to use probability samples, in which the probability of being included in the sample is known for each subject in the population. Four commonly used probability sampling methods in medicine are simple random sampling, systematic sampling, stratified sampling, and cluster sampling, all of which use random processes

94. Catheter placed in which type of colour coded bag :

a) Black

b) Blue

c) Yellow

d) Red

e) Transprent white

Correct Answer - C:E

Ans: (C) Yellow, (E) Transprent: ***"Category No.7: Solid waste- wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc)***

Colour coding	Type of container	Waste category	Treatment options as per Schedule 1
Yellow	Plastic bag	Cat. 1, 2, 3, & 6	Incineration/deep burial
Red	Disinfected container/plastic bag	Cat. 3,6,& 7	Autoclaving/ microwaving/ Chemical treatment
Blue/White translucent	Plastic bag/ puncture Proof container	Cat. 4, Cat.7.	Autoclaving/Microwaving/Chemica Treatment and Destruction/Shredding
Black	Plastic bag	Cat. 5 ,9 & 10	Disposal in secured landfill°

95. WHO conditioned guidelines for treatment of MDR TB 2016, includes 4 core drugs and add on drugs. Add on drugs are?

a) Bedaquiline

b) Linzolide

c) Delamnaid

d) Capreomycin

e) Moxifloxacin

Correct Answer - A:C
Answer- A,Bedaquiline C,Delamnaid

- Group A=levofloxacin, moxilloxacin. gatifloxacin
- Group B=amikacin, capreomycin, kanamycin, (streptomycin);
- Group C= ethionamide (or prothionamide), cycloserine (or terizidone), lineznlid, clofazimine;
- Group D2=bedaquiline, delamanid

96. Which of the following is true regarding frost bite :

a) Occurs at temperature above freezing point

b) Reperfusion injury is more dangerous than frostbite

c) Rewarming should be gradual & spontaneous

d) Occurs at temperature below freezing point

e) Intake of hot fluids promotes general rewarming

Correct Answer - B:C:D:E

Ans: b. Reperfusion..., c. Rewarming..., d. Occurs... & e. Intake… [Ref Park 23rd/748: Manipal surgery 4th/941 Reperfusion injury Manipal surgery 4th/94

- This dangerous event follows revascularization of limbs, resulting in acute compartment syndrome with compartmental pressure exceeding capillary pressure (30 mmHg)
- Most of injury is believed to be due to 02 derived free radicals
- Diagnosis is clinical as suggested by severe pain in the limb, oedema of leg & muscle tenderness
- Treated by urgent multiple fasciotomy, decompression followed by debridement of dead tissue.
- At temperature below freezing (dry-cold condition) frostbite occurs; the tissue freeze & ice crystals form in between the cells
- Affected part should be warmed using water at 44 °Criticism, Warming should last about 20 minutes at a time, Intake of hot fluids promotes general rewarming

97. Which of the following is/are true about Revised National Tuberculosis Control Programme (RNTCP)-

a) T.B. is mandatory to notify

b) Suspicious TB patients are screened through 2 sputum smear examinations

c) MDR-TB is not included in RNTCP

d) Case finding is active

e) Covered the whole country since March 2006

Correct Answer - A:B:E

Ans. is 'a' i.e., T.B. is mandatory to notify; `b' i.e., Suspicious TB patients are screened through 2 sputum smear examinations & 'e' i.e., Covered the whole country since March 2006

[Ref Park's 24th/e p. 427-30; Community Medicine by Piyush Gupta 1"/e p. 826-30; Suryakantha 4'1* p. 921-23; National Health Programs of India by fungal Kishore 7th/e p. 91]

Government of India declare TB a notifiable disease on 7th May 2012 with following objectives :-

- To have established TB surveillance system in the country.
- To extent mechanism of TB treatment adherence and contact tracing of patients treated in the private sector.
- To ensure proper TB diagnosis and case management and further accelerate reduction of TB transmission.
- To mitigate the impending drug resistant TB epidemic in the country.

98. According to WHO, recommended treatment for uncomplicated plasmodium falciparum is/are :

a) Mefloquine

b) Chloroquine

c) Artemether + lumefantrine

d) Artemesin only

e) Lumefantrine only

Correct Answer - C

Ans: (C) Artemether + lumefantrine [Ref Park 23rd/263-65; KDT 7th/820; http: //whglibdoc.who.int/ publications/2010/9789241547925_eng.pdf]

Recommendations unchanged from the first edition of the Guidelines (2006); Treatment of uncomplicated P. falciparum malaria

- Artemisinin-based combination therapies (ACTs) are the recommended treatments for uncomplicated P. falciparum malaria.

The following ACTs are recommended:

- Artemether plus lumefantrine, artesunate plus amodiaquine, artesunate plus mefloquine, and artesunate plus sulfadoxine-pyrimethamine.
- The choice of ACT in a country or region will be based on the level of resistance of the partner medicine in the combination.

Additional recommendations in the second edition of the Guidelines (2010); Treatment of uncomplicated P. falciparum malaria

- Artemisinin-based combination therapies should be used in preference to sulfadoxine pyrimethamine (SP) plus amodiaquine (AQ) for the treatment of uncomplicated P. falciparum malaria.
  Strong recommendation, moderate quality evidence.
- ACTs should include at least 3 days of treatment with an artemisinin derivative.
  Strong recommendation, high quality evidence.
- Dihydroartemisinin plus piperaquine (DHA+PPQ) is an option for the first-line treatment of uncomplicated P. falciparum malaria worldwide.

99. Which of the following is/are true about posterior epistaxis:

a) Posterior packing is done

b) Often due to chronic hypertension

c) Persistent case- ligation of anterior ethmoidal artery

d) Severe bleeding in comparison with anterior epistaxis

e) More commonly occur in elderly

Correct Answer - A:B:D:E

Answer- (A) Posterior packing is done (B) Often due to chronic hypertension (D) Severe bleeding in comparison with anterior epistaxis (E) More commonly occur in elderly

It is less common.
It is mostly seen from posterosuperior part of nasal cavity.
Seen after 40 years of age
Caused due to hypertension or arteriosclerosis
Features show bleeding is severe
Treated by postnasal pack often required

100. Which of the following is true?

a) Internal laryngeal nerve: supply cricothyroid muscle

b) Internal laryngeal nerve-sensory supply below vocal cord

c) Internal laryngeal nerve-tense vocal cord

d) External laryngeal nerve-tense vocal cord

e) Internal laryngeal nerve-sensory supply above vocal cord

Correct Answer - D:E
Answer- (D) External laryngeal nerve-tense vocal cord (E) Internal laryngeal nerve-sensory supply above vocal cord
All the muscle which move the vocal cords (abductors, adductors or tensor) are supplied by Recurrent Laryngeal nerve.
Above vocal cords - Internal Laryngeal nerve a branch of Superior Laryngeal nerve
Below vocal cords - Recurrent Laryngeal nerve
Cricothyroid muscle- External Laryngeal nerve

101. All are true about Meniere's disease except:

a) Triad of recurrent vertigo, fluctuating sensorineural hearing loss, and tinnitus are found

b) Treatment consists of use of thiazide

c) Drop attack occurs

d) Onset only after > 50 year

e) None

Correct Answer - D

Answer- (D) Onset only after > 50 year

Meniere's disease is a disease of the inner ear, characterized by the clinical triad of recurrent vertigo, fluctuating sensorineural hearing loss, and tinnitus.

Disease is seen in the age group of 35-60 years.

Males are affected more than females.

The tinnitus is usually low-pitched and roaring & is aggravated during acute attacks.

Aural fullness is a manifestation always present in Meniere's attack.

Patients with severe hydrops should be treated with diuretics, salt restriction.

102. True about pure tone audiometry:

a) The frequency tested is 2000-9000Hz

b) Done in silent room

c) Air conduction for right ear is represented on audiogram by symbol 'X'

d) Air conduction for left ear is represented on audiogram by symbol '0'

e) All

Correct Answer - B
Answer- (B) Done in silent room
In a soundproof room, the patient's ability to hear pure tones in the frequency range of about 125 to 8000 Hz is measured.
Red "O" represents air conduction for the right ear while blue "X" represents air conduction for the left ear.

103. True about presbycusis:

a) Degeneration of outer Hair cell of organ of Corti in sensory type

b) High frequency is affected first in sensory type

c) Can be treated with hearing aids

d) Usually unilateral hearing loss occurs

e) None

Correct Answer - A:B:C

Answer- (A) Degeneration of outer Hair cell of organ of Corti in sensory type (B) High frequency is affected first in sensory type (C) Can be treated with hearing aids

Presbycusis , or age-related hearing loss, is the cumulative effect of aging on hearing.

It is a progressive and irreversible bilateral symmetrical age-related sensorineural hearing loss resulting from degeneration of the cochlea or associated structures of the inner ear or auditory nerves.

Patients of presbycusis can be helped by a hearing aid.

104. Toby Ayer's test is/are used for:

a) CSF rhinorrhoea

b) Lateral sinus thrombosis

c) Sigmoid sinus thrombosis

d) To check patency of eustachian tube

e) None

Correct Answer - B:C

Answer- (B) Lateral sinus thrombosis (C) Sigmoid sinus thrombosis

The Tobey–Ayer test is used for lateral sinus thrombosis by monitoring cerebrospinal fluid pressure during a lumbar puncture. Tobey-Ayer test & Crowe-Beck test are performed in lateral sinus thrombosis (Sigmoid sinus thrombosis)

105. Stridor is/are caused by all except:

a) Vocal cord palsy

b) Stenosis after tracheostomy

c) Ludwig angina

d) Retropharyngeal abscess

e) None

Correct Answer - E

Answer- None

- It is noisy respiration produced by turbulent airflow through the narrowed air passage.
- Inspiratory stridor: Often produced in obstructive lesions of supraglottis or pharynx
- Expiratory stridor: It is produced in lesions of thoracic trachea, primary & secondary bronchi
- Biphasic stridor: It is seen in lesions of glottis, subglottis & cervical trachea

106. True about orbital rhabdomyosarcoma-

a) Arise from pleuripotent mesenchymal cell

b) Origin from skeletal muscle cell

c) Usually B/1

d) Female predisposition

e) More common in children

Correct Answer - A:E

Answer- (A) Arise from pleuripotent mesenchymal cell (E) More common in children

It is a highly malignant tumour of the orbit arising from the extraocular muscles.

Usually occurring below the age of 15 years.

The tumour commonly involves the superionasal quadrant.

Male: female ratio of 5: 3

Primary orbital RMS originates from primitive pleuripotential mesenchymal cells.

107. All are true about treatment of Age related macular degeneration except:

a) Intravitreal anti-VEGF therapy

b) Laser abalation

c) Photodynamic therapy (PDT)

d) Transpupillary thermotherapy

e) Prognosis after treatment for non-exudative variety is very good

Correct Answer - E

Answer- E. Prognosis after treatment for non-exudative variety is very good

- Age-related macular degeneration (ARMD), also called senile macular degeneration, is a bilateral disease of persons of older individuals.

Treatment-

- Role of dietary supplements and antioxidants in prevention or treatment of ARMD.
- Intravitreal anti-VEGF therapy (Bevacizumab, Ranibizumab, Pegaptanib) is the treatment choice.
- Photodynamic therapy (PDT) is the 2nd treatment of choice.
- TransPupillary thermotherapy (TTT) with a diode laser
- Double frequency & YAG 532 nm photocoagulation
- Surgical treatment in the form of submacular surgery
- Pharmacologic modulation with antiangiogenic agent.

108. Causes(s) of shallow anterior chamber is/are :

a) Anterior sublaxation of lens

b) Pupil block due to vitreous bulge after ICCE

c) Anterior dislocation of lens in anterior chamber

d) Aphakia

e) Myopia

Correct Answer - A:B

Answer- (A) Anterior sublaxation of lens (B) Pupil block due to vitreous bulge after ICCE

Primary narrow angle glaucoma
Hypermetropia
Postoperative shallow anterior chamber (after intraocular surgery due to wound leak or ciliochoroidal detachment).
Malignant glaucoma
Anterior perforations (perforating injuries or perforation of corneal ulcer).
Anterior subluxation of lens
Intumescent (swollen) lens

109. True about pigmentary glaucoma :

a) More common in females

b) More common in myopes

c) Slit-like transillumination defects in the mid periphery is pathognomonic feature

d) Occur due to clogging up of the trabecular meshwork

e) None

Correct Answer - C:D

Answer- (C) Slit-like transillumination defects in the mid periphery is pathognomonic feature (D) Occur due to clogging up of the trabecular meshwork

It is a type of secondary open-angle glaucoma where in clogging up of the trabecular meshwork occurs by the pigment particles.

The condition typically occurs in young myopic males.

C/F

Deposition of pigment granules in iris, posterior surface of the cornea, trabecular meshwork, ciliary zonules and the crystalline lens.

Iris transillumination shows radial slit-like transillumination defects in the mid periphery (pathognomonic feature).

110. Uveitis is/are seen as side-effect of caused by:

a) Latanoprost

b) Moxifloxacin

c) Cidofovir

d) Rifabutin

e) All

Correct Answer - B:C:D

Answer- (B) Moxifloxacin (C) Cidofovir (D) Rifabutin

Rostaglandin-Analogues → bimatoprost and travoprost

Rifabutin

Cidofovir

Moxifloxacin

Drug Induced Uveitis

Systemic Drugs

1. Ritabutin
2. Bisphosphonales
3. Sulphonamides
4. D i el hylcarbanrklZi ne
5. C i do lovir

Topical Drugs

1. Metipranobol
2. Miolics
3. Proslaglandirts

Intracameral Drugs

1. Gicobvir
2. Aniibidics
3. Lfrakhase

Vaccines

111. Non-exertional classic heat stroke is/are predisposed in:

a) Person with previous chronic illness

b) Elderly

c) Young & healthy person

d) Adolescent

e) All

Correct Answer - A:B
Answer- (A) Person with previous chronic illness (B) Elderly
Heat stroke presents with a hyperthermia of greater than 40.6 °C (105.1 °F) in combination with confusion and a lack of sweating.
There are two forms of heatstroke- Classic (epidemic) & exertational
Patients with CHS commonly have chronic diseases that predispose to heat-related illness.
If cooling is delayed, severe hepatic dysfunction, renal failure, disseminated intravascular coagulation, and fulminant multisystem organ failure may occur.
Classic heat stroke is older patient.

112. Features of parkinsonism include all except -

a) Intention tremors

b) Flaccidity

c) Mask face

d) Rigidity

e) Resting tremors

Correct Answer - A:B
Answer- A, B, Intention tremors, Flaccidity

- Four cardinal features of PD that can be grouped under the acronym TRAP-
- Tremor at rest, Rigidity, Akinesia (or bradykinesia) and Postural instability.

113. Which of the following cause(s) motor neuropathy:

a) GBS

b) Diphtheria

c) Diabetes

d) Frideric ataxia

e) All

Correct Answer - A:B:D
Answer- (A) GBS (B) Diphtheria (D) Frideric ataxia
Parkinson's disease is characterized by rest tremor, rigidity, bradykinesia, and gait impairment, known as the "cardinal features" of the disease.
Can include freezing of gait, postural instability, speech dfficulty, autonomic disturbances, sensory alterations, mood disorders, sleep dysfunction, cognitive impairment, and dementia.

114. Which of the following is/are feature of Pre-renal ARF in comparison to intrinsic renal failure:

a) Fractional excretion of Sodium <1

b) Renal failure index > 1

c) Urine osmolality >500 mosmol/kg H20

d) Urine creatinine/ plasma creatinine > 40

e) Plasma BUN/creatinine ratio <20

Correct Answer - A:C:D

Answer- (A) Fractional excretion of Sodium <1 (C) Urine osmolality >500 mosmol/kg H20 (D) Urine creatinine/ plasma creatinine > 40

Comparison of lab findings in AKI (1)

Test	Prerenal AKI	Intrinsic AKI
Urine specific gravity	>1.020	≤1.010
Urine sodium, mEq/L	<20	>40
Fractional excretion of sodium	<1%(neonates <2%)	>2%(neonates >2.5%)
Fractional excretion of urea	<35%	>50%
Urine osmolality,mOsm/kg	>500	<350
Urea nitrogen - creatinine ratio	>20	10-50

115. Drug causing pulmonary fibrosis is/are :

a) Amiodarone

b) Cisplatin

c) Gold

d) Bleomycin

e) All

Correct Answer - A:C:D
Answer- (A) Amiodarone (C) Gold (D) Bleomycin
Nitrofurantoin
Bleomycin
Busulfan
Cyclophosphamide Methysergide
Phenytoin

116. Which of the following causes hyperkalemia:

a) Bartter syndrome

b) RTA I

c) RTA II

d) Tumor lysis syndrome

e) Addison's disease

Correct Answer - D:E

Answer- (D) Tumor lysis syndrome (E) Addison's disease

Inadequate excretion

A. Advanced renal insufficiency

1. Chronic kidney disease
2. End-stage renal disease
3. Acute oliguric kidney injury

B. Primary adrenal insufficiency

1. Autoimmune: Addison's disease, polyglandular endocrinopathy
2. Infectious: HIV, cytomegalovirus, tuberculosis, disseminated fungal infection
3. Infiltrative: amyloidosis, malignancy, metastatic cancer
4. Drug-associated: heparin, low-molecular-weight heparin
5. Hereditary: adrenal hypoplasia congenita, congenital lipoid adrenal hyperplasia, aldosterone synthase deficiency
6. Adrenal hemorrhage or infarction, including in antiphospholipid syndrome

117. Treatment of Hyperkalemia includes:

a) Insulin

b) CaHCO3

c) Hemodialysis

d) p2 agonist

e) 50 ml of 50% dextrose with insulin

Correct Answer - A:C:D:E

Answer- (A) Insulin (C) Hemodialysis (D) p2 agonist (E) 50 ml of 50% dextrose with insulin

Calcium supplementation (calcium gluconate)

Insulin intravenous injection along with dextrose to prevent hypoglycemia, will lead to a shift of potassium ions into cells, secondary to increased activity of the sodium-potassium ATPase.

Bicarbonate therapy

Salbutamol

Sodium Polystyrene sulfonate

Non-emergency hyperkalemia treatment:

- Loop diuretics - By renal K+ excretion.
- Resins [Sodium polystyrene sulfate] - By binding K+
- Hemodialysis - By extracorporeal K+ removal

118. Which of the following is feature(s) of diabetic ketoacidosis:

a) Decreased triglyceride level

b) Increased fatty acid level

c) TLipoprotein

d) Decreased ketone bodies

e) High Anion gap acidosis

Correct Answer - B:C:E

Ans: (B) Increased fatty acid level (C) TLipoprotein (E) High Anion gap acidosis *[Ref Harper 30th/ 231; Lippincott 6th/339, 345; Satyanarayan 4th/481, 682; Harrison 19th/2417-18]*

- DKA is characterized by hyperglycemia, ketosis, and metabolic acidosis (increased anion gap) along with a number of secondary metabolic derangements, Leukocytosis, hypertriglyceridemia, and hyperlipoproteinemia are commonly found as well
- Increased lactic acid production also contributes to the acidosis. The increased free fatty acids increase triglyceride and VLDL production. VLDL clearance is also reduced because the activity of insulin-sensitive lipoprotein lipase in muscle and fat is decreased.
- Hypertriglyceridemia may be severe enough to cause pancreatitis.
- Reduced insulin levels, in combination with elevations in catecholamines and growth hormone, increase lipolysis and the release of free fatty acids. Normally, these free fatty acids are converted to triglycerides or very-low-density lipoprotein (VLDL) in the liver.

119. Which of the following is/are not feature of anorexia nervosa:

a) Strict dieting

b) Hallucination

c) Amenorrhoea

d) Distortion of body image

e) Endocrine abnormalities

Correct Answer - B
Answer- B. Hallucination
PSYCHOLOGICAL SYMPTOMS:

- Distorted Body Image.

EMOTIONAL:

- Mood swings
- Increased commitment to work
- BEHAVIORAL -Excessive exercise, starvation.
- PHYSICAL: Extreme weight loss and stunted growth, amenorrhea, nipple discharge, dehydration, hypothermia, osteoporosis.

120. Which of the following is/are true about inflammatory bowel disease:

a) Smoking decreases risk of Crohn's disease & increases risk of ulcerative colitis

b) PANCA - ulcerative colitis

c) Linear ulcer- Crohn's disease

d) Pseudopolyp- Crohn's disease

e) Cobble stoning- ulcerative colitis

Correct Answer - B:C

Answer- (B) PANCA - ulcerative colitis (C) Linear ulcer- Crohn's disease

ULCERATIVE COLITIS	**CROHN'S DISEASE**
Wateryor bloody diarrhea	Chronic diarrhea
Rectal discharge of mucus, perforation	Abdominal pain
Proctitis	Weight loss, pyrexia, abdominal mass
Colitis	Acute intestinal obstruction
Proctosigmoditis	Multiple perianal fissures, fistula &abscess
Toxic rnegacolon, severe hemorrhage	Fat wrappings {creeping rnesentry)

ULCERATIVE COLITIS	CROHN'S DISEASE
Gross- • Only the mucosa involved • Superficial ulceration • Exudation • Pseudopolyps	**Gross?** • **Inflammatory involves full thickness of bowel wall thickness of bowel wall involving serosa** • Cobble stone appearance • Deep fissured ulcers • Lymphadenopathy • Fistula present • Skip areas
Micro- • Crypt abscess common • Inflammatory polyps • Pipe stem colon	**Micro?** • Non caseating giant cell granuloma present
ULCERATIVE COLITIS	**CROWN'S DISEASE**
Age-2nd to 4th & 7th to 9Th decade Gender- both are equally affected	Age- 2nd to 4th decade Females are more affected
Etiology- • More common in non/ex smokers	**Etiology?** • More common in smokers
Anatomical distribution- • Always involves rectum & descending colon/sigmoid	**Anatomical distribution?** • Commonest in ileum 160%) • Anal lesions are common

121. Which of the following can cause pulmonary embolism -

a) Pregnancy

b) OCP uses

c) Mitral regurgitation

d) Left ventricular failure

e) Excessive unaccustomed exercise

Correct Answer - A:B:D

Answer- (A) Pregnancy (B) OCP uses (D) Left ventricular failure

Patient Factors

- Age
- Obesity
- Varicose veins /superficial thrombophlibits
- Immobility
- Pregnancy
- PuerPerium
- High-dose oestrogen therapy or OCP use

Disease or surgical procedure-

- Trauma or surgery
- Malignancy
- Heart failure
- Paralysis of lower limb
- Infection

122. Which of the following causes acute pancreatitis:

a) Hypertriglyceridemia

b) Hypercalcemia

c) Steroid

d) Stavudine

e) Gall stone

Correct Answer - A:B:C:E
Answer- (A) Hypertriglyceridemia (B) Hypercalcemia (C) Steroid (E) Gall stone
Gall stones (most common)
Alcohol abuse is the second cause of acute pancreatitis.
Occult disease of the biliary tree or pancreatic ducts, especially microlithiasis, sludge.
Hypertriglyceridemia
Pancreas divisum
Pancreatic cancer
Sphincter of Oddi dysfunction
Cystic fibrosis
Drugs- Steroids, Azathioprine, Valproate, Estrogens, L-Asparaginase, 6-mercaptopurine, Sulfonamides, Tetracycline, Anti-retroviral agents, Thiazide diuretics
Familial or genetic
Hyperparathyroidism
Hypercalemia
Post ERCP
Most common causes in children: blunt abdominal injuries.

multisystem disease (hemolytic uremic syndrome and inflammatory bowel disease) biliary stones or microlithiasis (sludging), and drug toxicity

123. Paradoxical/ reverse splitting of second heart sound is/are seen in:

a) AS

b) PS

c) Complete left bundle branch block

d) Pulmonary arterial hypertension

e) All

Correct Answer - A:C
Answer- (A) AS (C) Complete left bundle branch block
Left Bundle Branch Block (LBBB) is typically associated with Reversed or Paradoxical Splitting of S2
Paradoxical splitting of second heart sound is caused by delayed A2 or early P2. Left Bundle Branch Block (LBBB) is associated with delayed Aortic closure (delayed A2) due to delayed electrical activation of the left ventricle.
ASD and RBBB are associated with a wide physiological (non-paradoxical) split of second heart sound due to delayed pulmonic closure (Delayed P2) while VSD is associated with a wide physiological (non-paradoxical) split second heart sound from early aortic closure (Early A2).

124. Herpes encephalitis findings are:

a) Most commonly involves frontal & temporal lobe

b) Commonly involves basal ganglia

c) Hyperintense lesion in temporal lobe on T1-weighted images

d) Hyperintense lesion in temporal lobe on T2-weighted images

e) None

Correct Answer - A:D

Answer- (A)Most commonly involves frontal & temporal lobe (D) Hyperintense lesion in temporal lobe on T2-weighted images

HSV encephalitis-

Examples of focal findings include:

1. areas of increased signal intensity in the frontotemporal
2. focal areas of low absorption, mass effect, and contrast enhancement on CT
3. periodic focal temporal lobe spikes on a background of slow or low-amplitude ("flattened") activity on EEG

80% will have abnormalitles in the tempotal lobe.

Hyperintense on T2- images.

125. Which of the following included in ATP III criteria for Metabolic syndrome:

a) B.P 130/85

b) Triglyceride 150 mg/dl

c) Fasting glucose 100

d) Waist circumference in female >80 cm

e) None

Correct Answer - A:B:C

Answer- A,B.P 130/85 B,Triglyceride 150 mg/dl C,Fasting glucose 100

Criteria	**WHO (1998)**	**NCEP (2001)**	**IDF (2005)**	**Harmonized (2009)**
Prerequisite	DM. IFG.IGT, IR	None	WC: Z90 cm (men) & 280 cm (women)t	None
No. of other criteria	and 22 of:	23 of.	and 22 of:	23 of:
Obesity	BMI: 230 &for WHR: >0.9 (men) & >0.85 (women)	WC: 3102 cm (men) & 388 cm (women)	Already considered as perquisite criterion	WC: Z90 cm (men) e. 3$0 cm (women)t
BP (mmHg)	Z140/90	3130/135 or	Z:130/85	3130/85 or

BP (mmHg)	Z140/90	Rx	or Rx	Rx
HDL-C (mg/di)	<35 (men) & <39 (women) or	<40 (men) &	<40 (men) &	<40 (men) &
		<50 (women) or Rx	<50 (women) or Rx	<50 (women) or Rx
TG (mg/d1)	Z150	150 or Rx	2l50 or Rx	kis() or Rx
Fasting glucose (mg/d1)	2110, la	2100 or Rx	2100 or No	2100 or fix
Microalbuminuria	Urinary albumin 220 ug/min or albumin-creatinine ratio >30 mg/g			

tRecommended waist circumference thresholds for the abdominal obesity in people of Asian origin.

126. Which of the following is/are true about pneumothorax:

a) Decreased chest movement

b) Dull on percussion

c) Decrease breathing sound

d) Hyper-resonant note on percussion

e) End-expiratory crepitation

Correct Answer - A:C:D

Answer- A,Decreased chest movement C,Decrease breathing sound D,Hyper-resonant note on percussion

In pneumothorax, intra-pleural pressure equilibrates with the ambient barometric pressure and the lung's natural recoil tendency causes it to collapse.

Pneumothorax tends to cause collapse of the lungs and a decreased compliance.

Closed Pneumothorax-

- Reduced chest movement
- Hyper-resonant note on percussion
- Absent air entry
- Mediastinal shift to opposite side
- Coin test

Open Pneumothorax-

- Crackpot sound on percussion
- Amphoric breath sounds
- Displacement of mediastinum with respiration
- Increasing breathlessness, cyanosis & tachycardia

127. A person's X-ray chest showing homogenous opacity on right side with shifting of mediastinum on opposite side. Most probable diagnosis is/are:

a) Collapse

b) Pleural effusion

c) Pneumothorax

d) Consolidation

e) Post-pnemectomy

Correct Answer - B

Answer- (B) Pleural effusion

Pneumonectomy chest (Early sip: within 24 hr): Partial filling of thorax, ipsilateral mediastinal shift & diaphragmatic elevation.

Homogenous opacity

Shift of mediastinum to the opposite side

Concave upper border (Ellis's curve)

128. Paraneoplastic syndromes of lung carcinoma include:

a) Hypercalcemia

b) SIADH

c) Hypocalcemia

d) Hypoglycemia

e) Hypernatremia

Correct Answer - A:B:C
Answer- A,Hypercalcemia B, SIADH C, Hypocalcemia
Hypercalcemia of malignancy

- SIADH
- Cushing's syndrome
- Hypoglycemia
- Male feminization
- Diarrhoea or intestinal hypermotility
- Osteomalacia
- Acromegaly
- Hyperthyroidism
- Hypertension

129. Which of the following investigation is useful for Zollinger-Ellison Syndrome (gastrinoma):

a) USG

b) MRI

c) CT scan

d) OctreoScan

e) Endoscopic ultrasound

Correct Answer - A:B:C:D:E

Answer- A,USG B,MRI C,CT scan D,OctreoScan E, Endoscopic ultrasound

Investigations-

- Serum gastrin elevated
- Patient should first undergo an abdominal CT scan, MRI, or OctreoScan to exclude metastatic disease.
- Endoscopic ultrasound (EUS) permits imaging of the pancreas with a high degree of resolution
- Radiolabelled somatostatin receptor scintigraphy.
- Gastrinoma patients have fasting gastrin level >150- 200 pg/ml
- BAO >15 meq/h in the presence of hypergastrinemia is pathognomonic of ZES.
- BAO/ MAO ratio >0.6 being highly suggestive of ZES.
- The most sensitive and specific gastrin provocative test for the diagnosis of gastrinoma is the secretin study. (An increase in gastrin of ≥120 pg within 15 min of secretin injection has a sensitivity and specificity of >90% for ZES.)

130. Community acquired pneumonia is/are caused by:

a) Staph. aureus

b) Mycoplasma pneumoniae

c) Streptococcus pneumoniae

d) Influenza virus

e) Neisseria gonorrhoeae

Correct Answer - A:B:C:D
Answer- A,Staph. aureus B,Mycoplasma pneumoniae C,Streptococcus pneumoniae D, Influenza virus
Strep toco ccus pneumoniae
Haem ophilus influenzae
Moraxella catarrhalis
Staphylococcus aureus
L e gi o n ell a p n e um o ph il a
Enterobacteriaceae (Klebsiella pneumoniae) and Pseudomonas sPP.
Mycoplasma pneumoniae
Chlamydia sPP.
Influenza A

131. Treatment of facio-cervical actinomycosis includes:

a) Surgery is treatment of choice

b) Drug of choice is penicillin G

c) Metronidazole

d) Amoxicillin

e) All

Correct Answer - B:D
Answer- B,Drug of choice is penicillin G D, Amoxicillin
1st choice-Penicillin or amoxicillin for six to twelve months
2nd choice- Doxicycline
Surgery if the disease is extensive

132. Neoplastic lesion in AIDS includes:

a) Anal carcinoma

b) Non-Hodgkin's lymphoma

c) Esophageal carcinoma

d) Burkit's lymphoma

e) Cervical carcinoma

Correct Answer - A:B
Answer- A,Anal carcinoma B, Non-Hodgkin's lymphoma
Kaposi sarcoma(Multifocal tumor of vascular origin)(HHV - 8)
Non Hodgkin lymphoma
Primary lymphoma of brain
Invasive cancer of uterine cervix
Immunoblastic lymphoma (most common lymphoma)
Primary Effusion Lymphoma (PEL)
Plasmacytic lymphoma of the oral cavity
Burkitt's lymphoma(EB virus)

133. Which of the following statement(s) is/are regarding American Heart Association(AHA) Guideline-2015 for cardiopulmonary resuscitation(CPR) & Emergency cardiovascular care(ECC):

a) Chest compression: ventilation Compression ventilation ratio without advanced airway – rate 30:2 irrespective of rescuer & age of patient

b) Compression rate- at least 100/min

c) Failure to achieve an ETCO2 of 10 mm Hg by waveform capnography after 20 minutes of resuscitation has been associated with an extremely poor chance of return of spontaneous circulation(ROSC)

d) Limit interruptions in chest compressions to less than 10 seconds

e) None

Correct Answer - C:D

Answer- C,Failure to achieve an ETCO2 of 10 mm Hg by waveform capnography after 20 minutes of resuscitation has been associated with an extremely poor chance of return of spontaneous circulation(ROSC) D,Limit interruptions in chest compressions to less than 10 seconds

- Compression rate is modified to a range of l00 to 120/min.
- Compression ventilation ratio without advanced airway- 1 or 2 rescuers 30: 2

- Failure to achieve an ETCO2 of I0 mm Hg by waveform capnography after 20 minutes of resuscitation has been associated with an extremely poor chance of ROSC and survival.
- The clarified recommendatio-n for cfrest compression depth for adults is atleast 2 inches (S cm) but not greater than 2.4 inches (6 cm) .

134. True about Amoebic liver abscess:

a) More common in right lobe

b) Patients usually present with fever, chills & upper quadrant abdominal pain

c) Usually multiple

d) Abscess cavity contains anchovy sauce -like fluid

e) Most commonly presents with jaundice

Correct Answer - A:B:D

Answer- A,More common in right lobe B,Patients usually present with fever, chills & upper quadrant abdominal pain D,Abscess cavity contains anchovy sauce -like fluid

Amebic liver abscess is the most frequent extraintestinal manifestation of Entamoeba histolytica infection.

The right lobe (posterior superior quadrant) of the liver is more commonly affected than the left lobe.

The abscess contains a chocolate-colored fluid that resembles anchovy paste and consists predominantly of necrotic hepatocytes.

Anorexia, fever night sweats, malaise, cough and weight loss.

135. True about ulcer:

a) Arterial ulcer-painless

b) Venous ulcer-penetrates deep fascia

c) Arterial ulcer- punched out

d) Neuropathic ulcer- may involve bone

e) Trophic ulcer- Puched out edge

Correct Answer - C:D:E

Answer- C,Arterial ulcer- punched out D,Neuropathic ulcer- may involve bone E,Trophic ulcer- Puched out edge

Puched out edge: It is mostly seen in gummatous ulcer or in a deep trophic ulcer.

Arterial ulcer- Thae ulcer tends to be punched out

Gummatous ulcers, which occurs in tertiary syphilis, have punched-out indolent edge.

Neurogenic ulcer- it burrows deep inside, may involve bone & also called as perforating ulcer.

Venous ulcer- Depth-superficial, does not penetrate deep fascia.

136. True about Buerger disease

a) Affects larger artery only

b) Younger males are more commonly affected

c) Phlebitis migrans is characteristic

d) Cold intolerance

e) Veins may involved

Correct Answer - B:C:E

Answer- B,Younger males are more commonly affected C,Phlebitis migrans is characteristic E,Veins may involved

Also called as Thromboangiitis Obliterans

It is a inflammatory occlusive vascular disorder involving small and medium sized arteries and veins in upper and lower extremities.

It involves tibial and radial arteries and sometimes secondarily extending to veins and nerves of extremities.

The clinical features of thromboangiitis obliterans includes a triad of claudication of the affected extremity, Raynaud's phenomenon, and migratory superficial vein thrombophlebitis.

137. All are true about squamous cell carcinoma of skin except:

a) It is called marjolin ulcer when develops in scar

b) Radiotherapy may be used in treatment

c) Hematogenous spread is common & occur early

d) May develop in chronic ulcer

e) Lymphatic spread is chief way of spreading

Correct Answer - C

Answer- (C) Hematogenous spread is common & occur early

SCC is a malignant tumour of keratinising cells of the epidermis or its appendages.

Also arises from the stratum basale of the epidermis.

SCC is the second most common form of skin cancer.

Usually affects the elderly.

SCC is also associated with chronic inflammation.

When a SCC appears in a scar it is known as a Marjolin' ulcer.

Associated with UV light exposure, chronic inflammation and viral infection.

"SCC is treated by wide excision or radiotherepy.

Lymphatic spread is the chief method of spread even though it occurs relatively late.

138. Indication of circumcision includes:

a) Hypospadias

b) Epispadias

c) Phimosis

d) Balanitis

e) Balanoposthitis

Correct Answer - C:D:E
Answer- C,Phimosis D,Balanitis E, Balanoposthitis
Indication- religious & phimosis
Medical indications for circumcision in boys include-
1. recurrent attacks of balanoposthitis
2. recurrent urinary tract infections
3. In adults, inability to retract for intercourse, abnormally tight frenulum, balanitis

139. Inguinal hernial surgery may be complicated by :

a) Testicular atrophy

b) Urinary retention

c) Impotence

d) Constipation

e) Pain

Correct Answer - A:B:E

Answer- A,Testicular atrophy B,Urinary retention E, Pain

Complication during surgery

- Injury to iliac vessel-the most serious but rare
- Injury to urinarybladder

Early postoperctive period

- Pain-Pain is common due to incision in the skin & some degree of retraction of structures such as inguinal ligament downwards 6 conjoint tendon upwards
- Bleeding
- Urinary retention is common, more so in males
- Abdominal distension

Intermediate- between 3 & 7 ila*

- Seroma
- Wound infection

Late

- Inguinodynia
- Testicular atrophy

140. True about physiological hernia

a) Herniation of Foregut

b) Herniation of Foregut + midgut

c) Herniation of Midgut

d) Goes back around 4 week after herniation

e) Goes back around 10 week of fetus age

Correct Answer - C:D:E

Answer- C,Herniation of Midgut D,Goes back around 4 week after herniation E,Goes back around 10 week of fetus age

It is a natural phenomenon that occurs in early pregnancy.

It usually occurs from around 6-8 weeks up until 13 week in-utero, after which the bowel retuns to the abdominal cavity.

At approximately 10-11 weeks the abdomen enlarges and the intestines return to the abdominal cavity.

At -8 weeks gestational age and is due to a number of factors including Rapid growth of the cranial end of the midgut (which will form the small intestine).

141. Burn involving one lower limbs in adult correspondence to area:

a) 4.5 %

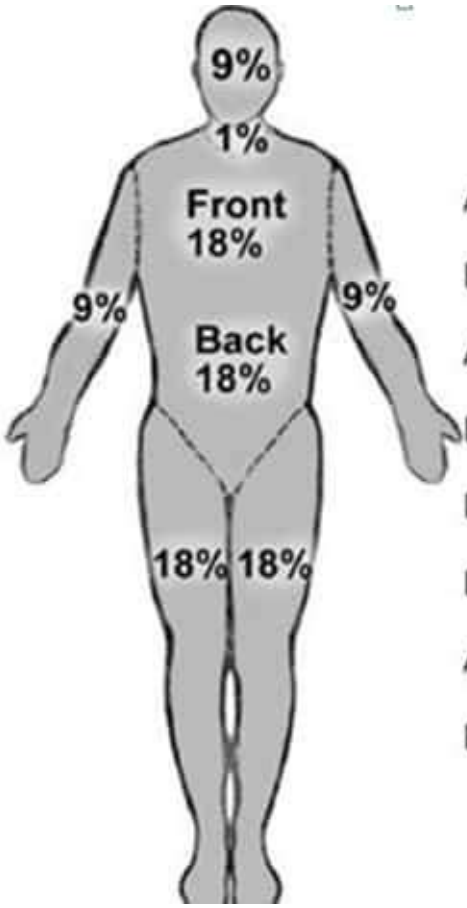
b) 9 %

c) 13.5%

d) 18%

e) 27%

Correct Answer - D
Answer- (D) 18%



Adult body	% of total
Part	BSA
Arm	9%
Head	9%
Neck	1%
Leg	18%
Anterior trunk	18%
Posterior trunk	18%

142. True about thyroid tumor:

a) Follicular -lymphatic metastasis more common than papillary

b) Papillary- blood metastasis more common than follicular

c) Hurthle- lymphatic spread is common

d) Hurthle-less aggressive than follicular carcinoma

e) Follicular- invasion of capsule & vascular spaces in capsular region

Correct Answer - D:E

Answer- D,Hurthle-less aggressive than follicular carcinoma E, Follicular- invasion of capsule & vascular spaces in capsular region

Hurthle cell carcinoma is a subtype of follicular carcinoma.
The tumor contains an abundance of oxyphilic cells, or oncocytes.
It appears in an older age group.
Higher chance of spread to lymph node compared to follicular carcinoma.
Treatment is surgical.
Follicular Carcinoma-
Microscopically, there is invasion of the capsule and of the vascular spaces in the capsular region.
Blood borne metastases are more common.

143. Common tumour(s) found in anterior mediastinum:

a) Teratoma

b) Cervical thymoma

c) Lymphoma

d) Schwannoma

e) Thyroid carcinoma

Correct Answer - A:B:C

Answer- A,Teratoma B,Cervical thymoma C, Lymphoma

Thymoma

- Teratoma
- Parathyroid adenoma
- Bronchogenic cyst
- Aneurysms
- Lymphoma
- Lipoma
- Spinal lesions
- Goitre

144. True about Congenital hypertrophic pyloric stenosis:

a) Shortening of pyloric canal on barium contrast imaging

b) Elongation of pyloric canal on barium contrast imaging

c) Narrowing of pyloric canal on barium contrast imaging

d) Thickened pyloric muscle on USG

e) Child should be given normal saline with KC1

Correct Answer - B:C:D:E

Answer- (B) Elongation of pyloric canal on barium contrast imaging (C) Narrowing of pyloric canal on barium contrast imaging (D) Thickened pyloric muscle on USG (E) Child should be given normal saline with KC1

- Imaging confirmation is sought by most clinician to differentiate from gastroesophageal reflex
- Precaution: Empty stomach via nasogastric tube before study & Remove contrast at end
- Elongation & narrowing ofpyloric canal
- String sign=passing of small barium streak through elongated pyloric channel (most specific sign)
- Double/triple track sign: crowding of mucosal folds in pyloric channel

145. Bilateral parotid swelling is/are seen in all except :

a) Mump

b) Epstein-Barr virus

c) Sarcoidosis

d) Brucella

e) Sjogren syndrome

Correct Answer - D
Answer- (D) Brucella
Viral infections
Mumps
Influenza
Epstein-Barr virus
Coxsackievirus A
Cytomegalovirus
HIV HCV

- Sarcoidosis
- Sjogren's syndrome
- Metabolic disorders
- Diabetes mellitus
- Chronic pancreatitis
- Hepatic cirrhosis

invalid question id

147. A 65 year old male presented with femur neck fracture. He was managed with closed reduction + cancellous screw. 6 month later X-ray was done in lateral view. X-ray shows non-union & leg shorting. Now, appropriate management options is/are:

a) Unipolar hemiarthroplasty

b) Bipolar hemiarthroplasty

c) Subtrochanteric osteotomy

d) Osteosynthesis

e) Total hip arthroplasty

Correct Answer - A:B:E

Ans. a. Unipolar hemiarthroplasty; b. Bipolar hemiarthroplasty; e. Total hip arthroplasty

In general, operations for ununited fractures of the femoral neck can be grouped into ffve general classes:

- Osteosynthesis, in which a fracture is refixed with new internal fixation devices;
- Subtrochanteric osteotomy
- Prosthetic replacement (hemiarthroplasty)
- Total hip arthroplasty
- Arthrodesis.

Some general guidelines are as follows:

- In adults < 60 years old, nonunions in which the femoral head is viable can be treated by angulation osteotomy. This provides a line of weight bearing more directly beneath the femoral head.
- In children and in adults < 21 years old, nonunions in which the femoral head is not viable can be treated with an arthrodesis. In exceptional circumstances' a young adult may be treated with a prosthesis.
- In adults 2l to 60 years old, nonunions in which the femoral head is not viable can be treated with a prosthesis, a total hip arthroplasty, or an arthrodesis, depending on the circumstances in the given Patient and on the experience and preference of the surgeon. Rarely is an arthrodesis indicated in patients older than 50 years of age or in patients with a sedentary occupation.
- In patients > 60 years, non-union, regardless of the viability of the femoral head, usually are treated with a hemiarthroplasty or a total hip arthroplasty'

148. Carpal tunnel syndrome is associated with all except:

a) Dupuytren's contracture

b) Myxoedema

c) Idiopathic

d) Rheumatoid arthritis

e) Acromegaly

Correct Answer - A

Ans. a. Dupuytren's contracture

Associated conditions that can leads to carpal tunnel syndrome are:

1. Idiopathic (most common)
2. Pregnancy
3. Endocrine disorders

- Hypothyroidism
- Diabetes mellitus
- Myxedema
- Acromegaly
- Hyperparathyroidism

4.Deposition disorders

- Rheumatoid disorder
- Gout
- Rheumatic disorder
- Amyloidosis
- Sarcoidosis
- Leukemia

- Chronic renal failure

149. Which of the following is/are not feature(s) of rheumatoid arthritis

a) Pannus formation in joint

b) Osteosclerosis osteoclastic activity in underlying bone

c) Erosion of cartilage

d) Osteophyte

e) Plasma cell infiltration of synovial stroma

Correct Answer - D

Ans. d. Osteophyte

The characteristic histologic features include :

- Infiltration of synovial stroma by dense perivascular inflammatory cells, consisting of B cells and CD4+ helper T, plasma cells and macrophages;
- Increased vascularity owing to vasodilation and angiogenesis, with superficial hemosiderin deposits;
- Aggregation of organizing fibrin covering portions of the synovium and floating in the joint space as rice bodies;
- Accumulation of neutrophils in the synovial fluid and along the surface of synovium but usually not deep in the synovial stroma;
- Osteoclastic activity in underlying bone, allowing the synovium to penetrate into the bone forming juxta-articular erosions, subchondral cysts, and osteoporosis;
- Pannus formation- Pannus is a mass of synovium and synovial stroma consisting of inflammatory cells granulation tissue, and fibroblasts, which grows over the articular cartilage and causes its erosion.

150. True about fracture neck Talus:

a) Avascular necrosis of body is common complication

b) Lateral view X-ray is important for diagnosis

c) Displaced fracture require below knee plaster only

d) Displaced fracture require open reduction & internal fixation

e) All

Correct Answer - A:B:D

Ans. a. Avascular necrosis of body is common complication; b. Lateral view X-ray is important for diagnosis; d. Displaced fracture require open reduction & internal fixation

Fracture Talus (Neck)

- Talus is the *major weight bearing structure* (the superior articular surface carries a greater load per unit area than any other bone in body), and it has a *vulnerable blood supply* and is a common site for *post traumatic ischemic necrosis.*
- The body of talus is supplied mainly by vessels which enter the talar neck from the tarsal canal. In fractures of the talar neck these vessels are divided; if the fracture is displaced the extraoseous plexus too may be damaged and *body of talus becomes ischemic.*
- Fracture of the talar neck is produced by *violent hyperextension* of ankle. Body of talus fracture is usually a *compression injury* due to *fall from height.*

Complications

- Avascular necrosis of body is *most continuum* complication. The incidence varies with the severity of displacement: in type I < 10%, in type II - 40% , in type III >90%.
- Malunion predispose to osteoarthritis.

- Secondary **Osteoarthritis** of ankle and /or subtalar joint occurs some years after injury in over 50% of patients. There are several causes : articular damage d/t intial trauma, malunion, distortion of articular surface and AVN.

Hawkins Classification

Type I	Undisplaced
Type II	Displaced associated with dislocation of subtalar joint
Type **III**	Displaced associated with dislocation at ankle as well as - at subtalar joint
Type **IV**	Type 3 + Talonavicular - subluxation or dislocation

Treatment

- Below knee cast with *foot in plantar flexion* X 4 weeks Further plaster change will allow the foot to be brought up slowly to plantigrade Close / open reduction & internal fixation

151. True about acute osteomyelitis –

a) Cannot be detected on X-ray before 2 weeks

b) Bone scan detect after 2 weeks

c) Severe pain

d) Secondary osteomyelitis associated with compound fracture is more common than primary variety

e) Limitation of movements

Correct Answer - C:E

Ans. is 'c' i.e., Severe pain &`e' i.e., Limitation of movements

ACUTE OSTEOMYELITIS:

1. It Primary (hematogenous): - Organisms reach the bone through blood stream.
2. Secondary: - Organism gain entry directly through wound such as in compound fractures or surgical operation.

- Hematogenous osteomyelitis is the commonest form of osteomyelitis and most common source of bone and joint infection is hematogenous.

Clinical features :

- Metaphysis of long bone is the earliest and most common site involved.
- Most common in children.

The bones most commonly :

- Proximal tibial
- Distal femur
- Proximal humerus.

Features:

- Severe pain, fever, malaise, chills & rigors, sweating, and even

shock.

- Local tenderness (finger tip tenderness), raised local temperature, Local erythema and limitation of movements (typically the limb is held still).

Diagnosis:

X-rays

- Earliest sign : periosteal reaction (periosteal new bone formation) at the metaphysis, which takes about 7-10 days.

Bone scan

- Increased uptake by bone in metaphysis within 24 hours of onset of symptoms (earliest sign.

152. True about osteoclastoma

a) Mostly malignant

b) Most common site- mandible & vertebrae

c) Recurrence is common after excision

d) Located at epiphysis

e) All

Correct Answer - C:D

Ans. c. Recurrence is common after excision; d. Located at epiphysis

Giant cell tumor (Osteoclastoma)

- GCT is an osteolytic tumor arising from the epiphysis and is common between the age of 20-40 years.
- Though GCT is a benign tumor, it is locally very aggressive.
- Females are affected more than males.

Pathological features

- The commonest sites are lower end of femur and upper end of tibia. Other common sites are lower end radius and upper end of humerus. It may also occur in the spine and sacrum.
- The tumor is encompassed by a fibrous capsule at periphery.
- The presence of tumor giant cells is the hallmark of this tumor.

Clinical features

- Pain at the site of the tumour.
- Gradually increasing local swelling
- Pathological fractures may occur.
- "Eggshell-crackling" sensation on palpation.

Radiological features

- GCT is one of the common cause of a solitary lytic lesion of the

bone. o The radiological features are : -

1. A solitary may be loculated, lytic lesion.
2. Eccentric location, often subchondral.
3. Expansion of the overlying cortex (expansile lesion).
4. 'Soap-bubble' appearance - The tumor is homogenously lytic with trabeculae of the remnants of bone traversing it, giving rise to a loculated appearance.
5. No calcification within the tumor.
6. None or minimal reactive sclerosis around the tumor.
7. Cortex may be thinned out, or perforated at places.
8. Tumour usually does not enter the adjacent joint.

153. Fracture site of Monteggia fracture is

a) Proximal ulna

b) Distal end of radius

c) Distal radius

d) Dislocation of radial head

e) Lower radio-ulnar joint dislocation

Correct Answer - A:D

Ans.a. Proximal ulna; d. Dislocation of radial head

Monteggia fracture-dislocations are classified by the Bado system

- Bado type I injuries are characterized by a proximal ulnar fracture with anterior dislocation of the radial head. This is due to a forceful pronation injury of the forearm and is the most common type.
- Bado type II injuries are "reversed" Monteggia fracture-dislocation injuries.
- Here, there is posterior angulation of the ulnar fracture site and posterior dislocation of the radial head.
- Bado type III and IV are rare injuries.

154. True regarding Down syndrome is?

a) Increased paternal age is a risk factor

b) Karyotyping is not needed in all patients

c) > 85% of affected patients have 1 more chromosome 21

d) Increased nuchal translucency

e) Associated with early onset of Alzheimer's disease

Correct Answer - B

Answer- B. Karyotyping is not needed in all patients

- Down's syndrome is the most common chromosomal disorder and most common congenital cause of mental retardation (2nd
- most common genetic cause of mental retardation is Fragile -X sydrome).
- Trisomy 21- There is an extra chromosome 21 which is due to meiotic nondisjunction in ovum.
- The most important risk factor is advanced maternal age (> 35 Years).
- Antenatal Screening for Down syndrome

Following methods are used :-

1. Triple test It includes (i) Unconjugated estrogen (estriol): decreased; (ii) Maternal serum alphafeto protein (MSAFP) :decreased; and (iii) hCG: increased
2. New markers: These are (i) Increased inhibin A in maternal blood; and (ii) Decreased PAPA (pregnancy associated plasma protein).
3. USG: It shows : (i) Increased nuchal translucency (increased nuchal fold thickness); (ii) Ductus venous flow reversed; and (iii) Nasal bone hypoplasia.

155. Which of the following is changes during pregnancy:

a) In last trimester blood volume increase by 50%

b) Cardiac output increase by 20% in last trimester

c) Hemodynamic changes in pregnancy can cause CHF following during labour and following delivery in pre-existing cardiac lesions

d) Hypercoagulability occurs

e) None

Correct Answer - A:C:D

Ans. (A) In last trimester blood volume increase by 50% ; (C) Hemodynamic changes in pregnancy can cause CHF following during labour and following delivery in pre-existing cardiac lesions; (D) Hypercoagulability occurs

HEMATOLOGICAL CHANGES:

PARAMETERS	**CHANGES**
Blood volume (mL)	↑ by 1500 (30–40%)
Plasma volume (mL)	↑ by 1250(40–50%)
Red Cell volume (mL)	↑ by 350(20–30%)
Total Hb (g)	↑ by 85 (18–20%)
Serum Iron	↓
TIBC	↑
Hematocrit	Diminished
Erythropoietin	↑
WBC count	↑(Neutrophilic leukocytosis-8,000 to

	20,000/mm3)
Platelet count and volume	unchanged
Coagulation factors	VII, VIII , X,plasma fibrinogen: ↑ Antithrombin III , XI, XIII: ↓
ESR	↑
Plasma fibrinolytic activity	↓
Plasma Protein Concentration	↓(Albumin↓30%; Globulin↑; A:G ↓)

CARDIOVASCULAR CHANGES:

Cardiac output (L/min)	↑ by 40% (maximum at 30th week)
Stroke volume (mL)	↑ by 27%
Heart rate (per minute)	↑ by17%
Blood pressure	Unaffected or mid-pregnancy drop of diastolic pressure by 5–10 mm Hg
Venous pressure	↑ 100%
Colloid oncotic pressure (mm Hg)	↓ by 14%
Systemic vascular resistance (SVR)	↓ by 21%
Pulmonary vascular reistance (PVR)	↓ by 34%
Total extracellular volume	↑ by 16%

- **Shift of apical impulse laterally and upwards in the left 4'h intercostal space**

156. In Pregnancy, which of the following decreases -

a) Serum ALT

b) Serum Alkaline phosphatase

c) Serum AST

d) Serum Urea

e) Serum Creatinine

Correct Answer - D:E
Ans. d. Serum Urea; e. Serum Creatinine
Increased GFR cause reduction of maternal plasma levels of creatinine, blood urea nitrogen & uric acid.
With the exception of raised alkaline phosphate levels, other liver function tests (serum levels of bilirubin, AST, ALT CPK LDH are unchanged.

157. All are true about PCOD except:

a) Metformin is used for treatment

b) Acanthosis nigra may be associated

c) Occur in postmenopausal women only

d) Associated with obesity

e) Infertility may be present

Correct Answer - C

Ans.c. Occur in postmenopausal women only

PCOD: Infertility is due to anovulatory cycle

Clinical feature:

- Young woman
- Acanthosis nigra due to insulin resistance.
- Thick pigmented skin over the nape of neck, inner thigh and axilla.
- Hirsutism
- Infertility
- Oligomenorrhoea, amenorrhoea
- Central obesity:BMI > 30 kg/cm2;Waist line >88 cm

Treatment:

- Metformin treats the root cause of PCOD, rectifies endocrine & metabolic functions & improve fertility rate. It is used as an insulin sensitizer

158. True about cervical cancer screening in female:

a) Start from 2l yr of age irrespective of sexual activity

b) Start from 2l yr of. age in sexually active women

c) After 30 yr, screening is done every 2-3 years if 3 previous PAP negative smear

d) In 70 plus age group, if previous PAP smear is negative - then annual survey

e) Risk group should be screened through HPV DNA testing combined with cytology

Correct Answer - B:C:E

Ans. b. Start from 2l yr of. age in sexually active women; c. After 30 yr, screening is done every 2-3 years if 3 previous PAP negative smear; e. Risk group should be screened through HPV DNA testing combined with cytology.

Cervical Cancer Screening :

- All sexually active womenshould be screenedstarting, from the age of2l years or after 3 years ofvaginal sex with no upper agelimits.
- Screening would be yearly till the age of 30.
- Thereafter, it should be done at an interval of every 2-3 yearsafter3 consecutiveyearly negative smears.
- The risk group should be screened with HPV DNA testing combined with cytology
- The negative predictive value of one negative HPV DNA test & two negative cytology tests are almost 100%.
- When both the tests are negative, the screening interval may be

increased to 6 years.

159. True about stage Ib cervix carcinoma management:

a) Radiotherapyalone

b) Simple hysterectomy alone

c) Primarychemoradiation

d) Wertheim hysterectomy + pelvic lymphadenectomy

e) Simple hysterectomy + adjuvant chemotherapy

Correct Answer - C:D

Ans. c. Primarychemoradiation; d. Wertheim hysterectomy + pelvic lymphadenectomy

Stages IB and IIA Cervical Cancer

- Radiation therapy with chemotherapy given at the same time.
- Radical hysterectomy and removal of pelvic lymph nodes with or without radiation therapy to the pelvis, plus chemotherapy.
- Radical trachelectomy.
- Chemotherapy followed by surgery.
- Radiation therapy alone.

160. Which of the following is/are true about locked twins:

a) First fetus- breech presentation & second fetus cephalic presentation

b) First fetus- cephalic presentation & second fetus breech presentation

c) Decapitation of head can be done, if the fetus is dead

d) Caesarean delivery is TOC

e) Usually delivered by vaginal route

Correct Answer - A:C:D

Ans. a. First fetus- breech presentation & second fetus cephalic presentation; c. Decapitation of head can be done, if the fetus is dead; d. Caesarean delivery is TOC

LockedTwin :

- The phenomenon of locked twins is rare .
- For twins to lock, the first fetus must Present breech & second cephalic .
- With descent of the breech through the birth canal, the chin ofthe first fetus locks b/w the neck & chin ofthe second .
- Caesarean delivery is recommended when the potential for locking is identified
- There are two types of locked twins: breech/vertex and vertex/vertex.
- If one fetus has been partially born' attempts can be made to disimpact the twins manually' such as by the Zavanellimaneuver, with a view to performing an assisted delivery with

ventouseorforceps.

- If the diagnosis is made only after the first locked twin has died in the birth canal, or if it is not expected to survive, the first twin may be decapitated and its head Pushed up to allow safe delivery ofthe second twin.

161. True about female pelvis:

a) Obstetric conjugate is 2 cm less than Diagonal conjugate

b) Obestetrical conjugate is the distance b/w the midpoint of the sacral promontory to prominent bony projection in the midline on the inner surface of the symphysis pubis

c) Intertuberous diameter is 8 cm

d) Bispinous diameter is 10.5 cm

e) None

Correct Answer - A:B:D

Ans.a. Obstetric conjugate is 2 cm less than Diagonal conjugate; b. Obestetrical conjugate is the distance b/w the midpoint of the sacral promontory to prominent bony projection in the midline on the inner surface of the symphysis pubis; d. Bispinous diameter is 10.5 cm

Obstetric conjugate: It is the distance b/v the midpoint of the sacral promontory to prominent bony projection in the midline on the inner surface at the symphysis pubis.

It measures10 cm .

It cannot be clinically estimatedbut k to inferredfrom the diagonal conjugate

1.5-2 cm to be deducted or by lateral radiopelvimetry .

Diagonal conjugate: It is the distance b/w the Lower border of symphysispubis to the midpoint on the sacral promontory. It measures 12 cm.

Bispinous diameter of midpelvis (10.5 cm): It measure distance b/w the two ischial spine

Intertuberous diameter (11 cm): It measures b/w inner borders of

ischial tuberosities"

162. Feature(s) of chronic hypertension in pregnancy:

a) Hypertension occurring after 20 week of pregnancy

b) Hypertension occurring before 20 week of pregnancy

c) >10 times common in obese women

d) Hypertension before onset of pregnancy

e) Hypertension occur upto 12 week postpartum

Correct Answer - B:D

Ans. b. Hypertension occurring before 20 week of pregnancy; d. Hypertension before onset of pregnancy

Chronic Hypertension in Pregnancy:

- It is defined as the presence of hypertension of any cause antedating or before the 20th week of pregnancy & its presence beyond the 12th week after delivery .
- The high risk factors for CHD are: age (>40 years), duration ofhypertension (>15 years), level ofBP (>160/ff0 mm Hg), presence ofany medical disorder (renovascular) & presence of thrombophilia.

163. In a primi female. Differential diagnosis of shock includes:

a) Uterine inversion

b) Postpartum massive haemorrhage

c) Amniotic fluid embolism

d) Postpartum eclampsia

e) None

Correct Answer - A:B:C

Ans. a. Uterine inversion; b. Postpartum massive haemorrhage; c. Amniotic fluid embolism

- Inversion of uterus: Shockis extremely profound mainly of neurogenic origin.
- Hemorrhagic shock: Associated with postpartum or postabortalhemorrhage, ectopic pregnancy, placenta previa, abruption placenta, rupture of the uterus and obstetric surgery: Shock associated with disseminated intravascular coagulation, intrauterine dead fetus syndrome and amniotic fluid embolism.
- Septic shock (endotoxic shock): Hypotension (systolic BP mm Hg) is due to sepsis resulting in derangements in cellular and organ system dysfunction.
- Hypotension persists in spite of adequate fluid resuscitation.
- Associated typically with septic abortion, chorioamnionitis, pyelonephritis, and rarely postpartum endometritis.

164. In pregnancy, counselling for therapeutic termination is generally done in case of:

a) Eisenmenger syndrome

b) Multi valvular disease

c) Congenital heart disease

d) Marfan syndrome

e) Primary pulmonary hypertension

Correct Answer - A:D:E
Ans. a. Eisenmenger syndrome; d. Marfan syndrome; e. Primary pulmonary hypertension
Place of Therapeutic Termination: Indication
Absolute termination: Primary pulmonary hypertension, Eisenmenger syndrome &pulmonaryveno-occlusion disease
Relative indications: Parous women with grade III & IV cardiac lesions; Grade I & II with previous history of cardiac failure in early months or in b/w pregnancy

165. OCP is absolutely contraindicated in:

a) Age > 40 year with smoking

b) Carcinoma breast & genitalia

c) H/o Epilepsy

d) Thrombophlebitis

e) Hyperlipidemia

Correct Answer - A:D

Ans. a. Age > 40 year with smoking; d. Thrombophlebitis

Absolute contraindication of combined OCP:

- Arterial or venous thrombosis
- Active liver disease
- Pregnancy
- Severe hypertension
- Stroke
- Liver adenoma
- Carcinoma
- Undiagnosed genital tract bleeding
- Valvular heart disease ischemic heart disease
- Angina
- Diabetes with vascular complication
- Focal migraine
- Severe hypercholesterolemia
- Smokers over age 35 years
- Liver tumor
- Estrogen-dependent neoplasm, e.g., breast cancer
- Breastfeeding (within 6 weeks postpartum)
- Major surgery or prolonged immobilization

166. Infertility is defined as:

a) If a couple fails to achieve pregnancy after l8 month of unprotected & regular intercourse

b) If a couple fails to achieve pregnancy after 15 month of unprotected & regular intercourse, it is an indication to investigate the couple

c) If a couple fails to achieve pregnancy after 1 year of unprotected & regular intercourse

d) Termed primary if conception has never occurred

e) It is termed secondary if conception has never occurred

Correct Answer - C:D

Ans. c. If a couple fails to achieve pregnancy after I year of unprotected & regular intercourse ; d. Termed primary if conception has never occurred

Infertility:

- Infertility implies apparent failure of a couple to conceive
- If a couple fails to achieve pregnancy after 1 year of unprotected & regular intercourse, it is an indication toinvestigate the couple . This is based on observation that 80-85% of normal couples achieves conception within 1 year;75% in 6 month & 50% in 3 months .
- It is termed primary if conception has never occurred 6 secondary if the patient fails to conceive after having achieved a previous conception

167. Which of the following is/are true regarding management of ectopic pregnancy:

a) Intrauterine sac may be visible by TVS when the ßhCG levels is > 1000 mIU/ml

b) Hemoperitoneum is indication for medical treatment

c) Methotrexate is drug of choice

d) Laparoscopy can be used for diagnosis

e) None

Correct Answer - A:C:D

Ans. a. Intrauterine sac may be visible by TVS when the ßhCG levels is > 1000 mIU/ml; c. Methotrexate is drug of choice; d. Laparoscopy can be used for diagnosis

- Serial ßhCG levels are usually required when the initial ultrasound performed fails to demonstrate either intra- or extrauterine pregnancy.
- At ßhCG levels of approximately 2000 mIU/ml, a viable intrauterine pregnancy should be seen by vaginal ultrasound.
- Laparoscopy of Direct visualization of the fallopian tubes and pelvis diagnostic laparoscopy offers a reliable diagnosis in most cases of ectopic pregnancy and a ready transition to definitive operative therapy.
- Methotrexate Therapy is the drug of choice

168. Most common site of CIN is :

a) Squamo-columnar junction

b) Ectocervix

c) Endocervix

d) Nabothian gland

e) All

Correct Answer - A
Ans. a. Squamo-columnar junction
CIN: The metaplasia extends from the original squamocolumnar junction (squamosquamous) outside to the newly developed (physiologically active) squamocolumnar junction (now squamocolumnar) inside. This area is transformation zone.

169. True about Mayer-Rokitansky-Kuster - Hauser syndrome

a) 45 XY

b) Upper 2/3 vagina absent

c) Ovary atrophic

d) Uterus abnormality

e) Amenorrhoea

Correct Answer - B:D:E

Ans. b. Upper 2/3 vagina absent; d. Uterus abnormality; e. Amenorrhoea

In androgen insensitivity syndrome a patient has XY karyotype and functioning testes however, the body cannot respond to testosterone due to mutations in the androgen receptor.

Features of Meyer Rokitansky kuster Hauser (Mullerian agenesis syndrome)

- Sporadic inheritance
- Karyotype 46xx
- Normal breast development
- Normal (adie)) and pubic hair
- Uterus absent
- Vagina absent
- Cervix absent
- Ovary normal
- Testosterone (female levels)
- Associated anomalies
- The presentation of complete mullerian agenesis (Meyer Rokitansky

kuster Hauser syndrome) may be confused with androgen insensitivity syndrome.

Presentation	**Mullerian agenesis**
Inheritance pattern	Sporadic
Karyotype	46xx
Breast development	Yes
Axillary and pubic hair	Yes
Uterus	No
Gonad	Ovary
Testosterone	Female levels
Associated anomalies	Yes

170. True about ventricular septal defect:

a) MC congenital heart anomaly

b) Presentation depends on size of lesion

c) Membranous type closes early than muscular type

d) Mid-diastolic murmur

e) CHF never develops

Correct Answer - A:B

Ans. a. MC congenital heart anomaly; b. Presentation depends on size of lesion

Muscular VSD have the highest likelihood of spontaneous closure

Patients with VSD become symptomatic around 6 to 10 weeks of age with congestive cardiac failure.

VSD is the most common cardiac malformation and accounts for 25/o of congenital heart disease. Defects may occur in any portion of the ventricular septum, but most are of the membranous type.

These defects are in a posteroinferior position, anterior to the septal leaflet of the tricuspid valve.

VSDs between the crista supraventricularis and the papillary muscle of conus may be associated with pulmonary stenosis and other manifestations of the tetralogy of Fallot.

171. **The following statement is TRUE for Pityriasis Rosea:**

a) Self limiting

b) Chronic relapsing

c) Life threatening infection

d) Caused by dermatophytes

e) None

Correct Answer - A

Ans. A. Self limiting

- Pityriasis rosea is an acute exanthematous papulosquamous eruption often with a characteristic self limiting course.
- The etiology is not known.
- HHV-7 more frequently, Ht{V-6 less frequently
- (It is not caused by dermatophytes).
- It is present during the spring and fall.

Morphology:

- Herald patch, Fir tree or Christmas tree appearance

Site:

- Trunk along line of cleavage; sometimes (20%) lesions occur predominantly on extremities & neck (inverse pattern)

Ref: Harrison’s Principles of Internal Medicine 16thEdition Page 292; Roxburgh's-Common Skin disease 17th Edition Page 17; Fitzpatrick's Dermatology 5th Edition Page 7369; Illustrated Textbook of Dermatology: Pasricha 3rd Edition Page 7134; Illustrated Synopsis of Dermatology & STDs, Neena Khanna 1st Edition Page 742-44

Accordign to ananthanarayan microbiology book 9th ed/p.595:

- Causatiye agent: yeast like fungus malassezia furfur (formely Pityro sp orum orbiculare) .
- Site: Upper trunk, neck 6 upper arm .
- This a chronic, usually asytnptomatic, invohtement of the startum corneum .
- The old name tinea versicolor should be discarded as pityrtasis eersicolor is not caused by dermatophytes.

172. True about Impetigocontagiosa:

a) Asboe- hausen sign

b) Honey coloured crust

c) Caused by staph. aureus

d) Contagious

e) Bullous disorder

Correct Answer - B:C:D:E

Ans. (B) Honey coloured crust (C) Caused by staph. aureus (D) Contagious (E) Bullous disorder

[Ref: Neena Khanna 4th/245; Roxburgh\ Dermatology 17th/z!4; Harrison 1 9th/ 350; 1 8th/ 400]

Impetigo contagiosa:

- Thin walled bullae (seldom seen) on an erythematous base, ruptures raPidly to form an exudative plaque covered with honey-colored rust.
- The primary lesion is a superficial pustule that ruptures and forms a characteristic yellow-brown honey-colored crust
- Caused by: Staph. aureus, S. pyogenes or both.
- Site of predilection: Face (periorificial, especially around the mouth & nose), extremities & scalp
- Complications: Eczematization & acute poststreptococcal glomerulonephritis

173. Dermatitis herpetiformis :

a) Caused by herpes

b) Affect mainly flexor surface

c) Associated with gluten sensitive enteropathy

d) Dapsone is used in treatment

e) None

Correct Answer - C:D
Ans. (C) Associated with gluten sensitive enteropathy
(D) Dapsone is used in treatment
[Ref: Neena Khanna 4th/80-81; Harrison 19th/3373, 18th/427-28]
Dermatitis Herpetiformis:
Etiology:

- Gluten-sensitive enteropathy is always associated & probably responsible for skin lesions

Site:

- Extensors & pressure points

Morphology:

- Grouped erythematous papules (less fre- quent), vesicles (more frequent) & excoriated lesions (most frequent)

Treatment:

- Dapsone works dramatically. A gluten free diet only slowly. So combine the two & then reduce dose of dapsone.

174. Maculopapular rashs are seen in all except:

a) Scarlet fever

b) Measles

c) Exanthemsubitum

d) Infectious mononucleosis

e) German measles

Correct Answer - A

Ans. A. Scarlet fever

[Ref: Neena Khanna 4th/282; Hanison 19th/128-30; 18tV149-51'Park 23ril/ 144-45, 147, 151]

Maculopapular Viral Exanthems:

- Measles (Rubeola): maculopapular confluent rash which evolves in a cranio-caudal fashion & fades with scaling.
- German measles: Erythematous discrete macular rash.
- Erythema infectiosum (fifth disease)
- Exanthem subitum (roseola, sixth disease)
- Infectious mononucleosis
- Epidemic typhus
- Endemic (murine) typhus
- Scrub typhus
- Rickettsial spotted fevers
- Human Monocytotropic ehrlichiosis
- Leptospirosis
- Lyme disease
- Typhoid fever

- Dengue fever

Note:

Scarlet fever:

- Causes confluent desquamative erythemas.

175. Androgenic alopecia in female is caused by:

a) Myxedema

b) Cushing disease

c) Stein-Leventhal syndrome

d) Addison's disease

e) None

Correct Answer - C

Ans. C. Stein-Leventhal syndrome

[Ref Neena Khanna 4th/133-34; Roxburgh's Dermatology 17th/270; Hanison 19th/ j55, 18th/408, 2920, 2897]

Androgenetic Alopecia (Male pattern; Female pattern): Associations

- In women, features of hyperandrogenism may be present in
- the form of hirsutism, acne & clitoromegaly.
- Always rule out polycystic ovary disease (PCOD).

Stein-Leventhal syndrome, also called polycystic ovary syndrome (PCOS)

Myxedema:

- Hair texture may become fine, and a diffuse alopecia occurs in up to 40% of patients, persisting for months after restoration of euthyroidism.

176. Findings in psoarisis includes :

a) Parakeratosis

b) Involving almost 100% of Basal cell in multiplication

c) Micro-munro abscess

d) Autoimmune disease with T-cell involvement

e) Frequently involving mucosal surface

Correct Answer - A:B:C:D

Ans. (A) Parakeratosis (B) Involving almost 100% of Basal cell in multiplication (C) Micro-munro abscess (D) Autoimmune disease with T-cell involvement

Psoriasis:

- Type 1 helper T cell disease with increased Th1 cytokines (IFN-y & IL-2) & reduction of anti-inflammatory cytokines IL-10.
- Histologically, scaly lesions show hyperkeratosis & parakeratosis.
- Auspitz sign - Characteristics finding of plaque in which removal of scales leads to pinpoint bleeding.
- **Grattage Tesla:** on scratching scales appear.

Koebner/Isomorphic phenomenon:

- Appears at the site of minor injury such as scratch or graze.
- Characteristic of psoriasis.

In Nails

- Onycholysis (separation of the nail plate from the nail bed)
- Thimble-pitting of nail plate
- Brown black discoloration

177. True about bullous pemphigoid :

a) Nikolslcy sign positive

b) Bulla spread sign positive

c) Common in children

d) Darier sign

e) Itching is common

Correct Answer - E
Ans. E. Itching is common
[Neena Khenna 4th/77-79]
Bullous Pemphigoid:

- Autoimmune disorder
- Itchy, tense hemorrhagic blisters on skin
- Mucosal lesion infrequent
- Age 60-80 yr
- Gender: equal incidence in male & females
- Bulla spread sign & Nikolsy's sign are usually negative

178. All are true about lichen planus except:

a) Not associated with oral ulcer

b) Wikham'sstriae present

c) Colloid body on histology

d) Morphology can be represented by 5 'P'

e) Koebner's or isomorphic phenomenon may be present

Correct Answer - A

Ans. A. Not associated with oral ulcer

[Ref Neena Knnna 4th/56-60; Roxburghe Dermatologist 17thll4; Harrison 1 9th/ 349, I 8tW 399-400]

Lichen Planus:

Oral lesions (Lacey reticulate pattern):

- It may be asymptomatic or patient may complain of burning sensation especially on eating spicy foods.
- When viewed under a magnifying lens, surface of the lesions has white streaks (Wickham's striae)
- Morphology (5Ps): Pruritic, Polygonal, Purple (but violaceous is the term to use), Plane (flat topped), papules.
- Age: 10-40 year
- 184.Koebner or isomorphic phenomenon may be present
- Histopathology: colloid body, basal cell degeneration, band like upper dermal infiltrate, Max foseph's space, thickened granular layer

179. Which is caused by bacteria:

a) Anal wart

b) Lymphogranuloma venereum

c) Molluscumcontagiosum

d) Condylomatalattum

e) None

Correct Answer - B:D

Ans. (B) Lymphogranuloma venereum (D) Condylomatalattum

[Ref Neena Khanna 4th/270]

- Anogenital wart is caused by HPV-6, 11, 16, 18, 31 & 33
- Lymphogranuloma venereum is caused by Chlamydia trachomatis serovars Ll, L2 & L3
- Condyloma lata: It is found in secondary syphilis (Treponema pallidum)
- Molluscum contagiosum is caused by the pox virus.

180. All are true regarding Laryngeal Mask Airway except:

a) Big oral tumor is contraindication for its use

b) May be used when intubation with ETT is not possible

c) Can be used in child 's eye surgery

d) May be used in CPR

e) None

Correct Answer - E

Ans. (E) NONE

[Ref Ajay Yadav 5th/42-43; Lee Anaesthesia 13th/206-08; Morgo4 Anesthesia 4th/97; Dorsch Dorsch anesthesia equipment 5th/488; Miller\ anesthesia 6th/ I 6 27]

Advanced cardiac life support (Part of CPR):

- For breathing- Advanced method like endotracheal tube, LMA, combitube or tracheostomy tube.

Laryngeal Mask Airway (LMA):

- As an alternative to intubation where difficult intubation is anticipated
- An elective method for minor surgeries where anesthetist wants to avoid intubation (Like eye surgery in children).
- Contraindication: oropharyngeal mass.
- LMA provides an alternative to ventilation through a face mask or endotracheal tube (ETT).
- LMA has proven particularly helpful as a temporary measure if patients with difficult airways (those who cannot be ventilated or intubated) because of its ease of insertion & relatively high success rate (95-99%).

- C/I for LMA includes: patient with pharyngeal pathology (e.g., abscess), pharyngeal obstruction, full stomach (e.g., pregnancy, hiatal hernia) or low pulmonary compliance

181. Which of the following circuit is preferred in child for spontaneous respiration:

a) Mapleson A

b) Jackson & Rees circuit

c) Mapleson C

d) Mapleson E

e) Mapleson F

Correct Answer - A

Ans. (A) Mapleson A

[Ref Ajay Yadav 5th/35; Dorsch Anesthesia Equipment 5th/213-215; Morgan Anesthesia 5th/ i3; 4th/ 35-37]

Pediatric Breathing Circuits:

Type E Mapleson Circuit:

- It is Ayre's T piece with corrugated tubing.
- It is a pediatric circuit
- As it does not have breathing bag so it is not a complete circuit (It was made complete by attaching a breathing bag by attaching a breathing bagby Jackson & Rees).
- Type E is basically a circuit only for spontaneous respiration (as it does not contain breathing bag) but can be utilized for controlled ventilation by intermittently occluding the end of expiratory limb

182. Weaning is generally done by:

a) SIMV

b) Controlled mode ventilation(CMV)

c) CPAP

d) Pressure controlled Ventilation

e) Assisted controlled Ventilation

Correct Answer - A:C

Ans. A,SIMV & C, CPAP

[Ref Ajay Yadav 5th/239-40; Morgan 5th/1298; Miller anesthesia 6th]

Weaning:

- Means discontinuing the ventilator support.
- Weaning process may vary from Patient to Patient, hospital to hospital (depending on the type of ventilator available) 6 clinician to clinician 4is possible to wean patient in any mode of ventilation except control mode ventilation

Techniques for Weaning:

- The common techniques to wean a patient from the ventilator include SIMV pressure support, or periods of spontaneous breathing alone on a T-piece or on low levels Of CPAP
- Mandatory minute ventilation has also been suggested as an ideal weaning techniques, but experience with it is limited.
- Most often aPPLied approach is that patient from control/assist control mode ventilation is shifted to SIMV & then keep on decreasing the rate of breath delivered by ventilator gradually till it becomes 1 to 2 breath/min

183. A child on immediate postoperative, is complaining of nausea & vomiting after squint surgery. Which of the following drugs may be not used during operation in controlling this symptom:

a) Propofol

b) Ketamine

c) Dexamethasone

d) Ondansetron

e) Palonosetron

Correct Answer - A:C:D

Ans. A,Propofol C, Dexamethasone & D,Ondansetron

[Ref Ajay Yadav Sth/132; Lee Anaesthesia l3th/630]

Strabismus Surgery in Paediatric Patient:

- Key features in relation to strabismus are oculocardiac reflex in response to surgical movement of globe, postoperative nausea & vomiting (PONV) & the association of strabismus with occult myopathies & possibly malignant hyperthermia.
- Antiemesis is improved by use of propofol on induction & maintenance & by the preemptive use of both 5-hydroxy- tryptamine inhibitors & dexamethasone,
- Opioids should be avoided because regular NSAIDS are as effective.
- Topical NSAIDS (Ketorolac 0.5%o o/o, diclofenac l%) have been used with some success.

- The incidence of oculocardiac reflex can be reduced by the use of ketamine at induction & by the use of medial canthal injection of local anaesthetic (lidocaine), which also reduces the need for postoperative analgesia

184. Which of the following fluid used in perioperative period is isotonic:

a) RL

b) DNS

c) 5% Dextrose

d) HES

e) NS

Correct Answer - A:C:D:E

Ans. A,RL C, 5% Dextrose D, HES & E, NS

[Ref Ajay Yadav 5th/12-15; Lee Anaesthesia p.232-33; Morgan 5th/1164]

Ringer Lactate Solution (RL, Hartman solution):

- Lactate is metabolized to bicarbonate in liver
- Ringer lactate is crystalloid of choice for blood loss rePlacement.
- RL is slightly hypotonic.

Normal Saline:

- 0.99% NaCl isotonic solution.
- Preferred over RL for treating: hypochloremic metabolic alkalosis, brain injury (Catin lactate can increase the neuronal injury) & hyponatremia

Dextrose Normal Saline:

- Hypertonic.
- best used as maintenance fluid.

Hydroxyethyl Starch (Colloid):

- **Types:** Hetastarch & Pentastarch

185. 18-FDG stands for:

a) 18-Fluorodeoxy glucose

b) 18-Fluorodioxy glucose

c) 18-Fluorodeoxy galactose

d) 18-Fluorodioxy galactose

e) 18-Fluorodeoxy glycogen

Correct Answer - A

Ans. (A) 18-Fluorodeoxy glucose

[Ref Sumer Sethi 2nd/16; Grainger & Allison Radiology 6th/141]

- 18F-2- Fluoro-2-deoxy-D-glucose (FDG)
- Dye used in PET scans.
- The most commonly used radiolabeled tracer is 18F-2- Fluoro-2-deoxy-D-glucose (FDG).
- In PET helps assess metabolic functions such as oxygen and glucose consumption and blood flow.

186. Half-life of radium is:

a) 14 day

b) 27 day

c) 1626 years

d) 5.25 yr

e) None

Correct Answer - C
Ans. (C) 1626 years
[Ref: Harrison 19the/p263e-3]

- Half-life of Ra-226: 1626 years

187. 1 curie is equivalent to:

a) 1.7 x 1010 disintegration/second

b) 2.7 x 1010 disintegration/second

c) 3.7 x 1010 disintegration/second

d) 4.7 x 1010 disintegration/second

e) 5.7 x 1010 disintegration/second

Correct Answer - C

Ans. (C) 3.7 x 1010 disintegration/second

[Ref: Sumer Sethi 2nd/94-95; Grainger & Allison Radiology 6th/118; Radiology by S. Bhailury 2nd/197; Harrison 19th/263 e-1, 18th/1788; http : / / w w w. nrc. gov/ reading- rm/ doc - collections/ cfr]

Radiology by S. Bhadury 2ndl197:Writes:

- 1 Bq= 1 disintegration/second
- 1 Curie (Ci)= 3.7 x 10 (10) disintegration/second
- 1 Ci is equal to 37 gigabecquerel
- 1 gray (Gy) = 100 rads 10 mGy = 1 rad 1 mGy = 100 mrad Gray (Gy) is the SI unit of absorbed dose.
  - One gray is equal to an absorbed dose of 1 foule/kilogram (100 rads).

188. Radiation not emitted by Co-60:

a) a rays

b) 13 rays

c) y rays

d) Positron

e) 6 rays

Correct Answer - A:D:E

Ans. A,a rays D, Positron & E, 6 rays

[Ref: Harrison 19th/263e3, 18th/1790; Sumer Sethi 2nd/88; Grainger (t Allison Radiology 6th/118]

- Cobalt (Co-60) - beta,gamma rays emitted.

189. Which of the following areas are not examined in FAST:

a) Perisplenic

b) Perihepatic

c) Suprapubic

d) Chest

e) None

Correct Answer - E
Ans. (E) NONE
[Ref: L 6 B 26th/ 1 87; Manipal 4th/886]

- FAST: 4 acoustic window- pericardial, perihepatic, perisplenic or pelvic.
- The four classic areas that are examined for free fluid are the perihepatic space (also called Morison's pouch or the hepatorenal recess), perisplenic space, pericardium & pelvis.

190. Which of the following is true regarding catatonia

a) Prominent sensory symptom

b) Prominent motor symptom

c) ECT is TOC for life threatening catatonia

d) May be associated with CNS disease

e) None

Correct Answer - B:C:D

Ans. B, Prominent motor symptom C, ECT is TOC for life threatening catatonia & D, May be associated with CNS disease

[Ref: Kaplan 6 Sadock\ 1 lth/292, 343-46, 1068; Ahuja 7th/57-s9, 225 5th/60-61, 1423; New Oxford Textbook of Psychiatry 1st/167; Harrison 19th/1771, 17th/147]

Catatonia:

- Catatonia was first described by Kahlbaum, who described a syndrome with prominent motor & behavioral symptoms.
- Characterized by motor abnormalities such as catalepsy, mutism, posturing & negativism.
- It can be associated with another mental disorder (e.g., schizophrenia or bipolar disorder) or due to another medical condition (e.g., neoplasm, head trauma, hepatic encephalopathy
- ECT is appropriate for catatonia due to a general medical condition, especially if the catatonia is life threatening(e.g., inability to eat) or has developed into lethal (malignant) catatonia.

191. All are true about narcolepsy except:

a) Day dreaming

b) Hypnagogic hallucinations

c) Cataplexy

d) Sudden sleep

e) Decreased REM latency

Correct Answer - A

Ans. (A) Day dreaming

[Ref Neeraj Ahuja 7th/ I j8-39; Kaplan & Sailockls Textbook of psychiatry 11th/547-50; Harrison 19th/189, t7th/172- ZB; CMDT 2016/1072]

Narcolepsy:

- Disorder characterized by excessive daytime sleepiness often dkturbetl night time sleep and disturbances in REM sleep.
- Hallmark of this disorder is decreased REM latency, I.e. decreased latent period before the first REM period occurs.
- Normal REM latency is 90- 100 minutes, in narcolepsy, REM sleep occurs within 10 minutes of the onset of sleep.

Classical tetrad of symptoms:

- Sleep attacks (MC)
- Cataplexy
- Hallucinations at sleep onset (Hypnagogic) and upon waking (Hypnopompic)
- Sleep paralysis.

192. Which of the following is true about OCD:

a) Anxiety

b) Compulsion

c) Hallucination

d) Obscession

e) Egoalien

Correct Answer - A:B:D:E

Ans. A, Anxiety B, Compulsion D, Obscession & E, Egoalien

[Ref Ahuja 7th/9s-98]

Obsessive Compulsive Disorder (OCD):

- Represented by a diverse group of symptoms that include intrusive thoughts, rituals, preoccupations, and compulsions.
- Washer is commonest type
- Persons with OCD are commonly affected by other mental disorders.
- The obsessions or compulsions are time-consuming and interfere significantly with the person's normal routine, occupational functioning, usual social activities, or relationships.
- A patient with OCD may have an obsession, compulsion, or both.

Features:

- Ego Alien
- Isolation effect
- Undoing.
- Repetitive behaviour.
- But is unable & results in irresistible.

193. Features of Mania includes:

a) Cheerfulness

b) Anhedonia

c) Catatonia

d) Delusion of grandeur

e) Negative thinking

Correct Answer - A:D

Ans. (A) Cheerfulness (D) Delusion of grandeur

[Ref kaplan & Sadock's Textbook of Psychiatry 11th/358, 364; Ahuja 7th/69-71,12]

Manic Episode:

- Anhedonia (inability to experience Pleasure) may occur in both schizophrenia & depression.
- Elevated mood can pass through 4 stages, depending on the severity of manic episode-euphoria (mild elevation), elation (moderate elevation), emulation (severe elevation) & ecstasy (very severe elevation).
- Person is more talkative than usual.
- Increased psychomotor activity.
- Delusions (or ideas) of grandeur (grandiosity), with markedly inflated self-esteem.
- Delusion of persecution may sometimes develop secondary to delusion of grandeur.