1. Which of the following statement is true about Pinna except:

a) In Treacher-Collins syndrome malformed pinna may be present

b) Made up of elastic cartilage

c) Develop from lst pharyngeal cleft only

d) Helps in localization of sound

e) May involves in relapsing perichondritis

Correct Answer - C

Ans. c. Develop from lst pharyngeal cleft only

- **First branchial cleft is the precursor of external auditory canal.**
- Around the sixth week of embryonic life, a series of six tubercles appear around the first branchial cleft
- **Branchial clefts are ectodermal in origin.**
- Pinna develops from **1st and 2nd pharyngeal arch**

2. Paired laryngeal cartilage (s) is/are:

a) Thyroid

b) Arytenoid

c) Corniculte

d) Cricoid

e) Cuneiform

Correct Answer - B:C:E

Ans. b. Arytenoid; c. Corniculte;e. Cuneiform

Laryngeal cartilages

- Thyroid (unpaired)
  - It is the largest of all laryngeal cartilages. It is 'V' shaped with right and left lamina. Both laminae (alae) meet anteriorly forming an angle of 90° in males and 120° in females. Vocal cords are attached to the middle of thyroid angle.
- Cricoid (unpaired)
  - It is the only cartilage forming a complete ring, therefore is shaped like a ring. It articulates with arytenoid cartilage to form cricoarytenoid joint, a type of synovial joint .
- Epiglottis (unpaired)
  - It is leaf-shaped elastic cartilage (in adults). It is omega shaped in children. It forms the anterior wall of laryngeal inlet.
- Arytenoid cartilage (paired)
  - Each Arytenoid cartilage is pyramidal in shape. Base articulates with cricoid cartilage, and apex supports the corniculate cartilage. A vocal process directed anteriorly and gives attachment to vocal cord. A muscular process directed laterally and gives attachment to intrinsic laryngeal muscles.

- Corniculate cartilage (of Santorini) : Paired
  - Articulates with apex of Arytenoid cartilage
- Cuneiform cartilage (of Wrisberg) : Paired
  - Situated in aryepiglottic fold in front of corniculate cartilage.

3. All are true about mediastinum except:

a) Heart passes through superior mediastinum

b) Heart passes through middle mediastinum

c) Thymus remnant may present in middle mediastinum

d) Posterior boundary of posterior mediastinum corresponds to Tl-T4 vertebrae

e) Lower border of anterior mediastinum is extended more than posterior mediastinum

Correct Answer - A:C:D:E

Ans. a. Heart passes through superior mediastinum; c. Thymus remnant may present in middle mediastinum; d. Posterior boundary of posterior mediastinum corresponds to Tl-T4 vertebrae; e. Lower border of anterior mediastinum is extended more than posterior mediastinum

- Superior mediastinum: The region superior to the sternal angle containing the aortic arch and its three branches, the superior vena cava (SVC) and the brachiocephalic veins, the trachea, the esophagus, and the phrenic and vagus nerves. The superior mediastinum also contains the thymus; however, in an adult, the thymus is usually atrophied and presents as a fatty mass.
- Anterior mediastinum: The region between the sternal angle, the deep sternal surface, the pericardial sac, and the diaphragm. The anterior mediastinum contains fat and areolar tissue and the inferior part of the thymus or its remnant.
- Middle mediastinum: This region contains the pericardial sac and heart.
- Posterior mediastinum: The region containing anatomic structures

deep to the pericardial sac, including the thoracic portion of the descending aorta, the azygos system of veins, the thoracic duct, the esophagus, and the vagus and sympathetic nerves.

4. True about medial meniscus:

a) Made up of hyaline cartilage

b) Injury of lateral meniscus is more frequent than medial meniscus

c) C shaped

d) Fixed to medial collateral ligament

e) Inner part is more avascular

Correct Answer - C:D:E

Ans. c. C shaped; d. Fixed to medial collateral ligament ; e. Inner part is more avascular

Medial Meniscus	**Lateral Meniscus**
- Semilunar (c) shaped (less circular)	- Semicircular (C) shaped (more circular)
- Larger in radius /diameter but narrower in body & thinner in periphery	- Smaller in radius /diameter but wider in body & thicker in periphery
- Posterior horn is larger than anterior horn	- Anterior & posterior horn are uniform in size
- Covers lesser (-65%) of tibial articular surface	- Covers more (-85%) of tibial articular surface
- Entire periphery is attached to joint capsule (medial capsular ligament)	- Peripheral area where popliteus tendon crosses the joint through popliteus hiatus is not attached
- Attached to medial collateral ligament	- Not attached to lateral collateral ligament

- Does not attach to either cruciate ligaments	- Attached to both cruciate ligaments, and posterior horn receives anchorage to medial femoral condyles by either the ligament of Humphry or ligament of Wrisberg, depending on which is present. It is also attached posteriorly to the fascia covering popliteus muscle and the arcuate complex at posterolateral corner of knee.
- *Less mobile* because of its attachment	- More mobile b/o its attachments
- More prone to injury	- Less prone to injury

5. Which of the following statement is/are true about oculomotor nerve:

a) Arise from pons

b) Edinger-Westphal nucleus gives rise to parasympathetic supply of oculomotor nerve

c) Arise from medulla

d) Passes through interpeduncular fossa

e) Related to medial wall of cavernous sinus

Correct Answer - B:D

Ans. b. Edinger-Westphal nucleus gives rise to parasympathetic supply of oculomotor nerve ;d. Passes through interpeduncular fossa

NUCLEI:

1. General somatic efferent:

- Through **oculomotor nucleus** for movement of eyeball supplying **all extraocular muscles except Superior Oblique (SO) and Lateral Rectus (LR).**

2. General visceral efferent (parasymapthetic):

- Through **Edinger- Westphal nucleus** for pupillary contraction and accomodation.

3. General somatic afferent:

- Carries proprioceptive fibres from the extraocular muscles to mesencephalic nucleus of trigeminal.
- Occulomotor nucleus (for general somatic efferent) and Edinger-Westphal nucleus together form **oculomotor nuclear complex.**

STRUCTURE:

Midbrain

Midbrain
↓
Third nerve nucleus(at the level of the **superior colliculus ventral to the cerebral aqueduct, on the pre-aqueductal grey matter**)
↓
Red Nucleus
↓
Substantia Nigra
↓
Exit through Interpeduncular fossa
↓
Invested with a sheath of pia mater
↓
Passes between the superior cerebellar & posterior cerebral arteries **(Nerve compressed by aneurysm of posterior communicating artery)**
↓
Pierces the dura mater
↓
Pass b/w free and attached borders of tentorium cerebelli
↓
Cavernous sinus
↓
Receives filaments from the cavernous plexus of the sympathetic nervous system and communicating branch from V1
↓
Superior orbital fissure
↓
Orbit
↓
Superior and Inferior Branch

6. Derivative (s) of mesonephric duct includes:

a) Some part ofprostatic Urethra

b) Seminal vesicle

c) Round ligament of uterus

d) Vas deferens

e) Ductusdeferens

Correct Answer - A:B:D:E

Ans. a. Some part ofprostatic Urethra; b. Seminal vesicle; d. Vas deferens; e. Ductusdeferens

- The Wolffian duct or mesonephric duct forms the epididymis, vas deferens and seminal vesicles. Testosterone directs the development of Wolffian duct.
- Trigone of the bladder develop from the caudal end of the mesonephric duct.
- A pair of ureteric bud grow upwards from the distal mesonephric duct near its insertion into the cloaca to form the renal pelvis, calyces and collecting ducts.
- Most of the prostate gland develop from the same primordial area of urogenital sinus that forms the vaginal plate in females.
- The Mullerian or paramesonephric duct forms the fallopian tubes, uterus and upper third of the vagina.

7. All are true regarding Uterus except:

a) Lymph vessels from fundus drain to para-aortic lymph nodes

b) Broad ligament provides primary support to uterus

c) Mainly supplied by uterine arteries

d) Posterior surface is related to intestine

e) All

Correct Answer - B

Ans.b. Broad ligament provides primary support to uterus

BLOOD SUPPLY AND LYMPHATICS:

- **Uterine and ovarian artery**
- Venous drainage is via a plexus in the broad ligament that drains into the **uterine veins.**
- Lymphatic drainage : **iliac, sacral, Paraaortic** and **inguinal lymph nodes.**

LIGAMENTS:

- **Pelvic diaphragm, Uterosacral ligament & Transverse cervical ligament are primary support of uterus**
- The tone of the pelvic floor provides the primary support for the uterus. Some ligaments provide further support, securing the uterus in place.They are:
- **Broad Ligament:** This is a double layer of peritoneum attaching the sides of the uterus to the pelvis. It acts as a mesentery for the uterus and contributes to maintaining it in position.It do not provide primary support.

8. Which of the following statement is/are true regarding Fick principle of measurement of cardiac output:

a) Cardiac output is calculated by amount of oxygen consumed by whole body per unit mass divided by A-V Oxygen difference across the lung

b) Oxygen concentration in artery is measured by passing catheter to Pulmonary artery

c) Mixed venous blood is measured by inserting catheter into pulmonary artery

d) Rate of oxygen absorption by the lungs is measured by spirometry

e) For oxygen content of artery, any artery of body can be chosen

Correct Answer - A:C:D:E

Ans, (A) Cardiac output is calculated by amount of oxygen consumed by whole body per unit mass divided by A-V Oxygen difference across the lung (C) Mixed venous blood is measured by inserting catheter into pulmonary artery (D) Rate of oxygen absorption by the lungs is measured by spirometry (E) For oxygen content of artery, any artery of body can be chosen

[Ref: Ganong 25th/543-44, 24th/546-47; A.K. Iain 5th/356; Guyton1 lth /244]

Cardiac Output Measurement:

- Fick principle states that the amount of a substance taken up by an organ (or by the whole body) per unit of time is equal to the arterial level of the substance minus the venous level (A-V difference) times

the blood flow.

- Principle can be used to determine cardiac output by measuring the amount of O, consumed by the body in a given period and dividing this value by the A-V difference across the lungs.
- In applying this Fick procedure for measuring cardiac output in the human being, mixed venous blood is usually obtained through a catheter inserted up the brachial vein of the forearm, through the subclavian vein, down to the right atrium, and, finally, into the right ventricle or pulmonary artery.
- Rate of oxygen absorption by the lungs is measured by the rate of disappearance of orygen from the respired air, using any type of oxygen meter (e.gclose circuit spirometry)
- Because systemic arterial blood has the same O2 content in all parts of the body, the arterial O2 content can be measured in a sample obtained from any convenient artery.

9. Feature (s) of hyperprolactinemia is/are all except:

a) Amenorrhoea

b) Decrease milk production

c) Galactorrhoea

d) Hypogonadotropic hypogonadism

e) Hypothyroidism may cause hyperprolactinemia

Correct Answer - B

Ans. B. Decrease milk production

[Ref: Ganong 25th/331-33, 24th/334-35; A.K. Iain 5th/695-96; Guyton 11 th / 907, 9 1 8-92 1, I 039-40;CMDT 20 1 6/ 1 096-97, 06/ 1113- 14]

Hyperprolactinemia:

- Due to any cause may result in hypogonadotropic hypogonadism.
  - Hypogonadotropic hyPogonadism often develops in patients with hyperprolactinemia; it may be reversed with treatment of hyperprolactinemia.
- Women may note oligomenorrhoea or amenorrhoea.
- Galactorrhoea, defined as Lactation in absence of nursing, is common.
- Prolactin deficiency inhibits postpartum lactation.
- Primary hypothyroidism is associated with mild hyperprolactinemia, probably because of compensatory TRH secretion

10. True about Oxytocin:

a) Secreted from anterior pituitary

b) Secreted by posterior pituitary

c) Decapeptide

d) Gonadotropin releasing hormone (GnRH) stimulate its secretion

e) Cause milk ejection by contraction of myoepithelium of breast

Correct Answer - B:E

Ans. (B) Secreted by posterior pituitary (E) Cause milk ejection by contraction of myoepithelium of breast

[Ref: Ganong 25th/311-13, 24th/311-l3; Guyton p918, 1040-41, 928]

Oxytocin:

- Stimulates postpartum milk let down in response to suckling.
- Nonapeptide (9 amino acids).
- Differs from AVP only at positions 3 and 8.
- Relatively little antidiuretic effect and seems to act mainly on mammary ducts to faci-litate milk let down during nursing.
- May help initiate or facilitate labor by stimulating contraction of uterine smooth muscle, but it is not clear if this action is physiologic or necessary for normal delivery.
- Gonadotropin-releasing hormone (GnRH): It is secreted from hypothalamus & stimulates secretion of FSH & LH.

11. True statement relating to compliance of lung:

a) Increased by surfactant

b) Decreased in emphysema

c) At height of inspiration compliance is less

d) It can be measured by measuring intrapleural pressure at different lung volume

e) None

Correct Answer - A:C:D

Ans. (A) Increased by surfactant (C) At height of inspiration compliance is less (D) It can be measured by measuring intrapleural pressure at different lung volume

[Ref: Ganong 25th/629-32,24th/629-33; Guyton llth /473-75; A. K. Jain 5th/437]

Lung compliance:

- Measured by measuring intrapleural pressure at different lung volume.
- An important factor affecting the compliance of the lungs is the surface tension of the film of fluid that lines the alveoli.
- Deficiency of surfactant-less compliance; more surfactant-more compliance.
- Compliance decreases with the inflation of the lungs as more pressure is required to distend the already distended lung.
- The curve is shifted downward and to the right (compliance is decreased) by pulmonary congestion and interstitial pulmonary fibrosis; pulmonary fibrosis is a progressive disease of unknown

cause in which there is stiffening and scarring of the lung.

- The curve is shifted upward and to the left (compliance is increased) in emphysema.

12. Which of the following is true regarding GLUT-5:

a) Present in brain

b) Present in Adipose tissue, skeletal muscle & skin

c) Insulin mediated transporter

d) Sodium independent transport

e) Present in RBC

Correct Answer - D

Ans. (D) Sodium independent transport

[Ref: Ganong 25th/435, 24th/435; Harper 30th/ 19 1, 28th/ 17 1; Lippincott Biochemistry 4th/97]

- GLUT-5 is unusual in that it is the primary transporter for fructose (instead of glucose) in the small intestine & the testes.
- Has sodium independent facilitated diffusion mechanism.

13. True about hormone sensitive lipase:

a) Activity is increased by insulin

b) Found intracellular

c) Activated by Epinephrine

d) Located in wall blood capillaries

e) None

Correct Answer - B:C

Ans. B,Found intracellular & C, Activated by Epinephrine

[Harper 30th/ 261 -62, 28th/ 220]

Hormone-sensitive lipase:

- Hormone-sensitive lipase is activated by ACTH, TSH, glucagon, epinephrine, norepinephrine, and vasopressin and inhibited by insulin, prostaglandin E1, and nicotinic acid
- Triacylglycerol undergoes hydrolysis by a hormone- sensitive lipase to form free fatty acids and glycerol.
- This lipase is distinct from lipoprotein lipase, which catalyzes lipoprotein triacylglycerol hydrolysis before its uptake into extrahepatic tissues.

14. 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)

15. True statement regarding Lactate dehydrogenase deficiency:

a) Fumarate level increases

b) Exercise intolerance

c) Muscle cramps may occur

d) **It** operates in anaerobic condition

e) It is the key enzyme of Kreb cycle

Correct Answer - B:C:D

Ans: b. Exercise ..., c. Muscle ..., d. It operate...*[Ref Harper 30th/171, 69, 28th/149-151; Harrison 19th/433e2; Lippincott 4th/103, 111; Chatterjea & Shinde 7th/313]1*

- Fumarate is converted to malate by fumarase enzyme in Kreb cycle (so fumarate level increases in defective enzyme functioning in Krebs cycle, not in abnormality of glycolysis i.e., lactate dehydrogenase deficiency, Lactate dehydrogenase catalyse conversion of pyruvic acid to lactic acid .
- Lactate dehydrogenase deficiency is a condition that affects how the body breaks down sugar to use as energy in cells, primarily muscle cells.
- There are two types of this condition: lactate dehydrogenase-A deficiency (sometimes called glycogen storage disease XI) and lactate dehydrogenase-B deficiency.
- People with lactate dehydrogenase-A deficiency experience fatigue, muscle pain, and cramps during exercise (exercise intolerance).

16. Hyaloronic acid is composed of:

a) N-acetyl glucosamine

b) N-acetyl galactosamine

c) Glucuronic acid

d) N-acetylneuramic acid

e) Iduronic acid

Correct Answer - A:C

Ans: a. N-acetyl and c. Glucuronic*[Ref Harper 30th/156, 159, 637, 640, 28th/119, 534-39; Lippincott 4th/159, 163; Chatterjea er Shinde 7th/38]*

- Composition of Hyaluronic Acid: It is composed of repeating units of N-acetyl glucosamine & D-Glucuronic acid. On hydrolysis, it yields equimolecular quantities of D-Glucosamine, D-Glucuronic acid & acetic acid.
- Hyaluronic acid is present in bacteria and is widely distributed among various animals and tissues, including synovial fluid, the vitreous body of the eye, cartilage, and loose connective tissues.
- Hyaluronic acid is especially high in concentration in embryonic tissues and is thought to play an important role in permitting cell migration during morphogenesis and wound repair. Its ability to attract water into the extracellular matrix and thereby "loosen it up" may be important in this regard.

17. All are feature of Refsum disease except:

a) Deficiency of a-hydroxylase

b) Defect in p oxidation

c) Accumulation of phytanic acid

d) Peripheral neuropathy

e) Treated by removing phytanic acid precursors from diet

Correct Answer - B

Ans: b. Defect in p oxidation ***[Ref Harper 30th/231, 614, 28th/l91, 493; Lippincott 4th/195; Harrison 19th/2681, 18th/3456, 236]***

- Refsum disease is a rare autosomal recessive disorder caused by a deficiency of a-hydroxylase" (Lippincott 4th/195)
- "Refsum's disease: Alpha oxidation does not occur. Alpha oxidation is mainly used for fatty acids that have a methyl group at beta-carbon, which block beta-oxidation. This process occur mainly in endoplasmic reticulum & some also in peroxisomes.
- **Refsum's disease** is a rare neurologic disorder due to a metabolic defect that results in the accumulation of phytanic acid, which is found in dairy products and ruminant fat and meat. Phytanic acid is thought to have pathological effects on membrane function, protein prenylation, and gene expression" (Harper 30th/231, 28th/191)
- Refsum disease can manifest in infancy to early adulthood with the classic **tetrad of** (1) peripheral neuropathy, (2) retinitis pigmentosa, (3) cerebellar ataxia, and (4) elevated CSF protein concentration .
- Refsum disease is genetically heterogeneous but autosomal recessive in nature. Classical Refsum disease with childhood or early adult onset is caused by mutations in the gene that encodes for phytanoyl-CoA a-hydroxylase (PAHX).

- Refsum disease is treated by **removing phytanic precursors** (phytols: fish oils, dairy products, and ruminant fats) from the diet.

18. Which of the following enzyme (s) participate in protein synthesis:

a) DNA ligase

b) DNA Helicase

c) Peptidase

d) Peptidyl transferase

e) DNA polymerase

Correct Answer - D

Ans: d. Peptidyl transferase

[Ref Harper 30th/422-24, 28th/359-66, 323; Lippincott 4th/438-42; Chatterjea & Shinde 7th/248-501

Enzyme Required for Translation

- **Amino-acyl-t-RNA synthetase:** Enzyme **required for** activation of amino acids, Peptide synthetase (peptidyl transferase)
- The NH_2 of new aminoacyl t - RNA (A_l) in 'A' site combine with the - **COOH** group of Met - **t** -RNA occupying the **'P'** site. The reaction is catalyzed by peptidyl transferase". "Peptidases degrades proteins to amino acids
- The NH_2 of new aminoacyl t - RNA (A_l) in 'A' site combine with the - **COOH** group of Met - **t** -RNA occupying the **'P'** site. The reaction is catalyzed by peptidyl transferase . `` peptidases degrades proteins to amino acids.

Protein	**function**
DNA polymerases	Deoxynucleotide polymerization
Helicases	Processive unwinding of

Helicases	DNA
Topoisomerases	Relieve torsional strain that results from helicase-induced unwinding
DNA primase	Initiates synthesis of RNA primers
Single-strand binding proteins	Prevent premature reannealing of dsDNA
DNA ligase	Seals the single strand nick between the nascent Okazaki chain and fragments on tagging strand

19. True about peptide bond formation:

a) The NH2 group of new aminoacyl t -RNA at A site combine with the - COOH group of Met-t -RNA occupying the 'P' site

b) The NH2 group of new aminoacyl t - RNA at 'P' site combine with the - COOH group of Met-t-RNA occupying the 'A site

c) Reaction is catalyzed by peptidyl transferase

d) Peptide bond formation require energy

e) None

Correct Answer - A:C

Ans: a. **The NH2 and *c.* Reaction...***[Ref Harper 30th/422-25, 28th/359-66; Lippincott 4th/438-42; Chatterjea te• Shinde 7th/248-501]*

- The a-amino group of the new aminoacyl-tRNA in the A site **carries out** a nucleophilic attack on the esterified carboxyl group of the peptidyl-tRNA occupying the P site (peptidyl or polypeptide site). At initiation, this site is occupied by aminoacyl-tRNA met'.
- This reaction **is** catalyzed by a **peptidyltransferase, a** component of the 28S RNA of the 60S ribosomal subunit. This is another example of ribozyme activity and indicates an important—and previously unsuspected—direct role for RNA in protein synthesis.
- Because the amino acid on the aminoacyl-tRNA is **already "activator** no further energy source is required for this reaction. The reaction results in attachment of the growing peptide chain to the tRNA in the A site.

20. All are true regarding Urea cycle except:

a) Urea formed from ammonia

b) Rate limiting enzyme is ornithine transcarbamoylase

c) Require Energy expenditure

d) Malate is byproduct of urea cycle

e) One nitrogen of urea comes from for aspartate

Correct Answer - B:D

Ans: b. Rate limiting ..., d. Malate… ***[Ref Harrison 19th/434e3-5, 18th/3216, 3219;17th/2472-74; Harper 30th/290-96, 28th/243;Shinde 7th/450-51; Vasudevan 5th/180-81]***

- Urea has two amino groups, one derived from ammonia & other from aspartate. Carbon atom is supplied from carbon dioxide.
- Rate-limiting enzyme (pacemaker enzyme) of Urea cycle: Carbamoyl phosphate synthetase I (CPS II is involved in pyrimidine synthesis)"(Harper 28th/245).
- Rate-limiting enzyme of Glycogen Synthesis: Glycogen synthase (not too hard there)
- Rate-limiting enzyme of Glycogenlysis: Glycogen phophorylase (phophorylase breaks phosphate bond, which means activated glycogen releases a lot of energy)
- Rate-limiting enzyme of HMP Shunt: Glucose-6Phosphate dehydrogenase (bad to lose this in RBCs)
- Rate-limiting enzyme of de novo pyrimidine synthesis: Carbamoyl phosphate synthase II (CPS I is involved in urea cycle)

21. Which of the following is true regarding phenylketonuria:

a) Dietary phenylalanine restriction is used in treatment

b) Occur due to deficiency of Phenyalanine hydroxylase enzyme

c) Occur due to increase activity of phenyalanine hydroxylase enzyme

d) Tyrosine must be supplied in diet

e) Diet should contain high phenylalanine containing food items

Correct Answer - A:B:D

Ans: a. Dietary ..., b. Occur ..., d. Tyrosine… ***[Ref Harrison 19th/434e1-3, 18th/3217-18; Harper 30h/304-306, 28th/254; Lippincott 4th/270-72]***

- In patients with PKU, tyrosine cannot be synthesized from phenylalanine & therefore, it becomes an essential amino acid that must be supplied in the diet
- Dietary phenylalanine restriction is usually instituted if blood phenylalanine levels are >300 umol/L (5 mg/dL).
- Treatment consists of a special diet low in phenylalanine and supplemented with tyrosine, since tyrosine becomes an essential amino acid in phenylalanine hydroxylase deficiency.
- About one-third of all patients with phenylketonuria and the majority of those with milder forms (phenylalanine <1200 umol/L at presentation) show increased tolerance to dietary proteins and improved metabolic control when treated with tetrahydrobiopterin (5-20 mg/kg per day), an essential cofactor of phenylalanine hydroxylase. This drug should be used in addition to dietary therapy.

- Pregnancy risks can be minimized by continuing lifelong phenylalanine-restricted diets and assuring strict phenylalanine restriction 2 months prior to conception and throughout gestation.

22. In Benedict test, red colour is/are produced by:

a) Sucrose

b) Inositol

c) Fructose

d) Lactose

e) Maltose

Correct Answer - C:D:E

Ans: c. Fructose, d. Lactose, e. Maltose ***[Ref Lippincott 4th/84-85; Chatterjea Fr Shinde 7th/31; Satyanarayan 3rd/16]***

- Inositol is also called as muscle sugar. Chemically it is hexa hydroxyl cyclohexane" (Chatterjea d Shinde 7th/190)
- Reducing sugars can react with chromogenic agents (for e.g, Benedict's reagent or Fehling's solution or Barfoed's test) causing the reagent to be reduced & coloured, with anomeric carbon of the sugar becoming oxidized" (Lippincott 4th/84; Satyanarayan 3rd/16).
- In Benedict's test, reaction of reducing sugar with Benedict's reagent produce red colour of cuprous oxide.

23. True statements are:

a) Vitamin A in dose 20, 000 unit may be used during lactation to prevent Vit A deficiency to infants

b) High dose of Vitamin C may cause renal stone

c) Vitamin E reduces risk of atherosclerosis

d) Folic acid deficiency cause microcytic anaemia

e) Banana is a rich source of Vit. B6

Correct Answer - A:B:C:E

Ans: a. Vitamin a...., b. High..., *c.* Vitamin e..., e. Banana… *[Ref Harrison 19th/96e1-7, 18th/599; Harper 30th/547-62, 28th/47178; Lippincott 4th/374]*

- Vit. C toxicity: Oxalate kidney stones are of theoretic concern because ascorbic acid is metabolized to oxalate, but stone formation has not been frequently reported"(CMDT06/1 275) "Prophylaxis against xerophthalmia: Lactating mothers should be given 20, 000 IU orally once at delivery or during the next 2 months. This will raise the concentration of vitamin A in the breast milk & therefore, help to protect the breastfed infant" (Khurana 5th/466)
- "Folic acid deficiency cause megaloblastic anaemia (macrocytic)" (Lippincott 4th/374)
- "Vit. E reduces the risk of atherosclerosis" (Vasudevan 5th/291) "Banana: It is a very good source of vitamin-B6 (pyridoxine), provides about 28% of daily-recommended allowance.

24. Thiamine act as co-enzyme for:

a) Transketolase

b) Pyruvate dehydrogenase

c) Alcohol dehydrogenase

d) Transaminase

e) None

Correct Answer - A:B

Ans: a. Transketolase, b. Pyruvate… ***[Ref Harper 30th/555, 28th/52; Chatterjea & Shinde 7th/166-67]***

- "NAD+ (by vitamin B 3) acts as a coenzyme for alcohol dehydrogenase"(Chatterjea Shinde 7th/171)
- Pyridoxal phosphate (by vitamin pyridoxine, B6) acts as coenzyme for transaminases like aminotransferase.
- thiamine pyrophosphate acts as coenzyme in: Pyruvate dehydrogenasemn (oxidative decarboxylation), a-oxoglutararte dehydrogenase complex (oxidative decarboxylation), transketolase (transketolation reaction), tryptophan pyrrolase, pyruvate carboxylase (non-oxidative decarboxylation) .

25. Thiamine deficiency cause (s):

a) Glossitis

b) Polyneuropathy

c) Pellagra

d) Angular stomatitis

e) Cardiomegaly

Correct Answer - B:E

Ans: b. Polyneuropathy, e. Cardiomegaly ***[Re(Harrison 19th/96e-3, 18th/594-96; Harper 30th/555-56, 28th/468]***

- Wet beriberi presents primarily with cardiovascular symptoms, due to impaired myocardial energy metabolism and dysautonomia, and can occur after 3 months of a thiamine-deficient diet. Patients present with an enlarged heart, tachycardia, high-output congestive heart failure, peripheral edema, and peripheral neuritis.
- Patients with dry beriberi present with a symmetric peripheral neuropathy of the motor and sensory systems with diminished reflexes. The neuropathy affects the legs most markedly, and these patients have difficulty rising from a squatting position.

26. Korsakoff psychosis ?

a) Thiamine deficiency

b) Folate deficiency

c) Niacin deficiency

d) Niacin deficiency

e) None

Correct Answer - A

Ans. is 'a' i.e., Thiamine deficiency

- Alcoholic patients with chronic thiamine deficiency also may have central nervous system (CNS) manifestations known as *Wernicke's encephalopathy,* consisting of horizontal nystagmus, ophthalmoplegia (due to weakness of one or more extraocular muscles), cerebellar ataxia, and mental impairment .
- *When there is an additional loss of memory and a confabulatory psychosis,* the syndrome is known as *Wernicke-Korsakoff syndrome.* Despite the typical clinical picture and history, Wernicke-Korsakoff syndrome is underdiagnosed" *(Harrison 19th/96e-3, 18th/597)*

There are Six Major Symptoms of Korsakoff's Syndrome:

- *Anterograde amnesia: Inability to form new memories*
- *Retrograde amnesia: Severe loss of memories formed before the onset of the condition*
- *Confabulation: That is, invented memories which are then taken as true due to gaps in memory sometimes associated with blackouts*
- *Minimal content in conversation*
- *Lack of insight*
- *Apathy: The patients lose interest in things quickly and generally*

appear indifferent to change.

27. Glycogen storage disorder is-

a) Niemann – Pick disease

b) Gaucher disease

c) Tay- Sacks disease

d) Pompe's disease

e) McArdles disease

Correct Answer - D

- **Glycogen storage disease type II**, also called **Pompe disease**, is an autosomal recessive metabolic disorder[1] which damages muscle and nerve cells throughout the body. It is caused by an accumulation of glycogen in the lysosome due to deficiency of the lysosomal acid alpha-glucosidase enzyme. It is the only glycogen storage disease with a defect in lysosomal metabolism, and the first glycogen storage disease to be identified,
- The disease is caused by a mutation in a gene (acid alpha-glucosidase: also known as acid maltase) on long arm of chromosome 17.
- Most cases appear to be due to three mutations. A transversion (T → G) mutation is the most common among adults with this disorder. This mutation interrupts a site of RNA splicing.
- The gene encodes a protein—acid alpha-glucosidase (EC 3.2.1.20)—which is a lysosomal hydrolase. The protein is an enzyme that normally degrades the alpha -1,4 and alpha -1,6 linkages in glycogen, maltose and isomaltose and is required for the degradation of 1–3% of cellular glycogen. The deficiency of this enzyme results in the accumulation of structurally normal glycogen in lysosomes and cytoplasm in affected individuals.

clinical features:

- Accumulation of glycogen in lysosomes: Juvenile onset variant, muscle hypotonia, death from heart failure by age 2; adult onset variant, muscle dystrophy

28. True about DNA hyperchromatism:

a) It is increase of absorbance

b) Measured by absorbance at 260 nm (in a spectrophotometer)

c) It occurs when the DNA duplex is denatured

d) Double stranded DNA is more hyperchromic than ssDNA

e) None

Correct Answer - A:B:C

Ans: (A) It is increase of absorbance (B) Measured by absorbance at 260 nm (in a spectrophotometer) (C) It occurs when the DNA duplex is denatured*[Ref Harper 30th/361, 28th/303; Satyanarayan 3rd/78; Lippincott 4th/397-98]*

- Hyperchromicity is the increase of absorbance (optical density) of a material. The most famous example is the hyperchromicity of DNAthat occurs when the DNA duplex is denatured
- It is the increase of absorbance (optical density) of a material. The most famous example is the hyperchromicity of DNA that occurs when the DNA duplex is denatured.
- 'At a wavelength of 260 nm, ssDNA has a higher relative absorbance than does double stranded DNA'' (Lippincott
- 4th/397-98)
- The UV absorption is increased when the two single DNA strands are being separated, either by heat or by addition of denaturant or by increasing the pH level.
- Loss of helical structure can be measured by increase in absorbance at 260 nm (in a spectrophotometer), The opposite, a decrease of absorbance is called hypochromicity
- Renatuartion (reannealing) is the process in which the separated

complementary DNA strands can form a double helix

29. All are true about DNA methylation except:

a) It usually occurs in the cytosine

b) Can alters the gene expression pattern in cells

c) Role in genomic imprinting

d) No role in carcinogenesis

e) Essential for normal development

Correct Answer - D

Ans: (D) No role in carcinogenesis*[Ref Harper 30th/438; Harrison 19th/101e-4, 18th/668,* 679; *Robbins 9th/319-20, 893, 8th /306; Satyanarayan 3rd/359, 572; Lippincott 4th/460-62; Chatterjea Shinde 7th/346, 426;en. wikipedia. org/wiki/ DNA_methylation]*

- Cytosine in the sequence CG of DNA gets methylated to form 5'-methylcytosine. A major portion of CG (about 20%) in human DNA exists in methylated form.
- In DNA, methylation usually occurs in the CpG islands, a CG rich region, upstream of the promoter region. In humans, DNA methylation is carried out by a group of enzymes called DNA methyltransferases.
- DNA methylation stably alters the gene expression pattern in cells such that cells can "remember where they have been" or decrease gene expression
- DNA methylation is essential for normal development and is associated with a number of key processes including genomic imprinting, X-chromosome inactivation, suppression of repetitive

elements, and carcinogenesis.

- Adenine or cytosine methylation is part of the restriction modification system of many bacteria, in which specific DNA sequences are methylated periodically throughout the genome.
- Within the bacterium, methylation protects the host DNA from cleavage by its own restriction enzyme. Unmethylated foreign DNA is not protected from cleavage.

30. All are true regarding epigenetics mechanism except:

a) Non-heritable

b) Acetylation of Histone

c) Hereditary

d) Methylation of DNA

e) X chromosome inactivation

Correct Answer - A

Ans. (A) Non-heritable

- Epigenetics *is defined as the study of heritable chemical modification of DNA or chromatin that does not alter the DNA sequence itself. Example of such modification include methylation of DNA & the methylation er acetylation of histones.*
- *Epigenetic modification is critical for normal development including-regulation of tissue specific gene expression, X-chromosome inactivation & genomic imprinting.*
- An *epigenetic modification* refers to a change in the genome, *heritable by cell progeny,* that does not involve a change in the DNA sequence. The *inactivation of the second* X *chromosome* in female cells is an example of an epigenetic silencing that prevents gene expression from the inactivated chromosome.

31. Which of the following is true regarding DNA double-strand breaks repair pathway

a) Homologous recombination require a long homologous sequence to guide repair

b) Non-homologous end-joining does not require a long homologous sequence to guide repair

c) Homologous recombination repairs DNA before the cell

d) Non-homologous end-joining repairs DNA before the cell enters mitosis

e) Non-homologous end joining is prominent DSB repair mechanism in mammals

Correct Answer - A:B:C:E

Ans: a. Homologus..., b. Non-homologous..., *c.* Homologous ..., e. Non-homologous… *[Ref Harper 30th/389-91, Satyanarayan3rd/532; Robbins 9th/430-31, 8th /302; http: www.ncbi.nlm. nih.gov/pubmed/20192759]*

- Non-homologous end joining (NHEJ) is the predominant type of DSB repair in mammalian cells, as opposed to lower eukaryotes.
- DSB in DNA are dangerous; They result in genetic recombination which may lead to chromosomal translocation, broken chromosome & finally cell death; DSBs can be repaired by homologous recombination or non-homologous end joining; Homologous recombination occurs in yeasts while in mammals, non-homologous end joining dominates

Double-Strand Breaks Repair Mechanism

.. Double-strand breaks can be repaired through homologous

recombination or through non-homologous end joining (NHEJ).
2. NHEJ is a DNA repair mechanism which, unlike homologous recombination, does not require a long homologous sequence to guide repair.
3. Whether homologous recombination or NHEJ is used to repair double-strand breaks is largely determined by the phase of cell cycle. Homologous recombination repairs DNA before the cell enters mitosis (M phase).
4. DNA double-strand breaks (DSB) are presumed to be the most deleterious DNA lesions as they disrupt both DNA strands.
5. Homologous recombination (HR), single-strand annealing, and non-homologous end joining are considered to be the pathways for repairing DSB.

32. Group of alleles that are closely linked together at a genomic locus & inherited together as a cluster is/are:

a) Idiotype

b) Haplotype

c) Genotype

d) Phenotype

e) None

Correct Answer - B

Ans. (B) Haplotype([Refs Harrison 19th/435, 18th /497, 505; Robbins 9th/195, 8th/177])

- The entire human genome now can be divided into blocks known as haplotypes, which contain varying numbers of contiguous single nucleotide polymorphisms on the same chromosome that are in linkage disequilibrium & hence inherited together as a cluster
- A haplotype refers to a group of alleles that are closely linked together at a genomic locus.
- Haplotypes are useful for tracking the transmission of genomic segments within families and for detecting evidence of genetic recombination, if the crossover event occurs between the alleles.

33. The size of Microsatellite repeat sequence is:

a) <1 kb

b) 2-6 bp

c) 1-3 kb

d) >3 kb

e) 5-20 bp

Correct Answer - B
Ans: b. 2-6 bp

- sequences of 2-5 bp repeated up to 50 times. May occur at 50000-100000 locations in the genome"-Harper 30th/377-78, 28th/404
- Short (2-6 bp), inherited, tandem repeat units of DNA occur about 50,000-100,000 times in the human genome.
- Because they occur more frequently—and in the view of the routine application of sensitive PCR methods—they are replacing RFLPs as the marker loci for various genome searches.

34. Feature of Von Hippel Lindau syndrome:

a) Mutation in chromosome 13

b) Mutation in chromosome 3

c) Pancreatic cyst

d) Cerebellar hemangioblastoma

e) All

Correct Answer - B:C:D

Answer- (B) Mutation in chromosome 3 (C) Pancreatic cyst (D) Cerebellar hemangioblastoma

This is an autosomal-dominant disease in which affected individuals develop tumors in cerebellar hemispheres, the retina, and, less commonly, the brainstem and spinal cord.

The gene for von Hippel-Lindau disease, a tumor-suppressor gene, is located on chromosome 3p25-26.

The cerebellar capillary hemangioblastoma, is the neurologic manifestation of the disease.

Retinal angiomas, Pheochromocytoma are also associated tumours.

35. All are the feature (s) of Hermansky-pudlak syndrome except:

a) Autosomal dominant inheritance

b) Oculocutaneous albinism

c) Bleeding disorder

d) Pulmonary fibrosis

e) Pain

Correct Answer - A

Answer- A. Autosomal dominant inheritance

It is a rare autosomal recessive disorder which results in oculocutaneous albinism, bleeding problems due to a platelet abnormality (platelet dysfunction), storage of an abnormal fat-protein compound.

Chromosome 10q23 is affected.

There are eight classic forms of the disorder in which last type of disorder is due to gene Pallidin (PLDN)

The major complication of the disorder is pulmonary fibrosis.

36. Difference between active & resting cell depend on which phase of cell cycle:

a) GO

b) G1

c) G2

d) M

e) S

Correct Answer - A

Answer- A. GO

The cell cycle consists of four distinct phases-

- G1 phase
- S phase
- G2 phase
- M phase

Quiescent/ senescent-

- Gap O
- A resting phase where the cell has left the cycle and has stopped dividing.

37. Not feature (s) of apoptosis:

a) Mediated by Caspases

b) Inhibition of Endonuclease activity

c) Membrane bleb are seen

d) Chromatin condensation

e) Association with inflammation

Correct Answer - B:E

Answer- (B) Inhibition of Endonuclease activity (E) Association with inflammation

Caspase activates endonuclease (neuronal apoptosis lacks caspases, thus activation of AIF)

MORPHOLOGICAL FEATURES:

- Convolution of cell membrane
- Leading to formation of cytoplasmic blebs (although cell membrane remains intact).
- Chromatin condensation (pyknosis)/nuclear compaction
- Does not elicit any inflammatory response due to intact cell membrane.

38. True about mitochondrial DNA:

a) Linear

b) Circular

c) Transmitted by mother only

d) Transmitted by both parents

e) Contains less gene than nuclear DNA

Correct Answer - B:C:E
Answer- (B) Circular (C) Transmitted by mother only
(E) Contains less gene than nuclear DNA
In sexual reproduction, mitochondria are normally inherited exclusively from the mother; the mitochondria in mammalian sperm are usually destroyed by the egg cell after fertilization.
UGA codes for tryptophan, Codes for 13 proteins, Circular double stranded DNA, Mitochondrial disease occur due to Point Mutations and Large-Scale Rearrangements.
The remaining 22 tRNA and 2 rRNA-encoding genes are dedicated to the process of translation of the 13 mtDNA encoded proteins.

39. True about Intravascular hemolysis:

a) Increased serum haptoglobin

b) Increase Stercobillin in urine

c) Increase plasma myoglobin

d) Increased fecal excretion of urobilin

e) Hemosiderinuria

Correct Answer - D:E

Answer- (D) Increased fecal excretion of urobilin

(E) Hemosiderinuria

Intravascular hemolysis is manifested by

1. hemoglobinemia
2. hemoglobinuria
3. jaundice
4. hemosiderinuria

Decreased serum haptoglobin is characteristic of intravascular hemolysis.

Common Features of Hemolytic Disorders-

- Hb reduced
- MCV, MCH- increased
- Reticulocytes- increased
- Bilirubin- increased

40. Causes of unconjugated hyperbilirubinemia include?

a) Sepsis

b) Criggler-Najar syndrome

c) Rotor syndrome

d) Gilbert syndrome

e) Intravascular hemolysis

Correct Answer - A:B:D:E

Answer- A, B, D, E, Sepsis, Criggler-Najar syndrome, Gilbert syndrome, Intravascular hemolysis

Unconjugated hyperbilirubinemia:-

- Increased production of bilirubin from hemoglobin, So that the capacity of liver to conjugate bilirubin is overwhelmed by increased production, e.g.

.. Hemolytic anemia (both intravascular and extamascular)s Hereditary sphnocytosis, G6PD defciency.

2. Inefrective erythropoiesis- Thalassemia, Pernicious anemia.

3. Reduced hepatic uptake of bilirubin from bilirubin - albumin complex > Drugs,

4. Infections:- Sepsis, UTI

5. Impaired hepatic conjugation.

41. Rheumatic heart disease is/are:

a) Endocarditis

b) Constructive pericarditis

c) Most commonly involve trisucpid valve

d) Bread butter pericarditis

e) Pancarditis

Correct Answer - A:D:E

Answer- (A) Endocarditis (D) Bread butter pericarditis (E) Pancarditis

Acute rheumattc carditis durlng the active phase of RF may progress to chronic rheumatic heart disease (RHD).

During acute RF, diffuse inflammation and Aschoff bodies found three layers of the heart-

pericardium, myocardium or endocardium lesion is called a pancarditis.

Chronic RHD is characterized by organization of the acute inflammation and subsequent fibrosis.

The cardinal anatomic changes of the mitral (or tricuspid) valve are leaflet thickening, commissural fusion and shortening' and thickening and fusion ofthe tendinous cords.

In chronic disease, the mitral valve ls virtually always abnormal.

RHD is the most frequent cause of mitral stenosis.

Fibrous bridging across the valvular commissures and calcification create "fish mouth" or buttonhole stenoses.

- Carditis,
- Subcutaneous nodules,
- Erythema marginatum of the skin, and

- Sydenham chorea, a neurologic disorder with involuntary purposeless, rapid movements

42. True about Cystic fibrosis-

a) Occurs due CFTR gene mutation on chromosome 7

b) Meconium ileus is present in >90% cases

c) CFTR gene can be detected antenately

d) Poor body growth

e) All of the above

Correct Answer - A:C:D

Answer- A, C, D, Occurs due CFTR gene mutation on chromosome 7 (C) CFTR gene can be detected antenately (D)Poor body growth

- The primary defect in cystic fibrosis results from abnormal function of an epitheltal chloride channel protein encoded by the cystic fibrosis transmembrane conductance regulator (CFTR) gene on chromosome 7.
- Contents of the intestinal lumen are difficult to excrete which results in meconium ileus.
- Sequencing the CFTR gene is the gold standard for diagnosis of cystic fibrosis Poor body growth

43. Percutaneous liver biopsy is/are contraindicated in:

a) Ascites

b) Hemangioma of liver

c) Platelet count <60000/0

d) Hepatic metastasis

e) Echinococcus cyst in liver

Correct Answer - A:B:C:E
Answer- (A) Ascites (B) Hemangioma of liver (C) Platelet count <60000/0 (E) Echinococcus cyst in liver
Thrombocytopenia
Ascites
Difficult body habitus
Suspected hemangiona
Suspected echinococcal infection
Uncooperative patient

44. True about Alcoholic cirrhosis:

a) Predominantly macronodular pattern

b) Bile duct proliferaton

c) Mallory body hardly seen

d) Disturbed normal architecture

e) All

Correct Answer - B:C:D
Answer- (B) Bile duct proliferaton (C) Mallory body hardly seen (D) Disturbed normal architecture
Fibrosis can be centilobular, pericellular, or periportal.
There is disruption of the normal layer architecture and replacement of liver cells by regenerative nodules.
In alcoholic cirrhosis, referred to as micronodular.
With cessation of alcohol use, larger nodules may form, resulting in a mixed micronodular and macronodular cirrhosis.
Scattered larger nodules create a "hobnail" appearance on the surface of the liver.
The etiological clue to diagnosis in the form of Mallory bodies is hard to find in a fully-developed alcoholic cirrhosis.

45. All are true about Lesch-Nyhan syndrome except:

a) Hyperurecaemia

b) Mental retardation

c) Stone production

d) Occur equally in both sexes

e) X-linked

Correct Answer - D
Answer- D. Occur equally in both sexes
A complete deficiency of HPRT, the Lesch-Nyhan syndrome, is characterized by hyperuricemia, self-mutilative behavior, choreoathetosis, spasticity, and mental retardation.
This is a rare X-linked disorder of purine metabolism that results from HPRT deficiency.
The hyperuricemia results from urate overproduction and can cause uric acid crystalluria, nephrolithiasis, obstructive uropathy, and gouty arthritis.
Affects Males only.
Etiology- hereditary
Treatment-
Allopurinol

46. Marker (s) of Langerhans cell histiocytosis:

a) CD1a

b) S 100

c) CD 3

d) CD 5

e) CD 30

Correct Answer - A:B
Answer- (A) CD1a (B) S 100
The proliferating Langerhans cells in Langerhans cell histiocytosis are HLA-DR positive and express the CD1 antigen.
The hallmark of LCH is positivity for S-100 protein & CD 1 a positivity.

47. Breast cancer is/are associated with:

a) Familial adenomatous polyposis

b) Ataxia-telangiectasia

c) Peutz-Jeghers syndrome

d) Cowden disease

e) Von Hippel Lindau syndrome

Correct Answer - B:C:D
Answer- (B) Ataxia-telangiectasia (C) Peutz-Jeghers syndrome (D) Cowden disease
Von Hippel Lindau symdrome is not associated with breast carcinoma.
Familial adenomatous polyposis is associated with colorectal carcinoma & some other cancer but not breast cancer.
STK11/LKB1 (Peutz- Jeghers syndrome)
PTEN (Cowden disease)

48. Hyperglycemia is/are associated with:

a) Cushing disease

b) Addison disease

c) Pheochromocytoma

d) Hyperthyroidism

e) Acromegaly

Correct Answer - A:C:D:E

Answer- (A) Cushing disease (C) Pheochromocytoma (D) Hyperthyroidism (E) Acromegaly

Endocrinopathies associated with hyperglycemia-

- Acromegaly
- Cushing syndrome
- Hyperthyroidism
- Pheochromocytoma
- Glucagonoma

49. Malignancy associated with hypercalcemia:

a) Breast cancer

b) Small cell lung cancer

c) Non-small lung cancer

d) Prostate cancer

e) Multiple myeloma

Correct Answer - A:C:D:E

Answer- A,Breast cancer C,Non-small lung cancer D,Prostate cancer E,Multiple myeloma

- Lung carcinoma, breast carcinoma, and multlple myeloma account for more than 50% of all cases of malignancy-associated hypercalcemia.
- Gastrointestinal tumars and prostate carcinoma are less common causes of hypercalcemia.

50. Calcium level is increased in:

a) Parathyroid adenoma

b) Thiazide diuretics

c) Chronic renal failure

d) Hypervitaminosis D

e) Cirrhosis

Correct Answer - A:B:C:D
Answer- (A) Parathyroid adenoma (B) Thiazide diuretics (C) Chronic renal failure (D) Hypervitaminosis D
Hyperparathyroidism
Adenoma
Thiazide diuretics

51. Cause (s) of megaloblastic anaemia include:

a) Anticonvulsant drugs

b) Pregnancy

c) Resection of ileum

d) Gastrectomy

e) Crohn's disease

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

Answer- All (A) Anticonvulsant drugs (B) Pregnancy (C) Resection of ileum (D) Gastrectomy (E) Crohn's disease

I. VITAMIN B_1 DEFICIENCY

- **Inadequate dietary intake e.g. strict vegetarians, breast-fed infants,**
- **Malabsorption**

.. **Gastric causes: pernicious anaemia, gastrectomy, congenital lack of intrinsic factor.**

2.. **Intestinal causes: tropical sprue, ilea! resection, Crohn's disease, intestinal blind loop syndrome, fish-tapeworm infestation.**

II, FOLATE DEFICIENCY

- Inadequate dietary intake e.g. in alcoholics, teenagers, infants, old age, poverty.
- Malabsorption e.g. in tropical sprue, coeliac disease, partial gastrectomy, jejuna! resection, Croh Ifs disease.
- Excess demand

.. **Physiological: pregnancy, lactation, infancy.**

2. **Pathological: malignancy, increased haematopoiesis, chronic exfoliative skin disorders, tuberculosis, rheumatoid arthritis.**
- Excess urinary folate loss e.g. in active liver disease, congestive heart failure.

III. OTHER CAUSES
- Impaired metabolism e.g. inhibitors of di hydrofolate (DHF) reductase such as methotrexate and pyrimethamine; alcohol, congenital enzyme deficiencies.
- **Unknown etiology e.g. in Di Guglielmo's syndrome, congenital dyserythropoietic anaemia, refractory megaloblastic anaemia.**

52. Feature (s) of fibroadenoma of breast include:

a) Clearly defined edge on palpation

b) Hormone responsive tumor

c) Contain both epithelial & stromal elements

d) Well-encapsulated

e) Common after menopause

Correct Answer - A:B:C:D

Answer- (A) Clearly defined edge on palpation (B) Hormone responsive tumor (C) Contain both epithelial & stromal elements (D) Well-encapsulated

Fibroadenomas are easy to move, with clearly defined edge so called as breast mouse.

Most common benign breast tumor of female breast.

They are frequently multiple & bilateral.

Fibroadenomas are benign solid tumors composed of stromal and epithelial elements.

On excision, fibroadenomas are well-encapsulated masses.

Fibroadenomas do nothave malignant potential.

53. True about Neutrophil:

a) Engulf bacteria

b) Multilobed

c) Neutrophil granules are slightly basic and stain weakly with the azurophilic component of Romanowsky stains

d) Neutrophilia occur in acute bacterial infection

e) Primary granules is also called specific ganules

Correct Answer - A:B:C:D

Answer- (A) Engulf bacteria (B) Multilobed (C) Neutrophil granules are slightly basic and stain weakly with the azurophilic component of Romanowsky stains (D) Neutrophilia occur in acute bacterial infection

'Neutrophil contain primary or azurophil granules & secondary or specific granules

Neutrophilia occur in acute bacterial infection.

The nucleus of neutrophils normally contains up to four segments.

Characteristic features are- Condensed, multilobed nucleus

Function-

- Hydrolytic substrate degradation
- Kill ingested bacteria
- Regulate inflammation

54. All are true about Histamine except:

a) Secreted by macrophage

b) Vasoconstriction of arterioles

c) Smooth muscle contraction

d) Mediate inflammation

e) None

Correct Answer - A:B

Answer- (A) Secreted by macrophage (B) Vasoconstriction of arterioles

'Histamine induces smooth muscle contraction in diverse tissues.

Histamine is widely distributed in tissues, the richest source being the mast cells.

Histamine causes dilation of the arterioles and increases the permeability of venules

It acts on the microcirculation.

55. Which of the following statement (s) is/are true:

a) In Robertsonian translocation the breaks occur close to the centromeres of each chromosome

b) Aneuploidy is abnormal chromosome number caused by either gain or loss of chromosome

c) Comparative genomic hybridisation (CGH) is a technique that permits the detection of chromosomal copy number

Haploid is normal number & composition of chromosome

d) Haploid is normal number & composition of chromosome

e) All

Correct Answer - A:B:C

Answer- (A) In Robertsonian translocation the breaks occur close to the centromeres of each chromosome (B) Aneuploidy is abnormal chromosome number caused by either gain or loss of chromosome (C) Comparative genomic hybridisation (CGH) is a technique that permits the detection of chromosomal copy number

Aneuploidy: An abnormal chromosome number caused by either gain or loss of chromosomes.

Haploid: Only one-half the normal complement, that is, 23 chromosomes

Comparative genomic hybridisation (CGH) is a technique that permits the detection of chromosomal copy number changes without the need for cell culturing.

Robertsonian translocation (or centric fusion): It is a translocation

Robertsonian translocation (or centric fusion): It is a translocation between two acrocentric chromosomes. Typically the break occur close to the centromeres of each chromosome.

56. All of the the following statement (s) is/are true except:

a) Denever group F-contain X chromosome

b) Denever group C-contain X chromosome

c) Denever group G-contain acrocentric chromosome

d) Bar body is inactive X chromosome

e) In normal females generally one of the chromosomes undergoes X inactivation in somatic cells

Correct Answer - A

Answer- (A) Denever group F-contain X chromosome

The classification of chromosomes based on Denver group classification

Chromosome Class	Size	Relative Position of Centromere
Group A (1-3)	Large	Metacentric
Group B (4-5)	Large	Submetacentric
Group C (6-12,X)	Medium	Submetacentric
Group D (13-15)	Medium	Acroentric
Group E (16-18)	Relatively shot	Submetacentric
Group F (19-20)	short	Metacentric or Submetacentric
Group G (21-22,Y)	Short	Acroentric

57. Fomepizole can be used in:

a) Methanol poisoning

b) Organophosphorus poisoning

c) Ethylene glycol poisoning

d) Barbiturate poisoning

e) None

Correct Answer - A:C

Ans. (A) Methanol poisoning (C) Ethylene glycol poisoning

[Ref: KDT 7th/395-96; Katzung 12th/398,400, 1033]

Fomepizole:

- Competitive inhibitor of the enzyme alcohol dehydrogenase, found in the liver.
- This enzyme plays a key role in the metabolism of ethylene glycol and methanol.
- Fomepizole is most effective when given soon after ingestion of ethylene glycol or methanol.
- Delaying the administration of fomepizole allows for the generation of harmful metabolites

58. Which of the following drug interact with Warfarin:

a) ACE inhibitor

b) Azithromycin

c) Fluconazole

d) Aspirin

e) Benzodiazepine

Correct Answer - C:D

Ans. (C) Fluconazole (D) Aspirin

[Ref KDT 7th/62i,503; Katzung 12th/610]

Drug Causing Enhanced Anticoagulant Action of Warfarin:

- Aspirin: inhibit platelet aggregation eb cause G.I bleeding
- Never cephalosporins (ceftriaxone, cefoperazone): Cause hypoprothrombinemia
- Broad Spectrum antibiotics: Inhibit gut flora 6 reduce vit. Kproduction
- Long acting sulfonamide, indomethacin, phenytoin & probenecid: Displace warfarin from plasma protein binding.
- Chloramphenicol, erythromycin, celecoxib, cimetidine, allopurinol, amiodarone & metronidazole: Inhibit warfarin metabolism
- Tolbutamide & phenytoin: Inhibit warfarin metabolism & vice versa .
- Liquid paraffin (habitual use): Reduce vit. K absorption

Drug Causing Reduced Anticoagulant Action of Warfarin:

- Barbiturates (but not benzodiazepines), carbamazepine, rifampin, & griseofulvin: Induce the metabolism of oral Anticoagulant.
- Oral contraceptive Increase blood levels of clotting factors

59. All of the following is true about hydroxyurea except:

a) Cause myelosuppression

b) Oral bioavailability is very less

c) Used in CML

d) Act as radiosensitizer

e) Used in sickle cell anaemia

Correct Answer - B

Ans. B. Oral bioavailability is very less

[Ref: KDT 7th/868; Kntzung 12th/582]

Hydroxyurea:

- Hydroxyurea is an analog of urea whose mechanism of action involves the inhibition of DNA synthesis by inhibiting the enzyme ribonucleotide reductase, resulting in depletion of deoxynucleoside triphosphate pools.
- This agent exerts its effects in the S phase of the cell cycle.
- Nearly 100% oral bioavailability.
- Mainly used in chronic myelogenous leukemia, blast crisis of acute myeloid leukemia, psoriasis & sickle cell anaemia.
- Myelosuppression is the ilose-limiting toxicity.

60. All are true about hydrochlorothiazide except:

a) Cause hyperglycemia

b) Inhibit Na-Cl symport

c) Increases calcium excretion in urine

d) Cause hyperuricaemia

e) Used in treatment of renal stone

Correct Answer - C

Ans. C. Increases calcium excretion in urine

[Ref KDT 7th/5%-86; Katzung 12th/260-61,270]

Hydrochlorothiazide:

- Inhibits Na+-Cl-symport predominantly in the DCT.
- Enhance Ca2+ reabsorption & decrease urine calcium excretion (causes hypercalcemia).
- Thiazide cause carbohydrate intolerance & cause preciPitation of diabetes

Toxicity:

- Hypokalemic metabolic alkalosis and hyperuricemia
- Impaired Carbohydrate Tolerance.

61. ATT drug with significant renal excretion is/are:

a) INH

b) Rifampicin

c) Pyrazinamide

d) Amikacin

e) Streptomycin

Correct Answer - A:C:D:E

Ans. (A) INH (C) Pyrazinamide (D) Amikacin (E) Streptomycin

[Ref KDT 7th/767; Katzung 12th/841]

Rifampin:

- It is metabolized in the liver to an active deacetylated metabolite which is excreted mainly in bile, some in urine.
- Urine & secretions may become orange-red

INH:

- It is extensively metabolized in liver; most important pathway being N-acetylation by NAT2.
- The acetylated metabolite is excreted in urine

Pyrazinamide:

- Extensively metabolized in liver & excreted in urine.
- Pyrazinamide metabolites are renally cleared.
- Aminoglycosides (streptomycin & amikacin) are not metabolized.

62. Which of the following statement about proton pump inhibitors is/are true except:

a) Hit & run drug

b) Acidic medium is essential for activity

c) Act on H+/K+ ATPase

d) Forms an integral component of anti-H.pylori regimens

e) Act best in alkaline medium

Correct Answer - E

Ans. E. Act best in alkaline medium

[Ref KDT 7thBa,651-52; Katzung 12th/1085-89]

Hit & run drugs:

- Effects last much longer than the drug itself), e.g., reserpine, guanethidine, MAO inhibitors, omeprazole.
- One of the PPIs is an integral component of all anti-H.pylori regimens along with 2 (triple drug) or 3 (quadruple drug) antimicrobial.
- Since an acidic pH in the parietal cell acid canaliculi is required for drug activation & since food stimulate acid production, these drugs ideally should be given about 30 minutes before meals.
- Proton pump inhibitors are administered as inactive prodrugs.

63. True about amphotericin B:

a) Liposomal preparation is available

b) Orally absorbed

c) Used only in intravenous form

d) Protein synthesis inhibitor

e) None

Correct Answer - A

Ans. A. Liposomal preparation is available

[Ref: KDT 7th/787-89; Katzung 12th/934,849-52, 1066]

- AMB is not absorbed orally, it can be given orally for intestinal candidiasis without systemic toxicity.
- Administered i,v, as suspension made from deoxycholate (DOC), it gets widely distributed in the body.
- It can be also administered topically for vaginitis, otomycosis

Liposomal AMB:

- It has been produced to improve tolerability ofi.v. infusion, reduce its toxicity & achieve targeted delivery.
- It delivers AMB particularly to reticuloendothelial cells in liver & spleen-especially valuable for kala azar & in Immunocompromised.

64. Antibiotic which acts through cell wall inhibition:

a) Penicillin

b) Daptomycin

c) Aminoglycoside

d) Cephalosporin

e) Imipenam

Correct Answer - A:D

Ans. (A) Penicillin (D) Cephalosporin

[Ref KDT 7th/689-90; Katzung p803]

Mechanism of Action of Drugs:

- Inhibit cell wall synthesis: Penicillins, Cephalosporins, Cycloserine, Vancomycin, Bacitracin.
- Cause leakage from cell membranes: Polypeptides- Polymyxins, Colistin, Bacitracin. Polyenes-Amphotericin B, Nystatin, Hamycin.
- Inhibit protein synthesis: Tetracyclines, Chloramphenicol, Erythromycin, Clinda-mycin, Linezolid.
- Cause misreading of m-RNAcodeandaffect permeability: Aminoglycosides-Streptomycin, Gentamicin, etc.
- Inhibit DNA gyrase: Fluoroquinolones -Ciprofloxacin and others.
- Interfere with DNA function: Rifampin.
- Interfere with DNA synthesis: Acyclovir, Zidovudine.
- Interfere with intermediary metabolism: Sulfonamides, Sulfones, PAS, Trimethoprim, Pyrimethamine, Metronida- zole.

65. Which of following statement is true about canagliflozin:

a) SGLT-2 inhibitor

b) Blocks Na/glucose symport.

c) Causes glycosuria & polyuria

d) Increases chance of vaginal infections

e) None

Correct Answer - A:C:D

Ans. (A) SGLT-2 inhibitor (C) Causes glycosuria & polyuria (D) Increases chance of vaginal infections

[Ref KDT 7th/270: http: / /tvww.diabetesincontrol.eom]

Canagliflozin:

- Antidiabetic drug used to improve glycemic control in patients with type 2 diabetes.
- SGLT-2 inhibitor.
  ? Sodium-glucose co-transPorter-2 (SGLT-2) inhibitors are a new group of oral medications used for treating type 2 diabetes
- Produces beneficial effects on HDL cholesterol and systolic blood pressure, but these effects are offset by increased LDL cholesterol.
- Vaginal yeast infections and urinary tract infections are the most common side effects
- Canagliflozin is less effective in patients with moderate renal failure end probably ineffective in severe renal failure and type 1 diabetics

66. Which of following is/are true about metformin:

a) Cause lactic acid

b) PPAR y agonist

c) Contraindicated in Renal failure

d) Cause hypoglycemia

e) GI disturbances are common side effect

Correct Answer - A:C:E

Ans. (A) Cause lactic acid (C) Contraindicated in Renal failure (E) GI disturbances are common side effect

[Ref. KDT 7th/275-76; Katzung 12th/757]

Metformin:

- PPAR y agonist (peroxisome proliferator-activated receptor l)
- Cause little or no hypoglycemia
- Reported to improve lipid profiles in type II Dm (decreased LDL).
- Contraindicated in renal disease, alcoholism, hepatic disease, or conditions predisposing to tissue anoxia (e.g., chronic cardiopulmonary dysfunction), because of an increased risk of lactic acidosis, induced by biguanide drugs in the presence of these diseases.

67. Peripheral neuropathy is/are caused by:

a) Vincristine

b) Sulfonamide

c) Amiodarone

d) Paclitaxel

e) None

Correct Answer - A:C:D
Ans. (A) Vincristine (C) Amiodarone (D) Paclitaxel
[Ref: Harrison 19th/2686-88, 18th/3463-66; KDT 7th/706]

- Sulfonamide not mentioned in list of drugs causing neuropathies

68. Common action (s) of epinephrine & norepinephrine includes:

a) Skin vasodilation

b) Bronchial muscle contraction

c) Increase systolic BP

d) Increase HR

e) Renal vasoconstriction

Correct Answer - C:E

Ans. (C) Increase systolic BP (E) Renal vasoconstriction

[Ref KDT 7th/124-133; Gooilman & Gillman llth/2z4-248; Ganong 25th/353-56]

- Epinephrine cause bronchial muscle relaxation (through beat-2 receptor) whereas norepinephrine has no aetion (no action on beat-2.
- Both epinephrine & norepinEphrine increases renal vascular resistance & thus reduce renal blood flow.

69. Valid drug combinations are:

a) Sulfamethoxazole +trimethoprim

b) Penicillin + Tetracycline/chloramphenicol: Pneumococci

c) Piperacillin-Tazobactam

d) Enalapril-Hydrochlorothiazide

e) Ibuprofen & serratiopeptidase

Correct Answer - A:C:D:E

Ans. (A) Sulfamethoxazole +trimethoprim (C) Piperacillin-Tazobactam (D) Enalapril-Hydrochlorothiazide (E) Ibuprofen & serratiopeptidase

[Ref KDT 7 th/ 69 8 - 99, 7 2 5, 6 1 -6 2; Katzung 1 2th/ 80 1]

- Tazobactam pharmacokinetics matches with piperacillin with which it has been combined for use in severe infections Like peritonitis, pelvic/urinary/respiratory infections caused by beta-lactamase producing bacilli.
- ACE inhibitors/ARBs are particularly synergistic with diuretics; this combination is very good for patients with associated CHF or LVH.
- Serratiopeptidase is a proteolytic enzyme (protease) produced by enterobacter Serratia sp.Brand name Nildol- SP (400+15) is combination of Serratiopeptidase & Ibuprofen (Royal Sapphire Remedies Tablet.

70. A Patient presented in emergency room with severe malaria. He was given artusunate at 0 hr, 12 hr, 24 hr & then once a day till 3 day. Which of the following statement (s) is/are correct regarding further management of the patient

a) Patient may later switched to oral drug if patient able to tolerate

b) Dextrose drip should be started

c) Artesunate should never be given singly

d) Steriod is beneficial

e) None

Correct Answer - A:B:C

Ans. (A)Patient may later switched to oral drug if patient able to tolerate (B) Dextrose drip should be started (C) Artesunate should never be given singly

[Ref: KDT 7th/819-21;Park 23rd/262-67;Harrison 19th/1379-81, 18th/1698-1705]

- Artemisinin derivatives must never be given as monotherapy for uncomplicated malaria.
- The rapidly acting drugs, if used alone, can lead to the development of parasite resistance
- When the patient is unconscious, the blood glucose level should be measured every 4-6 hrs.

- All patients should receive a continuous inFusion of dextrose, and blood concentrations ideally should be maintained above 4 mmol/L.

71. Which of the following is/are true regarding plasma concentration time curve of a drug:

a) Peak concentration determine bioavailability

b) Intramuscular administration have curve different from oral administration

c) Area under curve determine therapeutic response

d) Bioavailability of an orally administered drug can be calculated by comparing the area under curve after oral & after i.v. administration

e) Changes in the rate of absorption and extent of bioavailability can influence both the duration of action and the effectiveness of the same total dose of a drug administered in different formulations

Correct Answer - B:D:E

Ans. (B) Intramuscular administration have curve different from oral administration (D) Bioavailability of an orally administered drug can be calculated by comparing the area under curve after oral & after i.v. administration (E) Changes in the rate of absorption and extent of bioavailability can influence both the duration of action and the effectiveness of the same total dose of a drug administered in different formulations

(Ref: KDT 7th/ 16-17; Katzung 12th/43-44)

- The area under the blood concentration-time curve (area under the curve, or AUC) can be used to calculate the clearance for first-order elimination.

- used as a measure of bioavailability.
- Bioavailability variation assumes practical significance for drugs with low safety margin (iligoxin) or where dosage needs precise control (oral hypoglycemics, oral hypo coagulants).

72. Not indicated for anaerobic colitis treatment:

a) Metronidazole

b) Aminoglycoside

c) Amikacin

d) Piperacillin-tazobactam

e) Imipenem

Correct Answer - B

Ans. (B) Aminoglycoside

[Ref: KDT 7th/838; Hanison 19th/1101, 18th/1338-39;Katzung 12th/904-05]

Treatment of anaerobic intra-abdominal infections:

Oral:

- Moxifloxacin 400 mg every 24 hour

IV:

- **Moderate to moderately severe infections**
- Ertapenem 1 g every 24 hours
- Ceftriaxone 1 g every 24 hours (or ciprofloxacin 400 mg every 12 hours, if penicillin allergic) plus metronidazole 500 mg every 8 hours or
- Tigecycline 100 mg once followed by 50 mg every 12 hours or
- Moxifloxacin 400 mg every 24 hours

Severe infections:

- imipenem,0.5 g every 6-8 hours; meropenem 1g every 8 hours; doripenem 0.5 g every 1 hour; piperacillin/tazobactam 4.5gevery8hours

73. Gun shot injury may cause (s):

a) Abrasion collar

b) Gutter fracture

c) Rail track injury

d) Incised like injury

e) Lacerated like injury

Correct Answer - B:D:E

Ans: a. Abrasion..., b. Gutt..., d. Incis..., e. Lace...,*[Ref Reddy 32nd/205, 235; Parikh 6th/4.43-44]*

- Gutter fracture: They are formed when part of the thickness of the bone is removed so as to form a gutter, e.g., in oblique bullet wound.
- Abrasion collar (Marginal abrasion): Abrasion collar surrounds the dirt collar. The abraded collar is reddish at first, but becomes reddish brown as it dries. Some contusion is present in abraded collar & as such, it is also called "contusion collar". These two features are proof of an entrance firearm wound.
- Glancing wounds (striking someone or something at an angle rather than directly and with full force) may simulate incised or lacerated wounds.
- Slit like exit wounds are occasionally encountered. They are due to the bullet exiting on its board side or due to exit of a fragmented bone. Such injuries may simulate incised wounds or stab wounds

74. Not characteristics of poisonous snake:

a) Small scales on head

b) Large scales on belly & cover entire breadth

c) Short & solid fangs

d) Compressed tail

e) Usually nocturnal in habit

Correct Answer - C

Ans: c. Short...*[Ref Reddy 32nd/528; Parikh 6th/9.40-9.41]*

Trait	**Poisonous snake**	**Non-poisonous snake**
1. Head scales	A- small (vipers) B- large & (a) (if there is an opening or pit b/w the eye & nostril (pit viper) (b) third labial touches the eye & nasal shields (cobra or coral snake) (c) No pits & third labial does not touch the nose & eye & central row of scales on back enlarged; undersurface of the mouth has only four infralabials, the fourth being the largest (kraits)	Large with the exceptions as mentioned, under the poisonous snakes
2. Belly	Large & cover entire breadth	Small like these on the back or

scales		the back of moderately large, but do not cover the entire breadth
3. Fangs	Hollow like hypodermic needles	Short & solid
4. Teeth	Two long fangs	Several small teeth
5. Tail	Compressed	Not much compressed
6. Habits	Usually nocturnal	Not so

75. Which of the following is not component of typical embalaming agent:

a) Na citrate

b) Na borate

c) Formaldehyde

d) Glycerine

e) None

Correct Answer - E

Ans: (E) None [Ref Reddy 32nd/166; Parikh 6th/8.23] Table (Reddy 32nd/166): A typical embalming

- **Embalming** chemicals are a variety of preservatives, sanitising and disinfectant **agents**, and additives used in modern **embalming** to temporarily prevent decomposition and restore a natural appearance for viewing a body after death
- Sodium borote (Buffer) → 500 g
- Sodium citrote (Anticoogulent) → 900 g
- Glycerine (Wetting agent) → 600 ml
- Sodium chloride (Control pH) → 800 g
- Eosin (Cosmetic)--> 30 ml
- Soluble wintergreen (Perfume) → 90 ml
- Water (Vehicle) UPto → 10 litres
- Formalin (Preservative) → 1.5 litres

76. True about Pugilistic attitude:

a) Flexion of hip & knee

b) Occur due to coagulation of protein by burning

c) Extension of elbow

d) Flexion of fingers

e) None

Correct Answer - A:B:D

Ans: a. Flexion of hip & knee, b. Occur due to coagulation of protein by burning, d. Flexion of fingers, *[Ref Reddy 32nd/307; 27th/286; Parikh 6th/4.156-4.157]*

Pugilistic Attitude (Boxing, Fencing or Defence Attitute) n Reddy 27th/286; Reddy 32nd/307

- It is the posture of a body which has been exposed to great heat
- The legs are flexed at the hips and knees, the arms are flexed at elbows and wrists and held out in front of the body, head slightly extended, all fingers are hooked like claws.
- "Pugilistic attitude is present whether a living or dead body is burnt & has therefore no medico-legal significance")
- Contraction of paraspinal muscles often causes a marked opisthotonus, in an attitude commonly adopted by boxers.
- This stiffening is due to the coagulation of proteins of the muscles and dehydration which cause contraction. The flexor muscles being bulkier than extensors contract more due to which joints of all limbs are flexed
- It occurs whether the **person was alive or dead at time of burning**

77. Which of the following can be ground for divorce:

a) Sterile female

b) Impotent man

c) Diabetes

d) Premature ejaculation

e) Pre-existing incurable mental disorder

Correct Answer - B:E

Ans: b. impo.., e. Pre-existing...

- Impotency is a ground for annulling marriage. In Parmaswami pillai v. Sornathammal AIR1969 it was held that the marriage of a woman with an impotent man is voidable.
- **Premature Ejaculation: May be/may not be ground May be Ground for Divorce if it Leads to Impotency**
- Mental disorder can become a ground for filing a divorce if the spouse of the petitioner suffers from incurable mental disorder and insanity and therefore cannot be expected from the couple to stay together.

78. Not true regarding Voyeurism:

a) S. 354C, IPC define punishment

b) For first offence imprisonment of 1-3 year with fine

c) For repeat offence imprisonment may extend to 5-10 year

d) Cognizable offence

e) Repeat offence is considered as non-bailable offence

Correct Answer - C

Ans: c. For repeat...*[Ref Reddy 32nd/394, 413; Parikh 6th/5.55; Reddy 27th/367;* Cr*iminal Amendment Bill, 2013]*

Voyeurism or Scoptophilia

- It is defined as one who, experiences recurrent, intense, sexually arousing fantasies, sexual urges or behaviours involving the act of observing an unsuspecting person who is naked, in the process of disrobing or engaged in sexual activity
- Voyeurism or Scotophilia is defined as the desire to watch sexual intercourse or to observe genitals of others. Q
- Most often the victim is stranger
- Masturbation at the scene or later to memories of watching the unsuspecting stranger is normally the source of sexual pleasure
- It is rare in female

79. All are true about Ebola virus infection except?

a) Air dropler is most common mode of transmission

b) Haemorrhagic manifestation may occur

c) Thai forest type - most common species in epidemics

d) presents as sudden onset of fever and sore throat

e) Case fatality rate may be high as 70%

Correct Answer - A:C

Ans. is 'a' i.e., Air dropler is most common mode of transmission & 'c' i.e., Thai forest type - most common species in epidemics]Ref *Park 24^{m}/e* p. *374]*

- The virus is transmitted through direct contact with blood, organs, body secretions or other body fluids of infected animals like chimpanzees, gorillas, monkeys, fruit bats etc.
- Human to human transmission is through blood or body fluids of an infected symptomatic person or through exposure to objects (such a needle) that have been contaminated with infected secretions.
- It is not transmitted through air, water, or food.
- The virus is transmitted through direct contact with blood, organs, body secretions or other body fluids of infected animals like chimpanzees, gorillas, monkeys, fruit bats etc.
- Human to human transmission is through blood or body fluids of an infected symptomatic person or through exposure to objects (such as needle) that have been contaminated with infected secretions
- It is not transmitted through air, water, or food
- The illness is characterized by sudden onset of fever, intense

weakness, muscle pain, headache, sore throat, vomiting, diarrhea, rash, impaired kidney and liver function and in some both internal and external bleeding.

- **The virus family Filoviridae includes three genera: Cuevavirus, Marburgvirus, and Ebolavirus.**
- **Within the genus Ebolavirus, five species have been identified: Zaire, Bundibugyo, Sudan, Reston and TalForest.**
- **The first three, Bundibugyo ebolavirus, Zaire ebolavirus, and Sudan ebolavirus have been associated with large outbreaks in Africa.**

80. All are true about Toxoplasma infection except:

a) May occur due to ingestion of oocyst from cat's faeces

b) May spread by organ transplantation

c) Toxoplasmosis is symptomatic in usually immunocompetent person

d) Infection is severe & progressive in immunocompromised host

e) Human infection is dead end for parasite

Correct Answer - C

Ans: c. Toxoplasmosis… *[Ref Paniker Parasitology 6th/100: Harrison 19th/1398-1405,*

- **Infective stage for man:** Oocyst with sporozoites **&** tissue cyst with bradyzoites
- Freshly passed oocyst is not infective (needs development in the soil)
- Human infection is **dead end for the parasite**
- The principal source of human Toxoplasma infection remains uncertain.
- Transmission usually takes place by the oral route and can be attributable to ingestion of either sporulated oocysts from contaminated soil or bradyzoites from undercooked meat
- Intrauterine infection from infected mother to babies. Rarely by blood transfusion or transplantation from infected donors.

81. Which of the following disease (s) is/are not toxin mediated:

a) Diphtheria

b) Tetanus

c) Pertussis

d) Anthrax

e) Syphilis

Correct Answer - E

Ans: e. Syphilis...*[Ref Ananthanarayan 8th/233, 317; Greenwood Microbiology 16th/91]*

- Virulent strains of diphtheria bacilli produce a very powerful exotoxin. The pathogenic effects of the bacillus are due to toxin.
- Pertussis toxin (PT): This is present only in Bordetellae pertussis. It play an important role in the pathogenesis of whooping cough. PT toxoid is the major component of acellular pertussis vaccines
- The anthrax toxin is a complex of three fractions: the edema factor (OF or Factor I), the protective antigen factor (PA or Factor II) & the lethal factor (LF or Factor III)"
- Toxins inhibiting protein synthesis: 1) Shigella dysenteriae I (Shiga toxin) 2) Diphtheria 3) Pseudomonas 4) Verotoxin 1=Shiga like toxin of E.coli)

82. Commonly used stain (s) for identifying fungus include (s):

a) Periodic acid-Schiff (PAS) stain

b) Von Kossa stain

c) Muramine silver stain

d) Gomori's methenamine silver

e) Giemsa stain

Correct Answer - A:D

Ans: a. Periodic ..., d. Gomori's… ***[Ref: Ananthanarayan 8th/601: Harrison 19th/1330, 18th/1637]***

- The PAS & methenamine silver stains are valuable methods for the demonstration of fungal elements in tissue section. The commonest culture media used in mycology are Sabouraud's glucose agar, Czapek-Dox medium & Corn meal agar.
- The von Kossa stain is used to quantify mineralization in cell culture and tissue section.
- Giemsa stain is used in cytogenetics and for the histopathological diagnosis of malaria and other parasites.
- The stains most commonly used to identify fungi are periodic acid-Schiff and Gomori methenamine silver. Candida, unlike other fungi, is visible on gram-stained tissue smears. Hematoxylin and eosin stain is not sufficient to identify Candida in tissue specimens.
- When positive, an India ink preparation of cerebrospinal fluid (CSF) is diagnostic for cryptococcosis. Most laboratories now use calcofluor white staining coupled with fluorescent microscopy to identify fungi in fluid specimens.

83. Non-treponemal test includes:

a) RPR

b) VDRL

c) FTA-ABS

d) TPHA

e) TPI

Correct Answer - A:B

Ans: a. RPR, b. VDRL ***[Ref Ananthanarayan 8th/375-76: Harriosn 19th/1137-38, 18th/1384; CMDT 2016/1464; Greenwood Microbiology 16th/347]***

- There are two general categories of serologic tests for syphilis: (1) Nontreponemal tests detect antibodies to lipoidal antigens present in the host after modification by T pallidum. (2) Treponemal tests use live or killed T pallidum as antigen to detect antibodies specific for pathogenic treponemes.
- The RPR and VDRL tests are recommended for screening or for quantitation of serum antibody. The titer reflects disease activity, rising during the evolution of early syphilis and often exceeding 1: 32 in secondary syphilis. After therapy for early syphilis, a persistent fall by fourfold or more (e.g., a decline from 1: 32 to 1: 8) is considered an adequate response.
- Treponemal tests measure antibodies to native or recombinant T pallidum antigens and include the fluorescent treponemal antibody-absorbed (FTA-ABS) test and T. pallidum particle agglutination (TPPA) test, both of which are more sensitive for primary syphilis than the previously used hemagglutination tests.
- The most widely used nontreponemal antibody tests for syphilis are

the rapid plasma reagin (RPR) and Venereal Disease Research Laboratory (VDRL) tests, which measure IgG and IgM directed against a cardiolipin-lecithin cholesterol antigen complex.

84. Which of following Culture media combination is/are true except:

a) Thayer-Martin media: Gonorrhoea

b) Chocolate agar-: enriched media

c) Lowenstein-Jensen Medium: Mycobacterium tuberculosis

d) Muller-Hinton agar: Corynebacterium diphtheriae

e) Mac Conkey's agar: Non lactose fermenters formcolourless colonies

Correct Answer - D

Ans: d. Muller-Hinton...*[Ref Ananthanarayan 8th/39-43, 229]*

- Thayer-Martin is a useful selective media for Neisseria gonorrhoeae".
- Mueller-Hinton is enriched media for Neisseria.
- C diphtheriae and other corynebacteria grow aerobically on most ordinary laboratory media. On Loeffler's serum medium, corynebacteria grow much more readily than other respiratory organisms, and the morphology of organisms is typical in smears.
- Lowenstein-Jensen Medium. It is used to culture tubercle bacilli. It contains egg, malachite green and glycerol.
- Chocolate Agar or Heated Blood agar: Prepared by heating blood agar. It is used for culture of pneumococcus, gonococcus, meningococcus and Haemophilus. Heating the blood inactivates inhibitor of growths.

85. All of the following are true regarding legionella except:

a) Cause pontiac fever

b) Aerobic gram negative bacilli

c) Can grow on simple medium

d) Grow on BCYE agar

e) Communicable from infected patients to others

Correct Answer - C:E

Ans: c. Can grow on…. e. Communicable… ***[Ref Ananthanarayan 8th/400-401: Harrison 19th/1014-17, 18th/1236-39; Greenwood 16th/320-21; CMDT 09/1278]***

- Members of the Legionellaceae are aerobic gram-negative bacilli that do not grow on routine microbiologic media. Buffered charcoal yeast extract (BCYE) agar is the medium used to grow Legionella.
- Pontiac fever[Q], caused by Legionella Pneumophila, is a milder, nonfatal influenza-like illness with fever, chills, myalgia.

86. All are true about gonorrhea except:

a) Gonorrhoea means flow of seed

b) Discharge may contain neutrophil

c) Initially discharge is scanty & mucoid in urethritis

d) Caused by gram positive cocci

e) Symptom is more severe in female than males

Correct Answer - D:E

Ans: d. Caused ..., e. Symptom...*[Ref Harrison 19th/1005, 18th/1220-25; Ananthanaran 8th/227-30, 7th/227-229; Greenwood Microbiology 16th/247-248; CMDT 09/1287]*

- The name gonorrhea derives from the Greek words gonos (seed) & rhoia (flow) e.9- described a condition in which semen flowed from the male organ without erection.
- Acute urethritis[Q] is the most common clinical manifestation of gonorrhoea in males & although some men remain asymptomatic. Urethral discharge & dysuria, usually without urinary frequency or urgency, are the major symptoms.

87. Which of the following is False regarding H.Pylori infection :

a) With chronic infection urease breath test become negative

b) H.Pylori infection remain lifelong if untreated

c) Endoscopy is diagnostic

d) Toxigenic strains usually causes ulcer

e) None

Correct Answer - A

Answer is A. With chronic infection urease breath test become negative (With chronic infection urease breath test becomes negative)

Urease breath test detects H. pylon infection by 'bacterial urease activity' and remains positive till the bacteria has not been eradicated with treatment. Thus urease breath test becomes negative only after eradication of organism following treatment and not with chronic Mfection.

- Despite a substantial humoral antibody response infection persists indefinitely (persists life long if untreated)
- Invasive diagnostic test are based on Endoscopic, endoscopy is a diagnostic application.
- H. pylori produces several virulence factors that have been implicated in the damage of mucosa.

88. All statements are true about mycetoma except:

a) Eumycetoma is caused by bacteria

b) Surgery is important component of treatment

c) Usually painless

d) Diagnosis can be made by examination of lesion

e) Can affect lower & upper extremities

Correct Answer - A

Ans: a. Eumycetoma...*[Ref Ananthanarayan 8th/393, 608: Harrison 19th/1355, 18th/258, 1667, 1329, e34-16f; Neena khana lst/228; Greenwood 16th/223-224, 578]*

- Treatment of eumycetoma involves both surgical extirpation of the lesion and use of antifungal agents. Surgical removal of the lesions of eumycetoma is most effective if performed before extensive spread has occurred.
- Mycetoma or Madura Mycosis or Madura Foot: Mycetomas are chronic, slowly progressive infections of the subcutaneous tissue, usually of the foot^{S} & rarely of the other parts of the body like hands^{Q}, gluteal region & thigh.
- Maduromycosis (also known as eumycetoma) is the term used to describe mycetoma caused by the true fungi and by phylogenetically diverse organisms.Actinomycotic mycetoma is caused by Nocardia and Actinomadura species.

89. Stain used for Mycobacterium tuberculosis is/are:

a) Ziehl-Neelsen technique of staining

b) Auramine-rhodamine stain

c) Gomori methenamine silver stain

d) Kinyoun stain

e) Gram staining

Correct Answer - A:B:D

Ans: a. Ziehl-Neelsen techni..., b. Auramine-rhodamine sta..., d. Kinyoun stain

[Ref Harrison 19th/1113; Ananthanarayan 9th/346-48; Lippincott Microbiology 3rd/ 21; Jawetz 27th/38; Text Book of Diagnostic microbiology by Connie R. Mohan 3rd/691;Greenwood 16th/15]

- When stained with carbol fuchsin by Ziehl-Neelsen method or by fluorescent dyes(Auramine 0, Rhodamine), mycobacterium tuberculosis reist decolourisation by 20% sulphuric acid & are therefore called acid fast.
- Ziehl-Neelsen method d phenol-auramine procedures are methods of great practical importance in the diagnosis of mycobacterial diseases" .
- The Kinyoun method, or Kinyoun stain, is an acid-fast procedure used to stain any species of the genus Mycobacterium and Nocardia species. It involves the application of a primary stain (carbol fuchsin), a decolorizer (acid-alcohol), and a counter stain (methylene blue)"

90. True about non-industrial anthrax:

a) May occur in butcher

b) Animal hair is a source of infection

c) Commonly occurs in factory worker

d) Stomoxys calcitrans insect may transmit the infection

e) It is a zoonosis

Correct Answer - A:B:D:E

Ans: (A) May occur in butcher, (B) Animal hair is a source of infection, (D) Stomoxys calcitrans insect may transmit the infection, (E) It is a zoonosis,

[Ref Ananthanarayan 8th/245: Greenwood Microbiology 16th/225-29; Harrison 19th/261e1-3, 18th/1768-70]

- Cutaneous anthrax generally occurs on exposed surfaces of the arms or hands, followed in frequency by the face and neck. A pruritic papule develops 1-7 days after entry of the organisms or spores through a scratch.
- Cutaneous anthrax used to be caused by shaving brushes made with animal hair
- Stomoxys calcitrans & other bitings insects may occasionally transmit infection mechanically

91. Zoonotic diseases are -

a) Salmonellosis

b) Plague

c) Anthrax

d) All

e) None

Correct Answer - D
Ans.(D) All

92. All of the following is/are true regarding candidiasis:

a) Commonly involve mucosa & skin

b) Not involve nails

c) Caused by yeast like fungus

d) Diabetes is most important risk factor

e) Causes meningitis in immunocompromised persons

Correct Answer - B

Ans: (B) Not involve nails.*[Ref Ananthanarayan 8th/607-08: Harrison 19th/1342-44, 18th/165153]*

- It is an infection of skin, mucosa & rarely of internal organs
- It is caused by yeast like fungus, Candida albicans & occasionally by other candida species
- Ubiquitous in nature, these organisms are found on inanimate objects, in foods, and on animals and are normal commensals of humans. They inhabit the gastrointestinal tract (including the mouth and oropharynx), the female genital tract, and the skin.
- It is an opportunistic endogenous infection, the commonest predisposing factor being diabetes.

93. Feature (s) of Taenia capitis is/are all except:

a) May presents as a boggy swelling

b) Most commonly occurs in elderly

c) May present as black dot

d) Caused by trichophyton & microsporum but not by epidermophyton

e) Scutulum formation

Correct Answer - B

Ans: (B) Most commonly occurs in elderly.*[Ref Neena khanna 3rd/244; Ananthanarayan 8th/604-06: Greenwood 16th/574]*

- T.capitis: Caused by microsporum any species cf. Trichophyton most species-Ananthanarayan 8th/606, Tinea capitis is dermatophytosis or ringworm of the scalp and hair. Age: Invariably a child.
- the chief cause of "black dot" Tinea capitis, produces spores within the hair shaft (endothrix). These hairs do not fluoresce; they are weakened and typically break easily at the follicular opening. In prepubescent children, epidemic tinea capitis is usually self-limiting.

94. Which of the following is/are true about pasteurerlla multiocuda:

a) May cause meningitis

b) Transmitted by unpasteurized milk

c) Cause disease exclusively in human

d) Gram-negative coccobacillus

e) None

Correct Answer - A:D

Ans: (A) May cause meningitis & (D) Gram-negative coccobacillus [Ref Ananthanarayan 8th/326: Greenwood Microbiology 16th/334- 35;Park 23rd/655;Harrison 19th/183e-3, 18th/12351

- P. multocida is a bipolar-staining, gram-negative coccobacillus that colonizes the respiratory and gastrointestinal tracts of domestic animals; oropharyngeal colonization rates are 70-90% in cats and 50-65% in dogs.
- Patients at the extremes of age or with serious underlying disorders (e.g., cirrhosis, diabetes) are at increased risk for systemic manifestations, including meningitis, peritonitis, osteomyelitis and septic arthritis, endocarditis, and septic shock, but cases have also occurred in healthy individuals.
- P multocida can be transmitted to humans through bites or scratches, via the respiratory tract from contact with contaminated dust or infectious droplets, or via deposition of the organism on injured skin or mucosal surfaces during licking.

95. Which of the following has incubation period of < 5 day:

a) Salmonella typhi

b) Vibrio parahaemolyticus

c) Campylobacter jejuni

d) Shigella dyseneteriae

e) Yersinia pestis

Correct Answer - B:C:D:E

Ans: b. Vibrio c. Campylobacter d. Shigella and e. Yersinia… [Ref Ananthanarayan 8th/293, 299, 506, 312; Harrison 18th/1294; Greenwood 16th/300;]

- Vibrio parahaemolyticus: After an incubation period of 4 hr to 4 days, symptoms develop & persists for a median period of 3 days" (Harrison 18th/1294)
- "Shigellae cause bacillary dysentery. It has a short incubation period (1-7 days, usually 48 hours)' (Ananthanarayan 8th/285)
  "Campylobacter jejuni: The incubation period is 1-7 days"?
- Ananthanarayan 8th/398
- "Enteric fever (Salmonella typhi): The incubation period is usually 7-14 days but may range 3-56 days" (Ananthanarayan 8th/293)
- "Salmonella gastroenteritis (caused by any salmonella other than s.typhi): Clinically the disease develops after short incubation period of 24 hours or less, with diarrhea, vomiting, abdominal pain & fever".

96. Verruga peruana is caused by:

a) B. Bacilliformis

b) B.Henselae

c) B.Quintana

d) B.Elizabethae

e) B. Grahamil

Correct Answer - A

Ans: (A) B bacilliformis..*[Ref Ananthanarayan 8th/411-12: Harrison 19th/1083, 1079, 18th/ 13191*

- 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" (Harrison 19th/1083,18th/1319)
- Verruga Peruana or Peruvian Wart: It is characterized by an eruptive phase, in which the patients develop a cutaneous rash produced by a proliferation of endothelial cells and is known as "Peruvian warts" or "verruga peruana".

97. True about staphylococcus aureus -

a) Micro aerophilic

b) Produce lemon yellow colonies

c) Grows with 10% Nacl

d) All are true

e) None

Correct Answer - C

Ans. is 'c' i.e., Grows with 10% Nacl *[Ref: Ananthanarayan 9th Ie p. 199-202]*S

- staphylococcus is facultative anaerobe. Optimum pH for growth is 7·4 - 7-6 and optimum temperature is 37°C.
- Staph aureus produces golden yellow pigment, which is maximum at 22°C.
- Most of the staphylococcus species grow in the presence of 10% NaCl.
- On nutrient agar slope there is characteristic Oil paint appearance. For primary isolation, sheep blood agar is recommended. Human blood should not be used at it may contain antibodies or other inhibitors
- Staph aureus → Golden yellow colonies
- Staph epidermidis (also called staph albus) → White colonies
- Staph citrus → Lemon yellow colonies

98. Which of the following viral exanthema combination is/are correct except:

a) Varicella-no relation of rash with fever

b) Rubella-palatal petechiae may occur

c) Roseola -rash appear after fever subsides

d) Measles-rash occurs behind the ears along hair line

e) Chickenpox-pleomorphic rashes occur

Correct Answer - A

Ans: a. Varicella-no relation of rash with fever.*[Ref Park 23rd/144-145, 148:* 0. *Ghai 7th/185; Harrison 19th/1194, 18th/149, 153]*

- Varicella (Chickenpox): A characteristic feature of rash is its peomorphism i.e, all stage of rash (papules, vesicles & crusts) may be seen simultaneously at one time, in the same area. Temperature rise with each fresh crop of rash" (Park 23rd/144-45) "Exanthem subitum (roseola) is caused by human herpes virus 6 and is most common among children

99. Which of the following act is/are passed after independence:

a) ESI act

b) Factory act

c) MTP act

d) Epidemic disease act

e) SARDA act

Correct Answer - A:B:C

Ans: (A) ESI act (B) Factory act (C) MTP act

- The prohibition of child marriage act, 2006 (PCMA) was enacted repealing the child marriage restraint act of 1929 in order to prohibit child marriage rather than only restraining them" (Park 23rd/589, 21st/542)
- "ESI act passed in 1948 (amended 1975, 1984 & 1989" (Park 23rd/815, 21st/756)
- "Indian factories act passed in 1948" (Park 23rd/815, 21st/542)
- "Medical termination of pregnancy act was passed in 1971" (Park 23rd/506, 21st/468)

100. Which of the following is/are true about leprosy:

a) Positive skin smear at any site is considered multibacillary leprosy

b) Grenz zone is seen in lepromatous spectrum

c) It is eradicated from India in 2000

d) 12 month of MDT is recommended for multibacillary leprosy

e) Multidrug therapy is given

Correct Answer - A:B:D:E

Ans: (A) Positive skin smear at any site is considered multibacillary leprosy (B) Grenz zone is seen in lepromatous spectrum (D) 12 month of MDT is recommended for multibacillary leprosy (E) Multidrug therapy is given

- "Grenz zone occur in lepromatous leprosy" (Neena Khanna 3rd/227)
- "Multibacillary leprosy: with 6 skin lesions, as well as all smear positive cases" (KDT 7th/783)
- "There is no place for monotherapy in treatment of leprosy"-(Neena Khanna 3rd/229)
- "Slit skin smear: All patients who are AFB positive should be given multi bacillary treatment, irrespective of the clinical presentation" (Neena Khanna 3rd/227)
- 33 state/UT we have achieved elimination level (prevalence rate <1 per 10, 000 population). Only 3 states/UT viz. Bihar, Chattisgarh er D er N Haveli has PR of 2-4 per 10, 000 population" (Park 23rd/316)
- "Paucibacillary leprosy: A person having 1-5 skin lesions eWor only one nerve involvement" (Park 2Ist/292)

- "Multibacillary leprosy: A person having 6 or more skin lesions d-/or more than one nerve involvement"

101. Which of the following is/are features of septic tank:

a) Minimum capacity should be 500 gallons

b) Water tight seal

c) Recommended for large communities

d) Seeded with ripe sludge drawn from another septic tank

e) Anaerobic process takes place

Correct Answer - A:B:D:E

Ans: a. Minimum capacity should be 500 gallons b. Water tight seal d. Seeded with ripe sludge drawn from another septic tank e. Anaerobic process takes place*[Ref Park 23rd/760, 21st/701]*

- The septic tank is water-tight masonry tank into which household sewage is admitted for treatment .
- Capacity: The capacity of a septic tank will depend upon the number of users. A capacity of 20-30 gallons or 2.5 -5 c.ft. per person is recommended for household septic tanks. The minimum capacity of a septic tank should be at least 500 gallons
- Septic tanks are not recommended for large communities
- Air space: There should be a minimum air space of 30 cm b/w the level of liquid in the tank & the undersurface of the cover
- Retention period: Septic tanks are designed in this country to allow a retention period of 24 hours

102. True about Standard deviation:

a) 1 SD covers 95% population

b) Normal standard deviate deviation from the mean in a normal distribution

c) Represent measurement of dispersions

d) It is better indicator of variability than range

e) None

Correct Answer - B:C:D

Ans: b. Normal standard deviate deviation from the mean in a normal distribution c. Represent measurement of dispersions d. It is better indicator of variability than range*[Ref Park 23rd/847-49, 21st/786;Biostatistics by BK Rao 2nd/54; Methods in Biostatistics by BK Mahajan 7th/57, 60-68; Basic* eb, *clinical Biostatisties 4th/30]*

- Deviation from the mean in a normal distribution or curve is called relative or standard normal deviate or variate & is given the symbol Z. It is measured in term of SDs & indicates how much an observation is bigger or smaller than mean in unit of SD. So Z will be a ratio.
- The standard distribution curve (Normal distribution) is a perfectly symmetrical, bell shaped curve such that the mean, median and mode, all have the same value and coincide at the centre, Standard Distribution Curve (Normal)Q: Mean = Median = Mode

103. Wild polio is still endemic in:

a) India

b) Pakistaan

c) Afganistan

d) Bangladesh

e) Nigeria

Correct Answer - B:C:E

Ans: b.Pakistaan, c. Afganistan, e. Nigeria *[Ref Park 23rd/203, 21st/182 I*

- Till 2011, polio was endemic in 4 countries-Pakistan, Afghanistan, India & Nigeria (Mnemonic-PAIN). But in 2014, only 3 countries (Afghanistan, Nigeria and Pakistan; Mnemonic-PAN) remain polio-endemic, down from more than 125 countries in 1988.
- Completing three full years without reporting any case of polio, India celebrated a landmark achievement in public health on 11 February 2014 – the victory over polio. India has not reported any case of polio since a two-year old girl got polio paralysis on 13 January 2011 in Howrah district of West Bengal.

104. True about census in India:

a) First census conducted in 1851

b) Director General of Health Services of India (DGHS) is supreme officer for conducting census

c) Literacy rate is also included in census

d) Conducted in accordance to Census act, 1948

e) Conducted in Mid year

Correct Answer - C:D

Ans: c. Literacy ..., d. Conducted...*(Ref: Park 23rd/840]*

- The first regular census in India was taken in 1881 & conducted at regular interval of 10 year.
- The census is usually conducted at the end of the first quarter of the first year in each decade, the reason being, most people are usually resident in their own homes during that period
- The legal basis of the census is provided by the census act of 1948
- The supreme officer who directs, guides & operates the census is the Census Commissioner for India
- Apart from demographic information, economic & social characteristic of population are also included in census (including literacy rate)

105. Which of the following carcinoma is caused by asbestos:

a) Mesothelioma

b) Bronchial carcinoma

c) Laryngeal carcinoma

d) Breast cancer

e) None

Correct Answer - A:B:C

Ans: a. Mesothelioma b. Bronchial carcinoma c. Laryngeal carcinoma ***[Ref Park 23rd/807, 2Ist/748; Robbins 9th/690-91; Harrison 19th/168889; Chapman 4th /536]***

- "Mesothelioma have a strong association with crocidolite variety of asbestos"
- Carcinoma bronchus & Lung (squamous cell or adenocarcinoma) Q
- Pleural and peritoneal mesotheliomae
- Gastrointestinal carcinoma (colon cancer)
- Laryngeal carcinoma
- Lung cancer^{Q} is the most frequent cancer associated with asbestos exposure.
- The excess frequency of lung cancer (all histologic types) in asbestos workers is associated with a minimum latency of 15-19 years between first exposure and development of the disease.

106. True about croup:

a) Caused by H.influenzae

b) X-ray PA view shows steeple sign of subglottic narrowing

c) Stridor is present

d) Supraglottic edema is present

e) Commonly present in 6 month-3 year age group

Correct Answer - A:B:C:E

Answer- (A) Caused by H.influenzae (B) X-ray PA view shows steeple sign of subglottic narrowing (C) Stridor is present (E) Commonly present in 6 month-3 year age group

Croup (Laryngotracheobronchitis)

Laryngotracheobronchitis is the most common infectious cause of obstruction in children usually occurring between the ages of 6 months and 3 years.

Male children (boys) are characteristically more frequently involved than females (girls)

Etiology

- It is a viral infection most frequently caused by Parainfluenza virus.

Pathology

- The most characteristic pathological feature is edema formation in the subglottic area.

Presentation

- Gradual onset with a prodrome of upper respiratory symptoms
- Hoarseness and barking cough (croupy cough)
- Stridor (initially inspiratory than biphasic)
- Fever is usually low grade (or absent) although may occasionally be high grade

- Droolings is characteristically absent and there is no dysphagia (seen in epiglottitis)
- Imaging (X ray)
- Symmetric 'steeple' or 'funnel shaped' narrowing of the subglottic region (steeple sign)
- Hypopharyngeal widening or distension
- Normal epiglottis and aryepiglottic folds

107. True about Mobius syndrome:

a) 10th CN involvement

b) 7th CN involvement

c) Abduction defect

d) Esotropia

e) 6th CN involvement

Correct Answer - B:C:D:E
Answer- (B) 7th CN involvement (C) Abduction defect (D) Esotropia (E) 6th CN involvement
"It is characterized by bilateral facial weakens (i.e VII CN), which is often associated with abducens nerve paralysis (i.e. VI CN)
Facial palsy is commonly bilateral, frequently asymmetric.
Ectropion, epiphora, and exposure keratopathy may develop.
The abduction defect may be unilateral or bilateral.
The cranial nerves V and VIII are affected.
Esotropia is common.
Surgical correction of the esotropia is indicated

108. All are true about nasopharyngeal fibroma except:

a) Most common age of presentation is 20-50 yr

b) Radioresistant tumour

c) Highly vascular

d) Benign in nature

e) Surgery is treatment of choice

Correct Answer - A:B

Answer- (A) Most common age of presentation is 20-50 yr
(B) Radioresistant tumour

It is a rare tumour, though it is the commonest of all benign tumours of nasopharynx
It is locally invasive & destroys the adjoining structures
Tumour is seen almost exclusively in males in age group of 10-20 years.
Rarely, it maybe seen in older people & females
Most common presentation: profuse 6 recurrent epistaxis
It is made up of vascular & fibrous tissue. Mostly, the vessels are just endothelium-lined spaces with no muscle coat
Surgical excision is now the treatment of choice
Radiotherapy has been used as a primary mode of treatment

109. Which of the following feature (s) of rhinoscleroma is/are true except:

a) Atrophy of nasal mucosa

b) Caused by fungus

c) Treatment by antifungal drug

d) Caused by bacteria

e) Causative organism may be cultured from biopsy material

Correct Answer - B:C

Answer- (B) Caused by fungus (C) Treatment by antifungal drug

Rhinoscleroma is a rare, slowly progressing granulomatous disease of the upper respiratory tract caused by Klebsiella rhinoscleromatis.

Nasal disease presents with three typical stages: (1) catarrhal (2) proliferative (3) cicatrical.

Rhinoscleroma may be found in all age groups, but typically young adults 20–30 years old are most frequently affected.

Airborne transmission combined with poor hygiene, crowded living conditions, and poor nutrition contributes to its spread.

Both streptomycin & tetracycline are given together

110. True about choanal atresia:

a) Unilateral atresia should be operated within 6 month of age

b) Occur d/t persistence of bucconasal membrane

c) B/1 atresia usually presents with respiratory difficulties

d) Bilateral atresia may cause cyanosis

e) Diagnosed by failure to pass a catheter from nose to pharynx

Correct Answer - B:C:D:E

Answer- (B) Occur d/t persistence of bucconasal membrane (C) B/1 atresia usually presents with respiratory difficulties (D) Bilateral atresia may cause cyanosis (E) Diagnosed by failure to pass a catheter from nose to pharynx

Choanal atresia is an abnormality of canalization during development of the nasal passages.

It involves bone and/or soft tissue and may result in either partial (choanal stenosis) or complete obstruction of the posterior nasal airway.

The most widely accepted mechanism for the development of choanal atresia is the persistence of the bucconasal membrane beyond the sixth week of gestation.

Choanal atresia is associated with CHARGE syndrome: Coloboma of eye, Heart defects, Choanal Atresia, Retarded growth, Genital defects and Ear defects.

B/L atresia Presents with respiratory obstruction as the newborn later develops cyanosis.

Operative correction of unilateral obstruction may be differed for several years.

111. Which of the following is true regarding mandibular fracture:

a) Inferior alveolar nerve damage may occur

b) Panorex radiograph is very helpful in management

c) Ramus is the most common site of fracture

d) Condylar fracture heals spontaneously & require no active intervention

e) Condylar fracture is most common site

Correct Answer - A:B:E

Answer- (A) Inferior alveolar nerve damage may occur
(B) Panorex radiograph is very helpful in management
(E) Condylar fracture is most common site

Condylar process fractures of the mandible are most common.

Clinical features

- Pain, Swelling, Deformity with trismus or malocclusion of teeth.
- Many Patients with mandibular fractures experience trauma to the inferior alveolar nerve.

Treatment:

- The fracture is reduced and fixed by:
- Closed reduction or Open reduction.

112. Complication of modified radical mastoidectomy include (s):

a) Conductive hearing loss

b) Facial nerve injury

c) Change in taste sensation

d) Sensory hearing loss

e) All

Correct Answer - E
Answer- E. All
Facial paralysis
Perichondritis of pinna
Injury to dura or sigmoid sinus
Labyrinthitis, if stapes gets disclosed
Severe conductive deafness of 50 dB or more. This is due to removal of all ossicla & tympanic membnne
Cavity problems

113. True about Ethmoidal sinus:

a) Fully developed by 25 yr

b) Consists of 3-18 sinus on each side

c) Absent at birth

d) Lamina papyracea separate from orbit

e) Anterior ethmodal group cells-open into superior meatus

Correct Answer - B:D

Answer- (B) Consists of 3-18 sinus on each side (D) Lamina papyracea separate from orbit

Ethmoidal cells are divided into anterior ethmoidal group which apeas into the middle meatus & posterior ethmoidal group.

Present at birth

Reach adult size by 12 years

Their number varies from 3 to 18

The thin paper like lamina of bone (lamina papyracea) separating air cells from the orbit.

114. Which of the following statement (s) is/are true about labyrinthitis:

a) Initially quick component of nystagmus occur toward diseased ear but in later stage shift toward healthy ear

b) May occur as a complication of chronic suppurative ottitis media

c) Resolve spontaneously in 1-6 wk

d) Medical treatment alone is sufficient

e) Vertigo may be present

Correct Answer - A:B:E

Answer- (A) Initially quick component of nystagmus occur toward diseased ear but in later stage shift toward healthy ear (B) May occur as a complication of chronic suppurative ottitis media (E) Vertigo may be present

This is a common complication of otitis media.

There are three typesr

- Circumscribed (fistula of labyrinth)
- Diffuse serous &
- Diffuse suppurative labyrinthitis
  Mild case complain of vertigo & nausea.
- Surgical treatment includes: Myringotomy

115. Not self retaining hand held retractor (s) is/are:

a) Mollison's mastoid retractor

b) Jansen's mastoid retractor

c) Lempert's endaural retractor

d) Davis Retractor

e) All

Correct Answer - D

Answer- D. Davis Retractor

These retractors do not need an assistant to hold them in place.
It hold tissue apart and lock it in place.

Hand held retractor-

- Hohmann Retractor
- Lahey Retractor
- Senn Retractor
- Blair (Rollet) Retractor
- Rigid Rake
- Flexible Rake
- Ragnell Retractor
- Linde-Ragnell Retractor
- Davis Retractor

116. Lateral wall of orbit is/are formed by:

a) Lesser wing of sphenoid

b) Frontal process of zygomatic bone

c) Greater wing of sphenoid

d) Lacrimal bone

e) Maxilla

Correct Answer - B:C

Answer- (B) Frontal process of zygomatic bone (C) Greater wing of sphenoid

The lateral wall is the thickest wall of the orbit, important because it is the most exposed surface, highly vulnerable to blunt force trauma.

Anterior surface of greater wing of sphenoid

Orbital surface of frontal process of zygomatic bone

117. True about Leber optic neuropathy:

a) X-linked disease

b) Primarily affects male

c) Disc become pale & atrophic

d) Transmitted from mother to child

e) Mitochondrial inheritance

Correct Answer - B:C:D:E

Answer- (B) Primarily affects male (C) Disc become pale & atrophic (D) Transmitted from mother to child (E) Mitochondrial inheritance

Leber's hereditary optic neuropathy is characterized by sequential subacute optic neuropathy in males aged 11-30 years.

The underlying genetic abnormality is a point mutation in mitochondrial DNA.

Since mitochondrial DNA is exclusively derived from mother.

It is characterizeed by bilateral, painless, subacute visual failure that develops during young adult life.

They develop blurring affecting the central visual field of one eye.

Visual loss is bilateral at onset.

Later in atrophic phase, disc becomes atrophic and pale.

118. Risk factor for cystoid macular edema include (s) all except:

a) Hypertensive retinopathy

b) Vitreous loss

c) Diabetes mellitus

d) Cataract surgery is an important cause

e) Lower incidence with intracapsular cataract extraction than extracapsular cataract extraction

Correct Answer - E

Answer- E. Lower incidence with intracapsular cataract extraction than extracapsular cataract extraction

Causes of macular edema are-

- Metabolic alteration: - Diabetes, retinitis pigmentosa , Inherited cystoid macular edema (CME).
- Ischemia; - CRVO, Diabetic retinopathy, severe hypertensive retinopathy, HELLP syndrome, vasculitis.
- Mechanical force : - Vitreous traction on the macula.
- Inflammation : - Intermediate uveitis, Post-operative CME, choroidal inflammatory diseases.
- Pharmacotoxicity: - Epinephrine (in Aphakia), Betaxolal, Latanoprost.

119. All are true about congenital ptosis except

a) Stimulus deprivation amblyopia may occur if treatment is delayed

b) Lid lag on downgaze

c) Prominence of lid crease

d) Loss of lid crease

e) Associated with weakness of the levator palpebrae superioris

Correct Answer - C

Answer- C. Prominence of lid crease

- Ptosis is drooping ofupper eyelid.
- Congenital myogenis ptosis-
- It is the most common type of ptosis.
- Associated with congenital weakness of levator palpebrae sperioris.
- Characterised by drooping of eye lids with absent lid crese and lid lag on downgaze.

120. Feature (s) of Infantile glaucoma is/are except:

a) Aniridia may be associated

b) Treatment includes trabeculotomy

c) Buphthalmos can occur

d) Cornea is thin & clear

e) May be associated with Sturge-weber syndrome

Correct Answer - B

Answer- B. Treatment includes trabeculotomy

Congenital ptosis is usually a result of a localized dystrophy of the levator muscle in which the striated muscle fibers
are replaced with fibrous tissue.
The lid crease is decreased or absent.
Amblyopia may occur in children with ptosis.
If a droopy eyelid is present at birth or within the first year of life, the condition is called congenital ptosis.
It is associated with congenital weakens (maldevelopment) of the levator palpebrae superioris (LPS).
Treatment includes trabeculotomy.

121. True about Arcus senilis:

a) Fatty infiltration

b) Axial corneal degeneration

c) Deposition occur in stroma of peripheral cornea

d) Amyloid deposit

e) Involve limbus

Correct Answer - A:C
Answer- (A) Fatty infiltration (C) Deposition occur in stroma of peripheral cornea
It refers to an an ndar lipid infiltration of corneal periphery.
Affects elderly patients.
The areas of the cornea & sclera near the limbus & perivascular areas ofthe sclera are never involved
Lipid accumulation is found in the peripheral corneal stroma.

122. True about moderate flare uveitis:

a) Categorised as grade 1+

b) Categorised as grade 2+

c) Categorised as grade 3+

d) Hazy cornea

e) Clear iris detail

Correct Answer - B:E

Answer- (B) Categorised as grade 2+ (E) Clear iris detail

It is due to leakage of protein particles into the aqueous humour from damaged blood vessels.

The flare is graded from '0' to +4 -

- 0- no aqueous flare
- +1 just detectable
- +2 moderate flare with clear iris details
- +3 marked flare
- +4 intense flare

123. Ectopia lentis is/are associated with:

a) Homocystinuria

b) Alport syndrome

c) Lowe syndrome

d) Marfan syndrome

e) Sulphite oxidase deficiency

Correct Answer - A:D:E

Answer- (A) Homocystinuria (D) Marfan syndrome (E) Sulphite oxidase deficiency

- Marfan syndrome
- Homocystinuria
- Weil-Marchesani syndrome
- Sulfite oxidase deficiency
- Hyperlysinemia

124. Feature (s) of TICT include:

a) Constricted pupil

b) Tachycardia

c) Bradycardia

d) Hypertension

e) Respiratory depression

Correct Answer - C:D:E

Answer- (C) Bradycardia (D) Hypertension (E) Respiratory depression

Blood pressure elevation accompanied by bradycardia and respiratory slowing classically results from raised intracranial pressure.

Loss ofthe normal autoregulation of blood pressure and pulse, called the Cushings reflex is a hallmark of severe brain injury or imminent crisis.

Anisocoria, unequal pupil size, is another sign of serious traumatic brain injury.

125. Which of the following is/are true regarding Asthma & COPD:

a) COPD shows less reversibility to bronchodilators while asthma shows significant improvement

b) Asthma has a gradual progression of dyspnea on exertion, punctuated by acute exacerbations of shortness of breath. while most COPD patients have normal breathing the majority of the time

c) COPD patients may have acute exaberations while asthmatic patients have recurrent episode

d) Steroid therapy is more beneficial to asthma patients than COPD patients

e) Neutrophils have primary a role in pathogenesis of asthma & eosinophils have primary role in COPD

Correct Answer - A:C:D

Answer- (A) COPD shows less reversibility to bronchodilators while asthma shows significant improvement (C) COPD patients may have acute exaberations while asthmatic patients have recurrent episode (D) Steroid therapy is more beneficial to asthma patients than COPD patients

Patients with COPD has a gradual progression of dyspnea on exertion, punctuated by acute exacerbations of shortness of breath. Most asthmatics have normal breathing with recurrent episodes of dyspnea due to triggering factor.

COPD is seen specifically in smokers.

Asthmatics often show an acute response to inhaled bronchodilators.

bronchodilators.

COPD is generally not responsive to oral corticosteroid therapy.
Inhaled corticosteroids are one of the most effective ways of controlling asthma.
Eosinophilic infiltration is a characteristic feature of asthmatic airway.
In COPD there is macrophage activation & neutrophil recruitment in airway.

126. Which of the following is/are true about Subarachnoid Hemorrhage (SAH):

a) Saccular aneurysm is most common cause of SAH after head trauma

b) Severe headache may present

c) CT angiography help in localizing aneurysm

d) CT scan is investigation of choice for acute SAH

e) Digital subtraction angiography is better than CT angiography for SAH

Correct Answer - B:C:D

Answer- (B) Severe headache may present (C) CT angiography help in localizing aneurysm (D) CT scan is investigation of choice for acute SAH

Sudden loss of consciousness may be preceded by a brief moment of excraciating headache.

The hallmark of aneurysmal rupture is blood in the CSF.

Cases have enough blood to be visualized on a high quality non contrast CT scan & bind within 72 hrs.

A lumbar puncture should b performed to establish the presence of subarachnoid blood.

127. Feature of Granulomatosis with polyangiitis:

a) Nasal polyp

b) Perforated Nasal septum

c) Persistant sinus

d) Crusting of nasal mucosa

e) Collapse of nasal bridge

Correct Answer - B:C:D

Answer- (B) Perforated Nasal septum (C) Persistant sinus (D) Crusting of nasal mucosa

Granulomatosis with polyangiitis (Wegener) is a distinct clinicopathologic entity characterized by granulomatous vasculitis of the upper and lower respiratory tracts together with glomerulonephritis.

Disseminated vasculitis involving both small arteries and veins may occur.

Nasal findings include crusting granulations, septal perforation & a saddle nose

Destruction of the septum with a characteristic implosion of the nasal bridge.

128. All are true about renal artery stenosis except:

a) ACE inhibitors can be used in bilateral renal artery stenosis

b) ACE inhibitors can be used in unilateral renal artery stenosis

c) ACE inhibitors are best drug to control DM associated hypertension

d) Excision & Grafting is treatment of choice

e) Angioplasty with or without stenting, and surgical bypass used only in refractory cases

Correct Answer - A:D

Answer- (A) ACE inhibitors can be used in bilateral renal artery stenosis (D) Excision & Grafting is treatment of choice

ACE inhibitors are contraindicated in bilateral renal artery stenosis.

ACE inhibitors are useful in renovascular hypertension.

ARF is precipitated by ACE inhibitors in patients with b/l renal stenosis

Atherosclerotic is chemic renal disease accounts for nearly all cases of renal artery stenosis.

Renal angiography is the gold standard for diagnosis.

129. ECG change (s) in pulmonary embolism may includes:

a) ST elevation in VI & aVR

b) T wave inversion in VI to V4

c) S1Q3T3 pattern

d) Left axis deviation

e) Right bundle branch block

Correct Answer - A:B:C:E

Answer- (A) ST elevation in VI & aVR (B) T wave inversion in VI to V4 (C) S1Q3T3 pattern (E) Right bundle branch block

Sinus tachycardia is the most frequent and nonspecific finding on electrocardiography in acute pulmonary embolism.

Features suggesting acute right heart strain on the ECG occur relatively infrequently, these include.

Acute right axis deviation

P pulmonale

Right bundle branch block

Inverted T waves

ST segment changes in right sided leads.

Earlier the following E.C.G. changes were considered highly predictive of acute pulmonary embolism, but these observations were found in less than 12% of patients with pulmonary emboli in recent studies.

These E.C.G. features are -

- S wave in lead I
- Q wave in lead III

- Inverted Tin lead III (S1Q31.3)
- S waves in lead I, II and III ("S1,S2 S3)

130. A patient has short h/o increased jugular venous pressure, weak peripheral pulse & low B.P. Likely condition (s) may be:

a) Tension pneumothorax

b) Venous gas embolism

c) Pulmonary embolism

d) Cardiac temponade

e) Septic shock

Correct Answer - A:B:C:D

Answer- (A) Tension pneumothorax (B) Venous gas embolism (C) Pulmonary embolism (D) Cardiac temponade

"Septic shock has low CVP with high cardiac output.

Venous gas embolism: It can cause acute cor pulmonale & cardiovascular collapse.

Tension pneumothorax: There is decreased venous return to the heart dt cardiac output falls leading to hypotension.

Cardiac temponade (Pericardial effusion) should be considered in any patient with hypotension, low volume pulse & raised lVP.

131. True about insulinoma:

a) Encapsulated

b) Mostly multiple

c) Associated with MEN-I

d) Enucleation is the treatment of choice for benign tumour

e) Histology similar to normal (3-cells

Correct Answer - A:C:D:E

Answer- (A) Encapsulated (C) Associated with MEN-I
(D) Enucleation is the treatment of choice for benign tumour
(E) Histology similar to normal (3-cells

- Insulinoma is usually solitary and well encapsulated tumour
- 10% are multiple (always associated with MEN 1) and 10% are malignant.
- Microscopically, the tumour is composed of cords and sheet of well-dffirentiated Beta-cells which do not differ from normal cells.
- Enucleationis the treatment of choice for benign insulinomas.

132. Which of the following is true regarding pseudobulbar palsy:

a) Dysphagia

b) Jaw jerk brisk

c) Absent gag reflex

d) Tongue fasciculation present

e) Plantar reflex is extensor

Correct Answer - A:B:E
Answer- (A) Dysphagia (B) Jaw jerk brisk (E) Plantar reflex is extensor
Dysarthria
Dysphagia
Gag reflex
Jaw jerk hyperactive
Emotional lability
Intellectual impairment

133. A patient presented with high pH, low arterial CO2 & low plasma HCO3-level. Which of the following statement is true regarding the presentation & various causes:

a) Compensated respiratory alkalosis

b) Chronic renal failure

c) Persistent vomiting

d) Cerebro-vascular accident

e) Hepatic failure

Correct Answer - A:D:E
Answer- (A) Compensated respiratory alkalosis (D) Cerebro-vascular accident (E) Hepatic failure
High pH means-alkalosis
Decrease CO, means respiratory alkalosis
Low HCO3- level means metabolic acidosis
Therefore it is a case of respiratory alkalosis with metabolic acidosis (Compensated respiratory alkalosis)

134. Which of the following is true about treatment of asthma:

a) Long acting P2 agonist for acute attack

b) Long acting 32 agonist for long term treatment

c) Short acting (32 agonist for acute attack

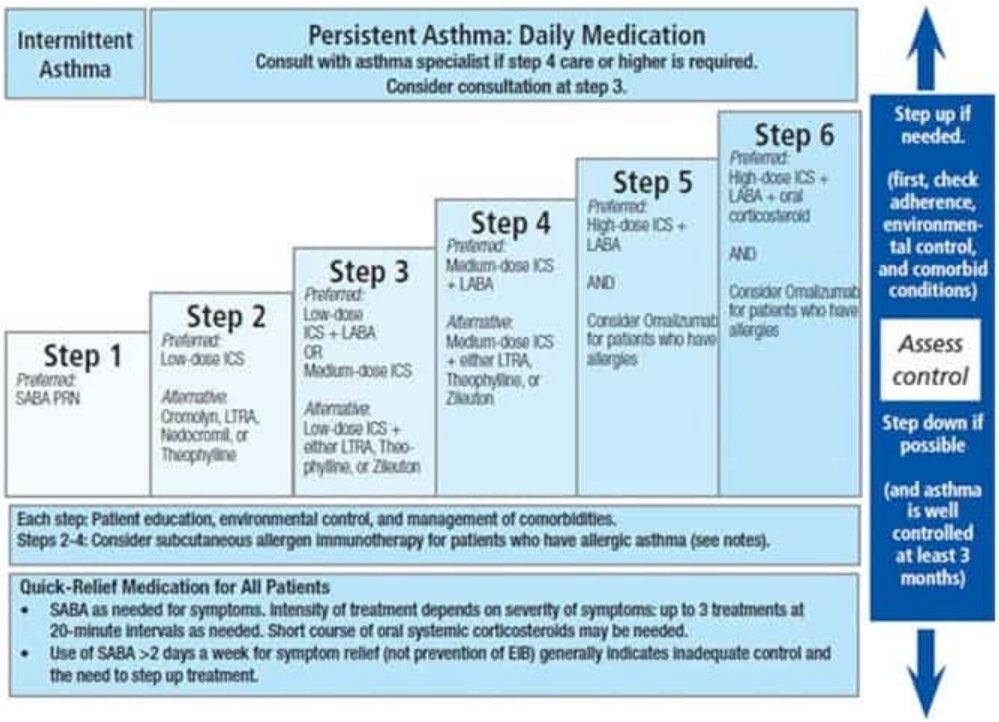
d) I.V Steroid for severe asthma exacerbation

e) Inhaled steroid for persistent asthma

Correct Answer - B:C:D:E

Answer- (B) Long acting 32 agonist for long term treatment (C) Short acting (32 agonist for acute attack (D) I.V Steroid for severe asthma exacerbation (E) Inhaled steroid for persistent asthma

Oral corticosteroids should generally be prescribed for early administration at home in patients with moderate to severe asthma



NAEPP 3 recommendations emphasize daily anti-inflammatory therapy with inhaled corticosteroids as the cornerstone of treatment of persistent asthma.

135. Side-effect (s) of inhalational steroid is/are all except:

a) Adrenal suppression

b) Cataract

c) Osteoporosis

d) Hypoglycemia

e) Skin thinning

Correct Answer - D
Answer- D. Hypoglycemia
Local side effects include hoarseness (dysphonia) and oral candidiasis
growth retardation in children or to osteoporosis in adults.
bruising, petechiae
Hyperglycemia & pituitary- adrenal suppression

136. All are true about syncope except:

a) Consciousness is lost

b) More common in standing than lying postion

c) Vasovagal type is common

d) Return of consciousness is slow & take hours

e) Short duration

Correct Answer - D

Answer- D. Return of consciousness is slow & take hours

Syncope is a transient, self-limited loss of consciousness due to acute global impairment of cerebral blood flow.

A syncopal attack begins when the patient is usually in an upright position (sitting or standing) Return of consciousness is prompt.

Vasovagal syncope is due to excessive vagal tone or impaired reflex control of the peripheral circulation.

The most frequent type of vasodepressor syncoPe is vasovagal hypotension or the common faint.

137. True about hemophilia B:

a) Factor 8 deficiency

b) Factor 9 deficiency

c) X-linked disorder

d) Clinically indistinguishable from hemophilia A

e) Fresh frozen plasma given for treatment

Correct Answer - B:C:D

Answer- (B) Factor 9 deficiency (C) X-linked disorder (D) Clinically indistinguishable from hemophilia A

Hemophilia is an X-linked recessive hemorrhagic disease due to mutations in the F8 gene (hemophilia A or classic hemophilia) or F9 gene (hemophilia B).

Male subjects are clinically affected.

Clinically, hemophilia A and hemophilia B are indistinguishable.

Hemophilia is classified as-

- severe (<1%),
- moderate (l-5%),
- or mild (6-30%)

Clinical features-

- Bleeding into the joints (hemarthrosis), soft tissues, and muscles.

Investigations-

- Hemophilia B- Normal BT & PT & increased PTT

Treatment-

- The disease is treated with infusions of recombinant factor u.

138. Unequal pulse in upper & lower extremeties (i.e., radio-femoral delay) is/are seen in:

a) Aortic dissection

b) Post-ductal coarctation of aorta

c) Supra-valvular Aortic stenosis

d) Sub-valvular Aortic stenosis

e) Takayasu's syndrome

Correct Answer - B

Answer- (B) Post-ductal coarctation of aorta

Inquality between Two Radial Pulse (Radio-Radial Delay)

- Thoracic inlet syndrome (cervical rib' scalene syndrome)
- Aneurysm of aorta
- Takayasu's disease
- Pre-subclavian coarctation
- SuPravalvular aortic stenosis
- Atherosclerosis ofaorta

139. Drug (s) given in thyroid crisis:

a) Esmolol

b) Iodine

c) Hydrocortisone

d) Aspirin

e) Propylthiouracil

Correct Answer - A:B:C:E

Answer- (A) Esmolol (B) Iodine (C) Hydrocortisone (E) Propylthiouracil

TREATMENT-

- Propylthiouracil (drug of choice)
- Stable iodide blocks thyroid hormone synthesis via Wolff- Chaikoff effect.
- Potassium iodide
- Porpranolol, esmolol
- Glucocorticoids, Hydrocortisone
- Calcium channel blocker

140. Which of the following dyads of disease-neurotansmitter is correct:

a) Myasthenia gravis-Acetycholine receptor

b) Spasticity-GABA

c) Lambert-Eaton myasthenic syndrome -Acetycholine

d) Stiff-person syndrome-Glycine

e) Parkinson's disease -Dopamine

Correct Answer - A:C:E
Answer- (A) Myasthenia gravis-Acetycholine receptor
(C) Lambert-Eaton myasthenic syndrome -Acetycholine
(E) Parkinson's disease -Dopamine
Acetylcholine (ACh)- Myasthenia gravis, Lambert-Eaton syndrome, Botulism, Alzheimer's disease
Dopamine- Parkinson's disease
Norepinephrine (NE)- Mood disorder, anxiety, Orthostatic tachycardia syndrome
Serotonin- Mood disorder ,Migraine pain pathway
GABA- Stiff-person syndrome, epilepsy
Glycine- Spasticity

141. All are true about Menetrier's disease except:

a) Increased gastric acid secretion

b) Protein-losing gastropathy

c) Mainly affects body & fundus

d) No malignant potential

e) Transforming growth factor-a is overexpressed

Correct Answer - D

Answer- (D) No malignant potential

Menetrier’s disease is an unusual condition characterised by hypertrophy of the gastric mucosal folds, mucus production & hypochohydria.

It is a premalignant condition.

The mucosal folds inMenetrier’s disease are often most prominent in the body and fundus.

Caused by excessive secretion of TGF α.

Clinical features-

- Hypoproteinaemia
- Anaemia
- Increased risk of gastric adenocarcinoma associated with protein losing enteropathy.
- May get confused with Zollinger- Ellison syndrome.

142. According to Surviving Sepsis Guidelines 2013, which of the following is/are correct regarding sepsis & septic shock treatment guideline:

a) Urine output should be > 2m1/kg

b) Mean arterial pressure goal should be 65 mm Hg

c) Dopamine as the first choice vasopressor

d) Colloid is initial fluid of choice in the resuscitation

e) Administration of effective intravenous antimicrobials within the first hour of recognition

Correct Answer - B:E

Answer- (B) Mean arterial pressure goal should be 65 mm Hg (E) Administration of effective intravenous antimicrobials within the first hour of recognition

Crystalloids as the initial fluid of choice in the resuscitaiion of severe sepsis and septic shock.

Norepinephrine as the first choice vasopressor.

Dopamine as an alternative vasopressor agent to norepinephrine only in highly selected patients.

The goals during the first 6 hours of resuscitation should be (Grade lC):

- Mean arterial pressure (MAP) ≥ 65 mm Hg;
- Central venous pressure (CVP) 8-12 mm Hg (12-15 mm Hg in Patients receiving mechanical ventilation or with known preexisting decreased ventricular compliance)
- Urine output ≥ 0.5 mL/kg/hr (35 mL/hr for someone weighing 70 kg

or 154 lbs)

- Central venous oxygen saturation (from the superior vena cava) ≥70% , or mixed venous oxygen saturation (from a pulmonary artery catheter) ≥ 65%

143. Brain death can be assessed by:

a) Apnoea test

b) CT scan

c) MRI scan

d) Cerebral angiography

e) Transcranial Doppler

Correct Answer - A:D:E

Answer- (A) Apnoea test (D) Cerebral angiography
(E) Transcranial Doppler

Spinal cord reflexes may be preserved in coma & re- examination (not < 2hour apart) is optional.

Apnea test should be done at last because of its harmful effects on intracranial pressure.

Isoelectric EEG, absent brain stem auditory evoked potentials & absence of cerebral perfusion (on angiography, radioisotope scan or transcranial Doppler) are confirmatory but not required tests.

144. Presentation (s) of Bechet syndrome may include:

a) Erosive arthritis

b) Recurrent aphthous ulcers of the mouth

c) Uveitis

d) Genital ulcer

e) Pathergy test

Correct Answer - B:C:D:E

Answer- (B) Recurrent aphthous ulcers of the mouth (C) Uveitis (D) Genital ulcer (E) Pathergy test

Behcet's syndrome is a multisystem disorder presenting with recurrent oral and genital ulcerations as well as ocular involvement. Non-deforming arthritis or arthralgias are seen in 50% of patients and affects the knees and ankles.

Recurrent oral ulceration plus two ofthe following:

- Recurrent genital ulceration
- Eye lesions
- Skin lesions
- Pathergy test

The hallmark of Behcet disease is painful aphthous ulceration in the mouth.

Either anterior or posterior uveitis posterior uveitis may be asymptomatic

145. Which of the following is true about Pheochromocytoma:

a) Sestabimi scan is done before surgery

b) Mostly are malignant

c) Surgery is mainstay of treatment

d) Prior a blocker is given

e) Prior p blocker is given

Correct Answer - C:D:E

Answer- (C) Surgery is mainstay of treatment (D) Prior a blocker is given (E) Prior p blocker is given

Sestambi scanning is the preferred way in which to localize diseased parathyroid glands prior to operation.

Pheochromocytoma & paraganglioma are catecholamines producing tumours derived from sympathetic and parasympathetic nervous system.

They are derived from Chromaffin cells.

Treatment-

- Laproscopic resection
- Alpha adrenoreceptor blocker (phenoxybenzamine)- block catecholamine excess
- Beta blockade- tachycardia or arrhythmias
- Central venous catheter & invasive arterial monitoring used.
- Adult Dose of Clonidine for Clonidine Suppression test is 0.3 mg (0.3mg/70kg) administered orally. Clonidine Suppression Test
- Complete tumor removal is the uhimate therapeutic goal, ,can be achieved by partial or total adrenalectomy.

146. MIBG (metaiodobenzyl guanithidine) is analogue to:

a) Epinephrine

b) Adenine

c) Norepinephrine

d) Guanine

e) Phenylephrine

Correct Answer - C
Answer- (C) Norepinephrine
Pheochromocytoma can be localized using radioactive tracers including ^{131}I-or ^{123}I- metaiodobenzyl guanithidine (MIBG), ^{111}In-somatostatin analogues, or ^{18}F-dopa (or dopamine) Positron-emission tomography (PET).

147. Which of the following is true regarding adrenocortical carcinomas:

a) Increased urinary excretion of VMA

b) Does not cause metastasis

c) Surgery is mainstay treatment

d) Associated with Li-Fraumeni syndrome

e) None

Correct Answer - C:D

Answer- (C) Surgery is mainstay treatment (D) Associated with Li-Fraumeni syndrome

Increased VMA excretion into the urine can occur in Neuroblastomas, pheochromocytomas, and other neuroendocrine tumors.

Two rare inherited causes of adrenal cortical carcinomas are Li-Fraumeni syndtome and Beckwith- Wiedenann syndrome.

Metastases to regional and periaortic nodes arc common.

ACC carries a poor prognosis and cure can be achieved only by complete surgical removal.

148. A 40 year old lady from Himanchal Pradesh has fever & eschar on body. Blood investigation revealed: Hb=12 gm%, TLC=9800/1.11, Platelet 80000. Which of the following drug (s) may be used in her treatment:

a) Oral Doxycycline

b) Meropenem

c) Azithromycin

d) Tetracycline

e) Chloramphenicol

Correct Answer - A:C:D:E

Answer- (A) Oral Doxycycline (C) Azithromycin (D) Tetracycline (E) Chloramphenicol

The clinical manifestations of all the acute presentations are similar during the first 5 days: fever headache, and myalgias with or without nausea, vomiting, and cough.

Clinical manifestations-including occurrence ofa macular, maculopapular, or vesicular rash; eschar; pneumonitis; and meningoencephalitis.

Doxycycline is the drug of choice for most of these infections.

Tetacycline is drug of choice for specific treatment of all rickettsial diseases.

Long acting (doxycycline, minocycline) now make single dose treatment possible.

149. All are true about "a" wave except:

a) It is often the largest positive wave visible

b) Giant wave in atrial fibrillation

c) Tricuspid stenosis produces gaint wave

d) Heart block diminish magnitude of a wave

e) Produced by right atrial contraction

Correct Answer - B:D

Answer- (B) Giant wave in atrial fibrillation (D) Heart block diminish magnitude of a wave

A wave reffects right atrial presystolic contraction and occurs just after the electrocardiographic P wave, preceding the first heart sound (S1). A prominent alpha wave is seen in patients with reduced right ventricular compliance; a cannon a wave occurs with atrioventricufar (AV) dissociation and right atrial contraction dgainst a closed tricuspid valve.

In a patient with a wide complex tachycardia, the appreciation of cannon a waves in the jugular venous waveform identifies the rhythm as ventricular in origin.

The A wave is not present with atrial fibrillation.

150. Which of the condition cause pericarditis due to hypersensitivity:

a) SLE

b) Rheumatic fever

c) Dressler syndrome

d) Uraemia

e) Myxedema

Correct Answer - A:B:C
Answer- (A) SLE (B) Rheumatic fever (C) Dressler syndrome
A. Rheumatic fever
B. Collagen vascular disease (systemic lupus erythematosus, rheumatoid arthritis, ankylosing spondylitis, scleroderma, acute rheumatic fever, granulomatosis with polyangiitis (Wegener's)
C. Drug-induced (e.9., procainamide, hydralazine, phenytoin, isoniazide, minoxidil, anticoagulants, methysergide)
D. Post-cardiac injury
1. Postmyocardial infarction (Dressler's syndrome)
2. Postpericardiotomy
3. Posttraumatic

151. All are true about acute radiation pneumonitis except:

a) Fever not present

b) Steroid is beneficial

c) X-ray chest finding correlates poorly with symptom

d) Develop immediately after radiotherapy

e) All

Correct Answer - A:D

Answer- (A) Fever not present (D) Develop immediately after radiotherapy

Two phases of the pulmonary response to radiation are apparent:

- acute phase (radiation pneumonitis)
- chronic phase (radiation fibrosis)
- Clinical features-
- manifested by fever, dyspnea out of proportion to the volume of lung irradiated, pleural effusion.
- With steroid thetapy, these symptoms may resolve completely in some patients without long-term efects.
- Epithelial cell atypia and foam cell within vessel walls are also characteristic of radiation damage.

152. True about Kallman syndrome:

a) Amenorrhoea

b) Hypergonadotrophic state

c) Anosmia

d) Failure of secondary sexual development

e) None

Correct Answer - A:C:D

Answer- (A) Amenorrhoea (C) Anosmia (D) Failure of secondary sexual development

Kallmann syndrome is caused from defective gonadotropin releasing hormone (GnRH) synthesis.

Clinical features-

- Anaemia & hyposmia due to olfactory bulb agenesis & hypophasia.
- Color blindness, optic atrophy, nerve deafness.
- Cleft palate, cryptoorchidism & mirror movements (neurological defects)
- In males- delayed puberty, micropenis.
- In females- primary amenorrhea, failure of secondary sexual development.
- Low LH & FSH levels & sex steroids.

153. Glasgow coma scale E3M4V5 represents:

a) Spontaneous eye opening

b) Eye opening with pain stimulus

c) Incomprehensible sound

d) Oriented conversation

e) Decorticate posturing

Correct Answer - D

Answer- (D) Oriented conversation

Domain	**Response**	**Score**
Eye opening	Spontaneous	4
	To speech	3
	To pain	2
	None	1
Best verbal response	Oriented	5
	Confused	4
	Inappropriate	3
	Incomprehensible	2
	None	1
Best motor response	Obeying	6
	Localizing	5
	Withdrawal	4
	Flexing	3
	Extending	2
	None	1
Total score		3
	Deep coma or death	15
	Fully alert and oriented	

154. Complication (s) of Salivary gland operation:

a) Subcutaneous fistula

b) Opposite gland compensatory hypertrophy

c) Gustatory sweating

d) Facial Nerve damage

e) All

Correct Answer - A:C:D

Answer- (A) Subcutaneous fistula (C) Gustatory sweating (D) Facial Nerve damage

Complications of Parotid Gland Surgery-

- Temporary facial nerve weakness
- Transection of the facid nerve and permanent facial weakness
- Sialocele
- Facial numbness
- Permanent numbness of the ear lobe associated with great auricular nerve transection
- Frey's syndrome (Gustatory sweating)

Complications of Submandibular Gland Excision

- Marginal mandibular nerve injury;
- Lingual nerve injury;
- Hypoglossd nerve injury

Complications of parotidectomy-

- Flap necrosis
- Facial nerve palsy
- Fluid collection

- Salivary fistula
- Frey's syndrome

155. Punched out ulcer is/are seen in:

a) Arterial ulcer

b) Venous ulcer

c) Tubercular ulcer

d) Basal cell carcinoma

e) Gummatous ulcer

Correct Answer - A:E
Answer- (A) Arterial ulcer (E) Gummatous ulcer
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.

156. Which of the following is/are true regarding renal transplantation except:

a) Curvilinear incision is made in lower quadrant

b) Transplanted kidney is placed in retroperitoneal position

c) Recipients kidney is first removed from renal fossa to make space for donor kidney

d) Anastomosis of external iliac artery with renal artery

e) Donor renal vein is anastomosed with external iliac vein

Correct Answer - C

Answer- (C) Recipients kidney is first removed from renal fossa to make space for donor kidney

A lower qusdrant curvilinear (Gibson) incision is made, and the iliac vessels are exposed through a retroperitoneal approach.

The renal artery can be anastomosed end-to-end to the internal iliac. An end-to-side anastomosis of the renal artery to the external iliac artery is more frequently done.

The ureter, which is kept reasonably short to avoid the risk of distal ischaemia, is then aaastomosed to the bladder.

157. Which of the following plan of management is/are correct with regard to Cleft lip & cleft palate in children:

a) Unilateral lip only-1 year of age

b) Bilateral lip-1 year of age

c) Bilateral lip should be repaired at 5 month

d) Both soft & hard palate at 1 year in one setting

e) Cleft lip and soft palate at 5-6 months & hard palate at 15-18 months of age

Correct Answer - C:E

Answer- (C) Bilateral lip should be repaired at 5 month (E) Cleft lip and soft palate at 5-6 months & hard palate at 15-18 months of age

Clefting of the lip and/or palate is felt to occur around the eighth week of embryogenesis, either by failure of fusion of the medial nasal process and the maxillary prominence or by failure of mesodermal migration and penetration between the epithelial bilayer of the face.

Repair

Rule of tens: For increased anesthetic safety, an infant should

1. Be 10 weeks old.
2. Weigh 10 pounds.
3. Have a hemoglobin level of at least 10 mg/dL.

158. Suture number 2-0 corresponds to diameter of:

a) 0.21 mm

b) 0.24 mm

c) 0.27mm

d) 0.30 mm

e) 0.33 mm

Correct Answer - D

Answer- (D) 0.30 mm

The available sizes and diameters of suture are:

- 6-0 = 0.07 mm
- 5-0 = 0.10 mm
- 4-0 = 0.15 mm
- 3-0 = 0.20 mm
- 2-0 = 0.30 mm
- 0 = 0.35 mm
- 1 = 0.40 mm
- 2=0.5mm

159. Which of the following is/are correct regarding eczema of breast & Paget's disease of nipple:

a) Generally eczema is unilateral whereas paget's disease is bilateral

b) Eczema may be associated with lactation

c) Nipple may be destroyed in Paget's disease while it normally intact in eczema

d) Inversion of nipple may occur in Paget's disease

e) Associated with breast lump in eczema

Correct Answer - B:C:D

Answer- (B) Eczema may be associated with lactation (C) Nipple may be destroyed in Paget's disease while it normally intact in eczema (D) Inversion of nipple may occur in Paget's disease

Paget's disease of nipple-

- Occurs almost exclusively in women.
- May occur at any age from 24 to 84, although it is most common around the menopause.
- Almost always associated with underlying carcinoma of the breast
- Unilateral, persistent eczematous-type change of the nipple with erythema and scaling.
- Itching or burning sensation.
- Destruction of the nipple.

160. Correct combination (s) of Hernia with their content:

a) Littre hernia: Meckle's diverticulum

b) Richter's hernial-small intestine

c) Pantaloon-hernial sac on either side of inferior gastric artery

d) Hernia-en-glissade-urinary bladder

e) Maydl's hernia-intestine

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

Answer- (A) Littre hernia: Meckle's diverticulum (B) Richter's hernial-small intestine (C) Pantaloon-hernial sac on either side of inferior gastric artery (D) Hernia-en-glissade-urinary bladder (E) Maydl's hernia-intestine

Richter's hernia is a hernia in which the sac contains only a portion of the circumference of the intestine.

Maydl's Hernia - normal-looking loops of intestine are present in the sac

Sliding Hernia (Hernia-en-glissade)- on either side by a portion of the bladder

Saddle-bag, pantaloon hernia- This type of hernia consists of two sacs that staddle the inferior epigastric artery

Littre hernia- A hernia containing a Meckel's diverticulum

161. Which of the following is true about esophagus except:

a) Serosa not present

b) Middle & lower third made up of striated muscle

c) Lower oesophageal sphincter is a zone of relatively high pressure

d) In achalia cardia LOS tone is increased so that food can not pass below

e) It has side to side & antero-posterior curvatures

Correct Answer - B

Answer-(B) Middle & lower third made up of striated muscle

Epithelium is stratified squamous non-keratinized epithelium.

Muscularis mucosa contains only longitudinal layer and no circular layer.

Mucosa is the toughest and strongest layer.

Serosa is absent.

Muscularis externa is made up of skeletal muscle fibers only in the upper third, smooth muscles only in the lower third and both types of muscle fibers in middle third. At upper end the longitudinal coat splits into two bundles and the triangular interval between them is called Laimer's tringle which is filled with circular muscle fiber

162. All are true about full thickness rectal prolapse except:

a) Elderly are at risk

b) Common in children

c) More common in female

d) sensation of incomplete evacuation

e) May associated with a weak pelvic floor

Correct Answer - B

Answer- B. Common in children

- Common ln elderly women who are multipara
- ConstiPation is important feature
- Tenesmus common
- Some degree of incontinence of faeces & flatus is always present.

163. Correct statement(s) about hypospadias is/are:

a) Urethral opening on ventral aspect

b) Chordae on dorsal aspect

c) May be associated with penile torsion

d) Proximal varieties are more common

e) Coupons spongiosum is deficient

Correct Answer - A:C

Answer- A, C, Urethral opening on ventral aspect (C) May be associated with penile torsion

- There is incomplete development of the prepuce, called a dorsal hood, in which the foreskin is on the sides and dorsal aspect of the penile shaft and absent ventrally.
- There is a variable degree of chordae (a ventral curvature of the penis most apparent on erection)
- "Penile torsion is a fairly common congenital (present from birth) condition that can affect any male infant.

164. Which of the following is true about digital rectal examination:

a) Index finger is used

b) In BPH rectal mucosa is free whereas in prostate cancer mucosa of rectum is adhered

c) Puborectalis is felt anteriorly

d) Anal sphincter length cannot be assessed

e) None

Correct Answer - A:B

Answer- (A) Index finger is used (B) In BPH rectal mucosa is free whereas in prostate cancer mucosa of rectum is adhered

During digital rectal examination in a male, the finger sequentially palpates on the anterior wall, the prostate gland, the seminal vesicles, and the rectovesical pouch.

Posteriorly is the hollow of the sacrum and the coccyx.

On the anterior wall of the female, the uterine cervix, the uterine fundus (if retroverted), and the rectouterine pouch will be felt.

The rectal wall is palpated for masses and narrowing of the lumen.

165. True statement (s) about laproscopic cholecystectomy:

a) Cosmetically better

b) Bleeding is more common in open cholecystectomy than laproscopic cholecystectomy

c) Veress neddle is used in closed technique

d) Lalprocsope with attached video camera is inserted through umbilical port

e) Previous abdominal surgery is absolute contraindication

Correct Answer - A:C:D

Answer- (A) Cosmetically better (C) Veress neddle is used in closed technique (D) Lalprocsope with attached video camera is inserted through umbilical port

Initially, a small incision is made in the upper edge of the umbillcus. With the closed technique a special hollow insufflation needle (Veress needle) that is spring-loaded with a retractable cutting outer sheath is inserted into the peritoneal cavity and used for insufflation. Bleeding has been the most common cause for conversion to an open procedure.

166. All are true about BPH except:

a) Submucosal gland hyperplasia in transition zone

b) Penile uretha elongation

c) Prostatic urethra may be compressed

d) Less than 20m1/second peak flow rate is strong indication for TURP

e) BPH occur due to growth in peripheral zone of prostate

Correct Answer - B:D:E
Answer- (B) Penile uretha elongation (D) Less than 20m1/second peak flow rate is strong indication for TURP (E) BPH occur due to growth in peripheral zone of prostate
Benign Prostatic Hyperplasia (BPH)
Prostate it is divided into the peripheral zone (PZ), which lies mainly posteriorly and from which most carcinomas arise, and a central zone (CZ).
There is also a periurethral transitional zone (TZ), from which most benign ptostatic hyperplasia (BPH) arises.
BPH typically afects the submucous group of glands in the transitional zone.
A flow rate < 10 ml s-1 will be sufiicient for most urologists to recommend treatment.

167. Which of the following increases risk of urinary stones:

a) Increased urinary citrate

b) 1st Calcium level in blood

c) Hypervitaminosis A

d) Hypoparathyroidism

e) Decrease in urinary colloid

Correct Answer - B:C:E
Answer- (B) 1st Calcium level in blood (C) Hypervitaminosis A (E) Decrease in urinary colloid
Deficiency of vitamin A
Altered urinary solutes and colloids
Decreased urinary citrate
Renal infection
Inadequate urinary drainage and urinary stasis
Prolonged immobilization
Hyperparathyroidism

168. True about duodenal diverticula:

a) Most common of the GIT diverticula

b) Commonly occur on medial border

c) Often present in periampullary region

d) It should be treated aggressively due to high malignant potential

e) It can cause pancreatitis by producing obstruction at the opening of the duct

Correct Answer - B:C:E

Ans. (B) Commonly occur on medial border (C) Often present in periampullary region (E) It can cause pancreatitis by producing obstruction at the opening of the duct

Diverticula of the duodenum representing the second most common site for diverticulum formation after the colon.

Duodenal diverticula occur twice as often in women.

Two thirds to three fourths of duodenal diverticula are found in the periampullary region.

Major complications of duodenal diverticula include obstruction of the biliary or pancreatic ducts.

Hemorrhage; perforation; and rarely, blind loop syndrome

Only those diverticula associated with the ampulla of Vater are significantly related to complications of cholangitis and pancreatitis.

Surgical treatment is required for complications & rarely for persistent symptoms.

169. Psammoma bodies is/are seen in:

a) Medullary carcinoma of thyroid

b) Ependymoma

c) Papillary carcinoma thyroid

d) Follicular carcinoma of thyroid

e) Meningioma

Correct Answer - C:E

Answer- (C) Papillary carcinoma thyroid (E) Meningioma

Psammoma bodies can be seen in :?

- Papillary carcinoma of thyroid.
- Renal cell carcinoma (papillary type)
- Serous cystadenoma of ovary
- Meningioma
- Malignant mesothelioma (Peritoneal & pleural)
- Somatostatinoma (Pancreas)
- Prolactinomam (Pituitary)
- Endometrial papillary serous cystadenocarcinoma

170. Which of the following is/are true about primary hyperparathyroidism:

a) Associated with MEN I & II

b) Increase risk of renal stone

c) About 50 gram of gland tissue can be left during surgery to prevent hypocalcemia

d) Cause benign hypertension

e) Mc sporadic cause is hyperplasia

Correct Answer - A:B:C

Answer- (A) Associated with MEN I & II (B) Increase risk of renal stone (C) About 50 gram of gland tissue can be left during surgery to prevent hypocalcemia

Primary hyperparathyroidism is due to excess PTH secretion from a single parathyroid adenoma, hyperplasia, and carcinoma.

Primary hyperparathyroidism MEN 1, MEN2A, isolated familial HPT, and famlial HPT with jaw-tumor syndrome.

Inherited in an autosomal dominant.

The classic quartet of stones, bones, abdominal groans and psychic moans renal calculi and calcinosis, pancreatitis and psychiatric disorder develops.

171. Which of the following is/are features of Testicular torsion which is not present in epididymoorchitis:

a) Redness of skin

b) Elevation of testis worsen pain

c) Doppler ultrasound scan show absence of the blood supply to the affected testis

d) Fever

e) Dysuria

Correct Answer - B:C

Answer- (B) Elevation of testis worsen pain (C) Doppler ultrasound scan show absence of the blood supply to the affected testis

Epididymoorchitis

- The initial symptom is pain & swelling of epididymis along with fever, malaise & chills
- Scrotal wall becomes red, oedematous & glossy

Testicular torsion

- The scrotum is swollen & tendon. The scrotum may also be normal or red & oedematous.
- The onset of redness of the skin and a mild pyrexia.
- Elevation of the testis reduces the pain in epididymoorchitis and makes it worse in torsion.
- Doppler ultrasound scan will confirm the absence of the blood supply to the affected testis.

172. True about Typhoid ulcer:

a) Perforation is common in 2nd & 3rd week after onset of typhoid fever

b) Perforation may present at multiple site

c) Commonly involve jejunum

d) Commonly involve ileum

e) Peritoneal lavage is contraindicated for perforated ulcer

Correct Answer - A:B:D

Answer- (A) Perforation is common in 2nd & 3rd week after onset of typhoid fever (B) Perforation may present at multiple site (D) Commonly involve ileum

Characteristic Features of Typhoid Ulcers Most common site is mucosa of small intestine (Ileum) in region of lymphoid patches (Payer's patches)

Ulcers are oval

Ulcers are arranged longitudinally (Longitudinal ulcers)

Lie in the long axis of the intestine along the antimesenteric border

Ulcers may be single or multiple

Ulcers may erode and cause complications (Bleeding/perforation)

173. Feature of 3 degree burn:

a) Pain present

b) Transudation of fluid present

c) Whole dermis destroyed

d) Erythematous in appearance

e) Blister formed

Correct Answer - C

Answer- C. Whole dermis destroyed

The whole of the dermis is destroyed of the burns.

- Clinically, they have a hard, leathery feel, The appearance can vary from that similar to the patient's normal skin to charred black depending upon the intensity of the heat. . There is no capillay return after, thrombosed vessels can be seen under the skin.
- These burns are completely anaesthetised: a needle can be stuck deep into the dermis without any pain or bleeding.

174. A patient has h/o hypertension & diabetes. The mechanism of higher chance of ulcer in this patient is due to:

a) Hyperglycemias suppress immunity

b) Vascular insufficiency

c) Atherosclerotic changes

d) Venous stasis

e) Tropic skin changes

Correct Answer - A:B:C:E

Answer- (A) Hyperglycemias suppress immunity (B) Vascular insufficiency (C) Atherosclerotic changes (E) Tropic skin changes

Trophic change from peripheral neuropathy, ischaemia as a result of atheroma, and low resistance to infection because of excess sugar in the Tissue.

Neuropathy, abnormal foot biomechanics, peripheral arterial disease (PAD), and poor wound healing.

175. Preterm babies have increased chance of:

a) Heart disease

b) Respiratory distress syndrome

c) Necrotising colitis

d) Meconium aspiration syndrome

e) All

Correct Answer - A:B:C

Ans. a. Heart disease; b. Respiratory distress syndrome; c. Necrotising colitis

Preterm Neonate:

- Respiratory syndrome: Pulmonry oedema, Intra-alveolar haemorrhage, Idiopathic respiratory distress syndrome & Bronchopulmonary dysplasia
- Infection: Bronchopneumonia, meningitis & necrotizing enterocolitis . Metabolic (hypoglycemia, hypocalcemia)
- Retinopathy of prematurity
- Asphxia
- Cerebral haemorrhage
- Hypothermia
- Fetal shock
- Heart failure Precipitated by asphyxia with rapid development of pulmonary edema. There may be patent Ductus arteriosus
- Jaundice
- Anaemia

176. Which of the following can presents with cyanosis at birth:

a) Tetralogy of Fallot

b) TGA

c) PDA

d) VSD

e) Atrial septal defect (ASD)

Correct Answer - A:B

Ans. a. Tetralogy of Fallot; b. TGA

- TOF: Cyanosis may be present from birth or make its appearance some years after birth.
- TGA: Patients of complete TGA with intact ventricular septum are cyanotic at birth.
- PDA, ASD & VSD are acyanotic condition

177. Which of the following is/are true regarding development of child during 6 to 12 yr. of age:

a) Weight increases by l-2kg/yr

b) Head grow at the rate of 2-3cm/yr

c) Growth occur continuously

d) Growth occur in spurts

e) Height increases at rate of 6-7 cm/yr

Correct Answer - D:E

Ans. d. Growth occur in spurts; e. Height increases at rate of 6-7 cm/yr

Physical Development During Middle Childhood (6-11 yr of age)

- Growth during the period averages 3-3.5 kg (7 lb) and 6-7 cm (2.5 in) per year .
- Growth occurs discontinuously, in 3-6 irregularly timed spurts each year, with each growth spurt lasting, on average, 8 wk.
- The head grows only 2-3 cm in circumference throughout the entire period, reflecting a slowing of brain growth.

178. True about Asperger syndrome:

a) More common in girl

b) Repetitive activity pattern

c) Subnormal intelligence is consistent feature

d) Severe language impairments is characteristic

e) All

Correct Answer - B

Ans. b. Repetitive activity pattern

Asperger syndrome:

- It is four times more likely to occur in males than in females and usually is first diagnosed in children between the ages of 2 and 6.
- The common characteristics include average or above average intelligence"
- There is no clinically significant general delay in spoken or receptive language or cognitive development. Self' help skills, adaptive behaviour, and curiosity about the environment during the first 3 years should be at a level consistent with normal intellectual development

179. True about Autistic disorder:

a) Quality decrease in social interaction

b) All affected children have subnormal intelligence

c) Treatment should targeted toward Speech development

d) Seen only after 3 yr of age

e) Stereotyped patterns of behaviour

Correct Answer - A:C:E

Ans. a. Quality decrease in social interaction ; c. Treatment should targeted toward Speech development ; e. Stereotyped patterns of behaviour

Autistic disorders are characterized by the triad of impaired social interaction, communication and imagination. These are associated with rigid repetitive pattern of behaviour.

- The onset of autistic disorder always occurs before age 3, at two peak periods.
- Difficulty in concentration and communication,
- Lesion in frontal and temporal lobe and cerebellum,
- Delayed speech and language development,
- Problems in forming social relationships in early childhood,
- Stereotyped movements,
- Poor speech,
- Lack of social interaction,

180. True about HIV infection in infants:

a) Mainly occur through horizontal transmission

b) HIV DNA PCR positive at 3 month confirms diagnosis

c) Positive antibody test for IgG antibody at 3 month confirm infected infant

d) Passive transfer of maternal body generally persists for 12 month

e) All

Correct Answer - B:D

Ans. b. HIV DNA PCR positive at 3 month confirms diagnosis; d. Passive transfer of maternal body generally persists for 12 month

- All infants born to HIV-infected mothers to antibody positive at birth because of passive transfer of maternal HIV antibody across the placenta during gestation.
- Most uninfected infants lose maternal antibody between 6 and 12 month of age and are known as seroreverters.
- Because a small proportion of uninfected infants continues to test HIV antibody positive for up to 18 month of age, positive IgG antibody tests, including the rapid tests, cannot be used to make a definitive diagnosis of HIV infection in infants younger than this age.
- In any child >18 months of age, demonstration of IgG antibody to HIV by a repeatedly reactive enzyme immunoassay (EIA) and confirmatory test (immunoblot or immunofluorescence assay) establishes the diagnosis of HIV infection.
- Viral diagnostic assays, such as HMNA or RNA PC& HIV culture, or HIV p24 antigen immune-dissociated p24

- By 4-6 months of age, the IIIV culture and/or PCR identifu all infected infants.

181. Common feature of marfan syndrome & Homocystinuria:

a) Arm span > Height

b) Ectopia lentis

c) Hypermobility of joint

d) Mental retardation

e) Arachnodactyly

Correct Answer - B:E

Ans. b. Ectopia lentis; e. Arachnodactyly

- Arachnodactyly: This feature can occur on its own, with no underlying health problems. However, it can also be associated with certain medical conditions. Examples includes Marfan syndrome, Ehlers-Danlos syndrome, Loeys-Dietz syndrome and homocystinuria.

182. Distal interphalangeal joint involvement occur in:

a) Boutonniere deformity

b) Swan neck deformity

c) Mallet finger

d) Trigger finger

e) Dupuytren's contracture

Correct Answer - A:B:C

Ans. a. Boutonniere deformity; b. Swan neck deformity; c. Mallet finger

- In medicine, mallet finger, also baseball finger, dropped finger and (more generally) extensor tendon injury, is an injury of the extensor digitorum tendon of the fingers at the distal interphalangeal joint (DIP).
- **Swan-neck deformity** (PIP joints hyperextended and DIP joints flexed), enlarged knuckles, and subcutaneous nodules are classic clues for rheumatoid arthritis.
- Distal interphalangeal joint- Osteoarthritis, Psoriatic arthritis, Reactive arthritis
- Proximal interphalangeal joint- Osteoarthritis, RA, SLE, Psoriatic arthritis

183. All are true about Slipped capital femoral epiphysis except:

a) Avascular necrosis may occur

b) Usually occur after l0 year of age

c) Obesity is a risk factor

d) Frog-leg lateral view is helpful

e) More common in girls

Correct Answer - E

Ans. e. More common in girls

SLIPPED FEMORAL CAPITAL EPIPHYSIS (SFCE)

- Seen in adolescent children in age group of 13-15yrs
- Either overweight or sexually immature
- Presents with endocrinopathies
- Hypothyroidism
- Growth hormone excess
- CRF
- Craniopharyngioma
- Hypogonadism
- Klinefelter’s syndrome may present as SFCE
- Treethowan's sign on x-ray
- USG or CT more sensitive in detecting early slip
- Tc 99 scan shows increased uptake
- Rx is prompt surgery

184. Pathological fracture are found in:

a) Bone cyst

b) Osteoporosis

c) Chronic osteomyelitis

d) Osteochondroma

e) Osteogenesis imperfecta

Correct Answer - A:C:D:E

Ans. a. Bone cyst; b. Osteoporosis; c. Chronic osteomyelitis; d. Osteochondroma; e. Osteogenesis imperfecta

Pathological Fracture

- A fracture in an abnormal bone is referred to as pathological fracture. Abnormal bone means a bone rendered weak by a disease localized to a particular hone, or by a generalised bone disorder. Bone that fractures spontaneously, or after trivial trauma must be regarded as abnormal until proven otherwise. Vertebral bodies (thoracic & lumbar) are the most often affected bones f/b neckfemur & lower end radius (colle's #). Most common cause is osteoporosis

Other causes of pathological fractures are:

Localized Diseases

- Chronic infection eg. tubercular & pyogenic
- osteomyelitis.
- Eosinophilic granuloma
- Benign neoplastic lesions
- Solitary bone cyst
- Aneurysmal bone cyst
- Fibrous cortical defect

- Monostotic fibrous dysplasia
- Chondromyxoid fibroma
- Chondroma (Enchondroma)
- Osteoclastoma (giant cell tumor)
- Malignant bone tumor
- Osteosarcoma
- Ewing's tumor
- Chondrosarcoma
- Atrophic bone due to
- Polio
- Radiation (Radiotherapy)

Generalised Diseases

- Congenital/ Developmental
- Osteogenesis imperfecta
- Osteopetrosis
- 011iers disease (multiple enchondromatosis /dyschondroplasia).
- Polyostotic fibrous dysplasia
- Histiocytosis X
- Gaucher's disease
- Acquired Disorders producing osteopenia
- Osteoporosis (most common cause)
- Osteomalacia
- Hyperparathyroidism
- Renal osteodystrophy
- Paget's disease
- Myeloma
- Other metabolic bone diseases
- Rickets
- Scurvy
- Disseminated malignancyin bones
- Multiple myeloma
- Myelomatosis
- Metastatic carcinoma

185. Commonest cause of acute osteomyelitis:

a) Trauma

b) Surgery

c) Fungal infection

d) Hematogenous route

e) Tubercularinfection

Correct Answer - D

Ans. d. Hematogenous route

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.

186. True about Osteosarcoma:

a) Primary osteosarcoma is most commonly occur in age group ofless than 20 yr

b) Periosteal reaction is present

c) Present as elevated soft tissue mass

d) Commonly associated with osteoid osteoma

e) Formation of bone by the tumor cells is characteristic

Correct Answer - A:B:C:E

Ans. a. Primary osteosarcoma is most commonly occur in age group of less than 20 yr; b. Periosteal reaction is present; c. Present as elevated soft tissue mass ; e. Formation of bone by the tumor cells is characteristic

- Osteosarcoma is primary malignant bone tumor of bone, derived from primitive bone forming mesenchyma and characterized by osteoid formation.

It is of two types

1. Primary
2. Secondary

Associated feature:

- Paget disease
- Radiation
- Fibrous dysplasia
- Enchondromatosis
- Multiple osteochondroma
- Bone infarction
- Chronic osteomyelitis

Radiology:

- The X-ray appearances are variable: hazy osteolytic areas may alternate with unusually dense osteoblastic areas.
- Oftenthe cortex is breached and the tumour extends into the adjacent tissues; when this happens, streaks ofnew bone appear,radiating outwards from the cortex the so called 'sunburst' effect.
- Where the tumour emerges from the cortex, reactivenew bone forms at the angles of periosteal elevation (Codman's triangle).
- While both the sunburst appearance andCodman's triangle are typical of osteosarcoma.

187. True about Clubfoot:

a) Abduction offorefoot

b) Associated with breech presentation

c) Dennis-Brown splint used

d) Adductionofforefoot

e) Associated with spina bifida

Correct Answer - C:D:E

Ans. c. Dennis-Brown splint used d. Adductionofforefoot e. Associated with spina bifida

CTEV is the commonest and most important congenital deformity of the foot.

The deformity consists of following elements :-

1. Equinus, i.e. Plantar flexion at ankle joint (tibiotalar joint)
2. Inversion of foot at subtalar joint (talocalcaneal joint)
3. Forefoot adduction, at mid-tarsal joints, especially at talo-navicular joint.
4. Sometimes forefoot cavus, i.e. excessive arching of the foot at mid-tarsal joints.

Treatment:

- Tendon transfer :- Transfer of tibialis - anterior on the outer side of foot. This can be done only after 5 years.
- Dwyer osteotomy :- Medial open wedge osteotomy of calcaneum to correct heel varus.
- Gradual differential distraction :- In this an external fixator (JESS or Illizarov) is applied and gradual correction of deformity
- > 10 years:- Triple arthrodesis (subtalar, calcaneo-cuboid, and talonaviculardjoints)

188. All are true about Pott's spine except:

a) Thoracic vertebrae T6-T8 is most commonly affected site

b) Paradiscal is commonest variety

c) Muscular rigidity & stiffness is common

d) Posterior part ofvertebrae is more affected than anterior part

e) Back pain is the commonest Presenting symptom

Correct Answer - A:D

Ans. a. Thoracic vertebrae T6-T8 is most commonly affected site; d. Posterior part of vertebrae is more affected than anterior part

Tuberculosis (TB) of the spine (Pott's disease) is the most common site of bone infection in TB.

- The lower thoracic and upper lumbar vertebrae are the areas of the spine most often affected.
- Pott's disease results from haematogenous spread of tuberculosis from other sites, often pulmonary. The infection then spreads from two adjacent vertebrae into the adjoining disc space.
- If only one vertebra is affected, the disc is normal, but if two are involved the intervertebral disc, which is avascular, cannot receive nutrients and collapses (seen as narrowing of intervertebral space on X-rays)
- Commonest spine involved in spine TB is Thoracolumbar/Dorsolumbar T12-L1 (Lower thoracic to be precise.

The disease progresses slowly. Signs and symptoms include:

- Localised back pain is the earliest and commonest complaint
- Paravertebral swelling may be seen
- Neurological signs may occur, leading to paraplegia.

- Stiffness
- Deformity
- Constitutional symptoms

Diagnosis:

- Spinal X-ray may not show early disease as 50% of bone mass must be lost for changes to be visible on x-ray. However, plain radiographs can show vertebral destruction and narrowed disc space.
- MRI is useful to demonstrate the extent of spinal compression and can show changes at an earlier stage than plain radiographs. Bone elements visible within the swelling, or abscesses, are strongly indicative of Pott's disease as opposed to malignancy.
- CT scans and nuclear bone scans can also be used.

189. All are true about LNG except:

a) Cause Endometrial suppression

b) Can be used in emergency contraception

c) Can not be given to lactating women

d) Devoid of estrogenic side-effects

e) All

Correct Answer - C

Ans. c. Can not be given to lactating women

- LNG prevent ovulation & cause desynchronization of endometrium
- It can be offered to a lactating women .
- It has no oestrogen & so no estrogenic associated side effects .
- It can be offered to hypertensive, cardiac & diabetic woman

190. True about amniotic fluid:

a) Same concentration of plasma throughout pregnancy

b) Forms from transudation of plasma through fetus skin before 20 wk of gestation

c) Fetus swallows amniotic fluid

d) Protects fetus from injury

e) Main channel for gaseous exchange

Correct Answer - B:C:D

Ans. b. Forms from transudation of plasma through fetus skin before 20 wk of gestation; c. Fetus swallows amniotic fluid; d. Protects fetus from injury

Amniotic Fluid:

- In first half of pregnancy, the composition of the fluid is almost identical to a transudate of plasma. But in late pregnancy, the composition is very much altered mainly due to contamination of fetal urinary metabolites.
- The respiratory function of the placenta makes the fetal oxygen supply and fetal carbon dioxide removal possible
- There is constant exchange of water b/w the amniotic fluid &maternal blood, the water being completely replaced every three hours.
- Sometime in fifth month the fetus begins to swallow amnioticfluid

191. True about obstetrical outlet:

a) Posterior wall is deficient

b) Bounded above by the plane of least pelvic dimensions

c) Anterior wall is formed by ischial bones

d) Minimum obstetric diameter

e) Its plane is plane of least pelvic dimensions

Correct Answer - B:E

Ans. b. Bounded above by the plane of least pelvic dimensions; e. Its plane is plane of least pelvic dimensions

Obstetrical Outlet:

- It is the segment of the pelvis bounded above by the plane of least pubic dimensions & below by the anatomical outlet
- Its anterior wall is deficient at the pubic arch; its lateral walls are formed by ischial bones & the posterior wall includes whole of the coccyx .
- Shape: Itis antero-posteriorly oval
- Plane: The plane is otherwise known as plane of least pelvic dimensions or narrow pelvic plane. The plane extends from the lower border of the pubis symphysis to the tip of ischial spines
- Posteriorly to meet the tip of the 5th sacral vertebrae. It is narrowest plane in pelvis & roughly corresponds to the origin oflevatorani muscle .
- Diameters: Transverse (Syn-Bispinous 10.5 cm), Anteroposterior (11cm) & Posterior sagittal (5 cm)
- Axis: It is represented by a line joining the centre of the plane with the sacral promontory. Its direction is almost vertical.

192. Which of the following is/are criteria for the expectant management in pre-eclampsia excepts

a) Platelet count <100000 ml

b) B.p.>140/90 mm Hg

c) Urine output < 400mUday

d) Persistent headache

e) Visual disturbances

Correct Answer - B

Ans. b. B.P.>140/90 mm Hg

Criteria for severe Preeclampsia:

- A persistent SBP of > 160 mm Hg systolic or DBP of > 110 mmHg
- Persistent severe epigastric pain
- Cerebral or visual disturbances
- Oliguria <400ml/24hr
- Protein excretion of > 5gm/day
- HELLP syndrome
- Retinal haemorrhage, exudates or papilledema
- Intrauterine growth restriction of the foetus
- Pulmonary oedema

193. Contraindications for IUCD

a) Postabortal sepsis more than 1 year ago

b) Present cervicitis and vaginitis

c) Past history of ectopic Pregnancy

d) Unknown cause of vaginal bleeding

e) Severe dysmenorrhea

Correct Answer - B:C:D:E

Ans: b) Present cervicitis and vaginitis; c) Past history of ectopic Pregnancy; d) Unknown cause of vaginal bleeding; e) Severe dysmenorrhea

Contraindications for placing IUCD are:

- Suspected pregnancy
- PID
- Presence of fibroids
- Menorrhagia and dysmenorrhoea of copper T is used.
- Severe anemia
- Diabetic women who are not well controlled.
- Heart disease
- Scarred uterus
- Previous ectopic pregnancy
- Levonorgestrel IUCD in breast cancer
- Preferably avoid its use in unmarried nulliparous patient because of the risk of PID.

194. True statement regarding use of ACE inhibitors in pregnancy:

a) Cause polyhydramnios

b) Cause renal agenesis

c) Cause pulmonary hypoplasia

d) Use during first 3 month is safe

e) Safe in last trimester

Correct Answer - B:C

Ans. b. Cause renal agenesis ; c. Cause pulmonary hypoplasia

Fetal side effects of ACE inhibitor:

- Oligohydramnios
- IUGR & fetal renal tubular dysgenesis
- Neonatal renal failure
- Pulmonary hypoplasia

ACE inhibitors is contraindicated during the second and third trimester of pregnancy because of risk of fetal hypotension, anuria, and renal failure sometimes associated with fetal malformations or death

195. True about ovulation & menstruation:

a) Temperature decrease at time of ovulation

b) Estrogen have a role in proliferative phase

c) LH surge occurs before ovulation

d) 100 ml blood loss is normal

e) All

Correct Answer - B:C:D

Ans. b. Estrogen have a role in proliferative phase; c. LH surge occurs before ovulation; d. 100 ml blood loss is normal

- The duration of bleeding is about 3-5 days & estimated blood loss is between 50-200 ml.
- The maximum peak of estrogen secretion is seen about 48 hours before ovulation, whereas the LH peak occurs about 24-36 hours before ovulation.
- A surge in LH secretion triggers ovulation, & ovulation normally occurs about 9 hr after peak of LH surge at midcycle"
- Ovulation normally occurs about t hours after the peak of the LH surge at midcycle
- A convenient but retrospective indicator of the time of ovulation is a rise in the basal body temperature

196. Cause (s) ofstillbirth:

a) Prematurity

b) Syphilis

c) Abruptioplacentae

d) Diabetes

e) All

Correct Answer - E
Ans. e. All
ETIOPATHOLOGY:
Maternal

- Gestational hypertension
- Blood group incompatibility
- Metabolic disorders
- Intrauterine infections

Fetal

- Major anomalies
- Umbilical cord complications (looping, knotting, twisting)
- Placental
- Chronic placental insufficiency
- Placental abruption
- Chorioamnionitis

197. Which of the following is true about endometrial carcinoma:

a) Less aggressive in post-menopausal women

b) More common in diabetes

c) Common after 40 yr of age

d) Associated with PCOD

e) Associated with hereditary nonpolyposis colorectal cancer syndrome (HNPCC)

Correct Answer - B:C:D:E

Ans. b. More common in diabetes; c. Common after 40 yr of age ; d. Associated with PCOD;e. Associated with hereditary nonpolyposis colorectal cancer syndrome (HNPCC)

RISK FACTORS:

- High levels of estrogen
- Endometrial hyperplasia(Complex hyperplasia with atypia histological pattern)
- Polycystic ovary syndrome
- Nulliparity
- Infertility
- Early menarche
- Persistent anovulation
- Diabetes mellitus
- Hypertension
- Obesity,
- Family History,
- Use of Hormone Replacement Therapy

- Late menopause
- Endometrial polyps or other benign growths of the uterine lining
- Tamoxifen
- Hyperplasia
- Pelvic radiation therapy
- Breast cancer
- Ovarian cancer

198. Highlevel of hCG found in:

a) Twin

b) Down syndrome

c) Choriocarcinoma

d) Colon carcinoma

e) Ectopic pregnancy

Correct Answer - A:B:C

Ans. a. Twin ;b. Down syndrome; c. Choriocarcinoma

HCG is increased in:

- Multiple fetuses
- Rh incompatibility
- Down syndrome
- Choriocarcinoma
- Hydatidiform mole

HCG is decreased in:

- Ectopic pregnancy
- Impending spontaneous abortion

199. True about placental abruption:

a) Pre-eclampsia is a risk factor

b) Common in multigravida

c) Common in primigravida

d) Premature separation of normal implanted placentae

e) Character of bleeding is bright red blood

Correct Answer - A:B:D

Ans. a. Pre-eclampsia is a risk factor; b. Common in multigravida; d. Premature separation of normal implanted placentae

Abruptio placentae:

- It is a form of antepartum hemorrhage where bleeding occurs due to premature separation of normally situated placenta.
- Hypertension in the pregnancy is important predisposing factor

ETIOLOGY:

- Primary cause of A P is uncertain

Several associated conditions identified:

- Increase in age & parity: 1.3-1.5%
- Pre-eclamsia: 2.1-4%
- Chronic hypertension: 1.8-3%
- Preterm ruptured membranes: 2.4-4.9%
- Multifetal gestation: 2.1%
- Cigarette smoking: 1.4-1.9%
- Cocaine abuse: NA
- Folic acid deficiency
- Prior abruption: 10-25%
- Uterine leiomyoma: NA

- Hydromnios: 2%

Symptoms

- Vaginal Bleeding (78%)
- Abdominal Pain (66%)-May be severe and constant, posterior placenta may present with back pain Signs
- Vital signs suggestive of cardiovascular compromise-Tachycardia, orthostatic changes in Blood Pressure and pulse
- Evaluate for external signs of trauma
- Uterus hypertonic or tense (Couvelaire Uterus)-Fundus tender to palpation

200. True about Trichomonas vaginitis:

a) Important cause ofrecurrent abortion

b) T.vaginalis is a flagellated protozoa

c) Metronidazole is used for treatment

d) Strawberrycervix

e) Curdydischarge

Correct Answer - B:C:D

Ans. b. T.vaginalis is a flagellated protozoa; c. Metronidazole is used for treatment; d. Strawberrycervix

Trichomonas vaginits:

- It is caused by trichomonas vaginalis, a pear-shaped unicellular flagellate protozoa
- On speculum examination, mucosa of the portio vaginalis part of cervix appear like strawberry
- Infection in genital tract may be responsible for sporadic spontaneous abortion but its relation to recurrent abortion is inconclusive.

201. True about Mirena:

a) Effective life is 5-10 yr

b) Gives protection against HM STD

c) Contraindicated in suspected pregnancy

d) Contraindicated in breast carcinoma

e) Useful in controlling menorrhagia in fibroid

Correct Answer - A:C:D:E

Ans. a. Effective life is 5-10 yr; c. Contraindicated in suspected pregnancy ;d. Contraindicated in breast carcinoma; e. Useful in controlling menorrhagia in fibroid

The levonorgestrel-releasing IUS, Mirena, releases 20 mcg of levonorgestrel per day and is approved for contraception for up to 5 years. It achieves local progestin concentrations that are ~1000-fold higher than systemic levels.

Contraindications specific to the use of Mirena are:

- Acute liver disease or tumor
- Known or suspected carcinoma of the breast
- Hypersensitivity to any component of this product

Contraindications to Use of an Intrauterine Device:

- Pregnancy or suspicion of pregnancy
- Genital actinomycosis
- Acute pelvic inflammatory disease
- Genital bleeding of unknown etiology
- Woman or her partner having multiple sexual partners
- A previously inserted IUD that has not been removed
- Abnormalities of the uterus resulting in distortion of the uterine cavity
- Postpartum endometritis or infected abortion in the past 3 months

- Known or suspected uterine or cervical neoplasia, or unresolved abnormal cytological smear
- Untreated acute cervicitis or vaginitis, including bacterial vaginosis, until infection is controlled
- History of ectopic pregnancy or condition that would predispose to ectopic pregnancy

202. Feature (s) of Hailey Hailey disease is/are:

a) A bullous disorder

b) Crusted erosion

c) Most commonly present in infant

d) Also called as familial benign pemphigus

e) Intraepidermal bullous disorder

Correct Answer - A:B:D:E

Ans. (A) A bullous disorder (B) Crusted erosion (D) Also called as familial benign pemphigus (E) Intraepidermal bullous disorder

[Neena Khanna3rd/67]

Hailey Hailey Disease (Familial Benign Pemphigus):

- Pemphigus type of bullous disorder (Intraepidermal lesion)
- Autosomal dominant inheritance
- Presents in 3rd-4th decade
- Presents as flaccid vesicles, crusted erosions & circinate plaques on erythematous base. May become hypertrophic & malodorous
- Major flexures (groins, perineum, axillae & side of neck)
- **Treatment includes:** Reduction of friction keeping area dry. Combination of potent steroids with antibiotics (mainstay of treatment)

203. Skin lesion of chronic liver disease:

a) Terry nail

b) Palmar erythema

c) Purpura

d) Spider naevi

e) None

Correct Answer - A:B:D

Ans. (A) Terry nail (B) Palmar erythema (D) Spider naevi

[Ref Neena Khanna 3rd/330, 148; Roxburg 17th/292-93]

Skin in Liver Disease:

- Hepatic disease, especially when the patient has hepatic failure,
- is associated with:
- **Pruritus**: Due to accumulation of bile salts, when there is obstructive jaundice
- **Yellowish pigmentation:** Due to accumulation of bile Pigments
- **Spider nevi & palmar erythema:** Due to accumulation of estrogen dr progesterone
- **White nails**: Due to hypoproteinemia

204. Nail changes of lichen planus includes:

a) Pterygium

b) Salmon patch

c) Subungual hyperkeratosis

d) Splinter haemorrhage

e) Thinning of nail plate

Correct Answer - A:E

Ans. (A) Pterygium (E) Thinning of nail plate

[Ref; Neena Khanna 3rd/52-55; Harrison 19th/i49, 17th/316]

Nail Changes in Lichen Planus:

- Seen in 15% of patients (most frequently in children)
- Thinning 6 distal splitting of nail plates
- Longitudinal grooves
- Tenting Of Nail Plate

Pterygium formation (diagnostic):

- The proximal nail fold is prolonged on to the nail bed, splitting & destroying the nail plate.

205. A Patient has hypersensitivity to neostigmine. He has to undergo upper abdominal surgery. Muscle relaxant of choice is:

a) Pancuronium

b) Ropacuronium

c) Vecuronium

d) Atracurium

e) Piperacurium

Correct Answer - D

Ans. D. Atracurium

[Ref: Ajay Yadav 5th/116-17; Lee 13th/189-95]

- Atracurium undergo spontaneous degradation in plasma called as Hoffman degradation.
- Atracurium is relaxant of choice if reversal agent is contraindicated.

Other muscle relaxants:

- (mentioned in question) require reversal with neostigmine (but Ne can not use neostigmine due to hypersensitivity), so can not use in this patient

206. Which of the following condition (s) can cause exaggerated hyperkalemia in patients with use of succinylcholine:

a) Burn

b) Spinal cord injury

c) Muscular dystrophy

d) Tetanus

e) Abdominal organ injury

Correct Answer - A:B:C:D

Ans. (A) Burn (B) Spinal cord injury (C) Muscular dystrophy (D) Tetanus

[Ref Ajay Yaday 5th/112-13; Lee 13th/190; KDT 7th/355; Barash Clinical Anesthesia 6th/MR]

Succinylcholine & hyperkalemia:

- In patients with extensive burn & soft tissue injuries.
- Also in tetanus & spinal cord injuries, neurological & muscular disorders (stroke, cerebral palsy & muscular dystrophy).
- After major denervation injuries, spinal cord transection, peripheral denervation, stroke, trauma, extensive burns, and prolonged immobility with disease

207. Which of the following does not increase intracranial pressure:

a) Sodium thiopentone

b) Desflurane

c) Mannitol

d) Sevoflurane

e) Propofol

Correct Answer - A:C:E
Ans. (A) Sodium thiopentone (C) Mannitol (E) Propofol
[Ref Ajay Yadav p.86, 109; Lee /643-45]
Mannitol is used in the treatment of increased intracranial tension.

208. Mechanism of action of general anesthesia is/are:

a) GABA-A receptor

b) GABA-B receptor

c) NMDA receptor

d) Na+ channel blockage

e) None

Correct Answer - A:C

Ans. (A) GABA-A receptor (C) NMDA receptor

[Ref: KDT 7th/372-73; Ajay Yadav 5th/71; Lee 13th/149; Miller 6th/721- 22]

Mechanism of General Anaesthesia:

- The GABA-A receptor gated Cl-channel is the most important of these.
- Many inhalational agents, barbiturates, benzodiazepines e propofol
- Action of glycine in the spinal cord & medulla is augmented by barbiturate, Propofol & many inhalational anaesthetics.
- Inhibition of excitatory type of NMDA type of glutamate receptor: Ketamine & N2O.

209. Which of the following statement is correct regarding mechanism of action of local anaesthesia:

a) Blockage of resting sodium channel more is than activated sodium channel

b) Faster conducting fibers blocked easily

c) Block Na-K ATPase channel

d) Fine touch goes before pain

e) In regional block i.v injection is used

Correct Answer - E

Ans. E. In regional block i.v injection is used

[Ref, Ajay Yadav 5th/138-140, 149; Lee 13th/369-374]

MOA:

- The key target of local anesthetics is the voltage-gated sodium channel.
- The binding is intracellular and is mediated by hydrophobic interactions.
- Local anesthetics block voltage-gated sodium channels and interrupt initiation and propagation of impulses in axons.
- Local anesthetics reversibly inhibit peripheral nerve conduction by blocking voltage gated sodium & potassium channel .
- The affinity of the sodium receptor is higher in open or inactivated states than in the resting state.
- Blockade sequence is-sympathetic> temperature (cold)> pain (prick) >proprioception (Light touch with cotton).

210. True statement regarding Iodine-131:

a) It is the only isotope of iodine used for thyroid

b) Contraindicated in pregnancy

c) Emits a rays

d) Emits 13 rays

e) Emits y rays

Correct Answer - B:D:E

Ans. (B) Contraindicated in pregnancy (D) Emits 13 rays (E) Emits y rays

[Ref: Dahnert Radiology manual 5th/1087:88; Review of Radiology by Sumer Sethi 2nd/101; Harrison tgth/263e-3, 18th/2932, t7g1, 17th/1360;Dutta Gynaecology 5th/484, 4th /465; Meredith Radiation Physics & Nuclear Medicine/28]

(Iodine) I-131:

- Emits beta & gamma rays.
- Contraindicated during pregnancy.
- Foetal thyroid will be destroyed resulting in cretinism, other abnormalities if given during the first trimester.
- **I-127** - Stable isotope of iodine.
- **I-131** - Radioactive isotope of medical importance.
- **I-123 -** Agent of choice for thyroid imaging.
- For radioactive iodine scanning I-131 & I-123 are used.
- For treatment hypothyroidism & thyroid cancer I-131 is used.

211. Side-effects (s) of Pituitary irradiation:

a) Hypopituiarism

b) Decrease risk of secondary tumor

c) Optic nerve damage

d) Increased risk of cerebrovascular accident

e) None

Correct Answer - A:C:D

Ans. (A) Hypopituiarism (C) Optic nerve damage (D) Increased risk of cerebrovascular accident

[Ref Harrison 19th/2263-64, 18th/2886, 2829;CMDT 2016/1087, 06/1115; Devita 7th/1844; Leibel Philip 2nd/489]

S/E of Pituitary irradiation:

- Hypopituitarism, some degree of memory impairment, increased long term nsk of second tumor & small vessel ischemic episode.

212. False increase in size of heart on chest x-ray PA view is/are seen in:

a) Rotation of patient

b) Supine view

c) Film taken in expiration

d) Pneumonia

e) None

Correct Answer - A:B

Ans. (A) Rotation of patient (B) Supine view

[Ref: WHO Radiographic Manual 2002/32-33; Basic Radiology (Lange) 2004/Heart imaging]

Causes of pseudo increased size of heart:

- Chest X-ray should be taken in full inspiration & correctly centered:
- A film taken in expiration can cause confusion.
- It may simulate diseases e.g., pulmonary congestion, cardiomegaly or a wide mediastinum'

In Supine chest view:

- The Heart appears enlarged & mediastinum may aPPear wide perhaps 10cm.

Mediastinal Widening:

- Widening of the mediastinum is most often due to technical factors such as Patient positioning or the projection used.
- Rotation, incomplete inspiration, or an AP view, may all exaggerate the width of the mediastinum, as well as heart size.

213. X-ray feature (s) of Left Atrial Hypertrophy:

a) Boot shaped heart

b) Widened carina

c) Straightened left border

d) Double atrial shadow

e) Money bag appearance

Correct Answer - B:C:D

Ans. (B) Widened carina (C) Straightened left border (D) Double atrial shadow

[Ref: PJM 20th/228; Dahnert Radiology manual 5th/ 57 5,636-637;Review radiology by Sumer Sethi 6th/76-77,80]

X-ray feature of left Atrial Hypertrophy:

- Double atrial shadow (Double density seen through right upper border)
- Straightened left border
- Left bronchus lifted up with widened carina
- Esophagus curving around the dilated Left atrium.
- Splaying of mainstem bronchi (i.e. Increased carinal angle)
- Small aorta (due to increase of furuard cardiac output)
- Normal/Undersized LV

214. All are true regarding PET scan except:

a) Help in assessment of both anatomical & functional status of tissue

b) Do not pose any radiation exposure to patient

c) Superior to CT for anatomical detail

d) FDG is used

e) None

Correct Answer - B:C

Ans. (B)Do not pose any radiation exposure to patient (C) Superior to CT for anatomical detail

[Ref L e B 25th/136-37; Dahnert Radiology manuel 5th/1085; L & B 25th/136, Basic Radiology by Lange 2004; raiiegTaphics.rsna.org / content/23/2/ 315full]

Positron Emission Tomography (PET):

- The most commonly used radiolabeled tracer is 18F-2- fluoro-2-deoxy-D-glucose (FDG), although other tracers can also be used in order to assess metabolic functions such as oxygen and glucose consumption and blood flow.
- Areas of high metabolic activity (i.e., cerebral cortex, deep gray nuclei) demonstrate greater radiopharmaceutical uptake than ilo arcas of low metabolic activity, such as white matter or cerebrospinal fluid. The bones of thc skull and scalp soft tissues are, for the most part, invisible.
- Anatomic resolution, although not as good as with CT or MRi imaging.

Strengths:

- Allows/functional imaging

- Allows imaging of the whole body
- Bone scan has a high sensitivity for metastatic bone disease, fractures and infection

Drawbacks:

- High cost, very limited availability and relatively low spatial resolution.

215. Which of the following is true regarding MRI:

a) MRI is better than CT scan for bony lesion

b) Grey matter is grey on TIWI

c) Uses dye gadolinium

d) Gadolinium is safer than iodine based contrast agent

e) Can be used in multiple plain

Correct Answer - B:C:D:E

Ans. (B) Grey matter is grey on TIWI (C)Uses dye gadolinium (D)Gadolinium is safer than iodine based contrast agent (E) Can be used in multiple plain

[Ref Sumer Sethi 2nd/9-10; mriscans.cliniccompare.co.uHmri-scan-with-contrast-dye; Dahnert radiology Review Manual 5th/1079; Bhadury 2nd/ 177; blog.radiolog.ucsf.edu; www.difren.com/dffirence / CT-Scan-r,s-MRI]

MRI:

- The contrast dye used in these MRI Scans is generally gadolinium at complications are rarer in comparison to the lodine origin dye wed for X-rays and CT scan
- In spine & for musculoskeletal problems, MRI is the preferred option.
- MR imaging has traditionally been used for neurologic indications, including brain tumors, acute ischemia, infection, and congmltal abnormalities.
- Grey matter is grey & white matter is white on T1W1 & relationship is reversed on T2W1.

216. SI unit of radioactivity is:

March 2013 (c, f)

a) Rem

b) Rad

c) Becuerel

d) Curie

e) None

Correct Answer - C
Ans. C i.e. Becquerel

217. Feature (s) of Schizophrenia is/are:

a) 1st rank symptom is helpful in making diagnosis

b) Depression may be present

c) Brain ventricle enlargement may be present

d) Onset occur only after age of 40 yr

e) Usually onset occur later in women as compared to men

Correct Answer - A:B:C:E

Ans. (A) 1st rank symptom is helpful in making diagnosis (B) Depression may be present (C) Brain ventricle enlargement may be present (E) Usually onset occur later in women as compared to men

Schizophrenia:

Two common affective symptom:

- Reduced emotional responsiveness (warrant the label of anhedonia, and overly active and inappropriate emotions such as extremes of rage, happiness, and anxiety).
- Other feeling tones include perplexity, a sense of isolation, overwhelming ambivalence & depression.

Onset:

- Usually later in women & often runs a more benign course. (Compared to men).

CNS involvement:

- Computed tomography (CT) scans of patients with schizophrenia have consistently shown lateral and thiril ventricular enlargement and,some reduction in cortical volume.

Diagnosis:

- Schneider's first rank symptoms of schizophrenia though not specific

but of geat help in making diagnosis & have significantly influenced the diagnostic criteria & classification of schizophrenia.

218. Which of following is perception disorder:

a) Delusion

b) Hallucination

c) Obsession

d) Depersonalization

e) Illusion

Correct Answer - B:C

Ans. (B) Hallucination (C) Obsession

[Ref Niraj Ahuja 6th/14, 17; Kaplan & Sailock l1th/233, 281]

Perception:

- Process of being aware of a sensory experience & being able to recognize it by comparing it with previous experiences.
- Perception disorders are-hallucinations, illusions & misinterpretations; depersonalization/derealization; somatic passivity phenomenon; autoscopy; abnormal vestibular sensations etc.

219. Which of the following modality is/are not included in behaviour therapy:

a) Role playing

b) Scheduling activities

c) Graded task assignment

d) Identifying maladaptive assumptions

e) None

Correct Answer - D

Ans. D. Identifying maladaptive assumptions

[Ref Nkaj Ahuja 6th/85, 228-30; IGplan & Saddok:s Synopsis of Psychiatry 10th/95 3-959]

Behavioral Techniques:

- This includes the various short-term modalities like social skills training problem solving techniques, assertiveness training, self-control therapy, activity scheduling & decision-making techniques.
- Among the behavioral techniques in cognitive therapy are scheduling activities, mastery and pleasure, graded task assignments, cognitive rehearsal, self-reliance training, role-playing, and diversion techniques.

220. Diazepam can he used for:

a) Agitation in emergency room

b) Long term treatment of epilepsy

c) Status epilepticus

d) Convulsion in tetanus

e) None

Correct Answer - A:C:D

Ans. (A) Agitation in emergency room (C) Status epilepticus (D) Convulsion in tetanus

[Ref. KDT 7th/a0a-05; Niraj Ahuja 6th/209; Kaplan 6 Saddok! Synopsis of Psychiatry I qth/ I 0 I 8-20]

Uses of Diazepam:

- First line drug for emergency control of convulsions e,g., status epilepticus, tetanus' eclampsia, convulsant drug poisoning.
- Narco analysis or abreation.
- Antipsychotic induced akathisia
- Treatment of alcohol withdrawal & other drug withdrawal syndrome
- Nightmares (diazepam also reduce the REM sleep duration)
- Insomnia.
- Stage 4 NREM sleep disorders like enuresis, somnambulism (diazepam reduce duration of stage 4 NREM sleep).
- Agitated depression

221. Benzodiazepines used in seizure treatment:

a) Lorazepam

b) Tenezepam

c) Alprazolam

d) Clobazam

e) Midazolam

Correct Answer - A:D
Ans. (A) Lorazepam (D) Clobazam
[Ref KDT 7th/398]

- Antiepileptic Benzodiazepines: Clonazepam, diazepam, Lorazepam dt clobazam.
- Febrile seizure Oral diazepam, midazolam & clobazam are effective prophylactics (Intermittent).

invalid question id