

Second stage ~ 2023

Formative exam ~ S4

Multiple choice question

Urinary system

1- About PCT which one is false?

- A. reabsorbs bulks of Na,Cl,Bicarbonate,glucose, amino acid, water, urate
- B. is highly impermeable for water
- C. chloride leaves the cell in exchange for K via specific chloride pumps
- D. along pct Na and H are exchanged

2- About metanephric cap which statement false:

- A. Metanephric cap will forms the glomerular capsule, proximal and distal convoluted tubule, loop of henle , collecting duct.
- B. Glomerular capsule invaginate by cluster of capillary & glomerulus .
- C. Surface of kidney is lobulated at first, but after birth lobulation usually disappear.
- D. Developing kidney initially a pelvic organ , receives blood from pelvic continuation from aorta.

3- Overall kidney will :-

- A. Control cell volume
- B. Control ph
- C. Control osmolarity partially(with respiratory system)
- D. Excrete waste product

Note/ prsyaraka halaya dabu nusraba (will not)

4- The buffer system includes all of the following except?

- A. HCO_3
- B. Absorption of ammonia at the distal tubule
- C. Bone salts (calcium carbonate and calcium phosphate).
- D. Blood proteins (albumin, haemoglobin , and other globulins).

5- Which one is false about renal structure:

- a) The medulla is composed of about a dozen renal pyramids, each having its base oriented toward the cortex and its apex
- b) The renal papilla, are apex of renal pyramids which projecting laterally.
- c) The cortex extends into the medulla between adjacent pyramids as the renal columns.
- b) Medullary rays are striations that extending from the bases of the Renal pyramids into the cortex

6- Uses of ultrasound in urology (the false statement is):

- A. can determine the absence/presence of hydronephrosis characterized by casting an acoustic shadow
- B. evaluation of renal stone
- C. evaluation of urinary retention and measurement of pvr urine volume
- D. assessment of hematuria

7- Sympathetic nervous

systems activation cause, all of the following true , except:

- A. increase in stroke volume (via -angiotensin-1 and -2 receptor)
- B. increase in heart rate (via beta-1 receptor)
- C. increase in systemic vascular resistance (via beta-1 receptor)
- D. activation of RAS (via beta-1 receptor- mediated renin release)

8- The primitive Bladder ?

- A) The urachus persists throughout life as the median umbilical ligament
- B) The smooth muscle of the bladder wall is derived from the endoderm.
- C) The primitive bladder is now divided into an upper dilated portion, the bladder, and a lower narrow portion, the urethra.
- D) The apex of the bladder is continuous with the allantois

Respiratory system

1- about the respiratory system all true except?

- A. basic function is to do gas exchange
- B. consist of network of passage
- C. ensure all tissue receive O₂ and give CO₂
- D. no difference in capacities between male and female

2- complications of COPD include (RS)

- A. Recurrent chest infection
- B. Cor pulmonale
- C. Pneumothorax
- D. Respiratory failure
- E. All of the above

3-About pneumonia which one is false ?

- A. the severity of pneumonia can be assessed by CURB65 score
- B. pneumococcal infection has very progression
- C. legionella pneumonia can be tested by urea test
- D. Oral penicillin used to patient with high risk of lower respiratory tract infection
- E. aspiration pneumonia can occur in debilitated patient

4- Regarding the Surfactant which one incorrect answer? (respiratory)

- A- increases lung compliance by increasing surface tension
- B- Stabilize the lungs
- C- preventing small alveoli collapsing into big ones
- D- Prevents the surface tension in alveoli creating a suction force tending to cause transudation fluid from pulmonary capillaries

5- about the thoracic cage all true except?

- A) Continuous with neck superiorly
- B) The thoracic vertebrae located posteriorly
- C) Consist of sternum and costal cartilage laterally
- D) Open indirectly to the abdomen.

6- All of the following about paranasal sinus all true except:

- A. Are air filled space
- B. they named according to the bones they located in
- C. The maxillary sinus is the largest one
- D. All of them present since birth

7- about respiratory failure:

- A. type has better prognosis
- B. patient's can do daily activity
- C. bounding pulse and flapping tremor are signs of Co2 retention
- D. clinical suspicion is of no significant
- E. no need for oxygen

8- All true except one about the pleural space? (R\$)

- a) Is normally filled with a few liters of fluid.
- b) Forms a pleural seal
- c) Holding the outer surface of the lungs to the inner surface of the thoracic wall.
- d) Help to to maintain the volume of the lung if the volume of the thorax cage changes.

9- all the following true about the airways except? (RS)

- a) The trachea and bronchi have cartilage in their wall.
- b) Bronchioles have skeletal muscles in their wall.
- c) Bronchioles draw air into the lungs by increasing their volume
- d) Alveoli provide the single cell thickness membrane for diffusion

GI system

1- Normal swallowing is dependent on the integrity of:

- A. 9th and 10th cranial nerve
- B. pyramidal tract
- C. Trigeminal nerve
- D. appetite center of hypothalamus
- E. accessory nerve

2- About inguinal canal which one is true :

- A. in child it is oblique in direction
- B. internal opening is triangular
- C. ilioinguinal nerve not passing through it
- D. its length is 4mm and in male its a passage for spermatic cord
- E. inferior border is formed by poupart's ligament

3- parts of embryological foregut all of the following except?

- A. stomach
- B. pharynxes
- C. gallbladder
- D. liver
- E. esophagus

4- All of these structures of GIT are derived from mesoderm except:

- A. circular muscle layer of bowel
- B. epithelial lining cell of digest tract
- C. connective tissue
- D. peritoneal components of gut wall
- E. longitudinal muscle layer of bowel

5- About embryology of liver which of the following is false

- A. liver bud grows from distal part of foregut into septum transversum
- B. from 4th month of gestation liver produce bile and make the color of intestine content dark green and named meconium
- C. liver can produce albumin by 5th week of gestation
- D. haemopoiesis is major function of liver from 4th week of gestation to birth
- E. glycogen storage start from early fetal life

6- The saliva is responsible for all except :-

- A. helps deglutition
- B. prevent dental care
- C. essential for complete digest starch
- D. prevent decalcification of the teeth
- E. defense mechanism

7- which of the following is not true about secretions of stomach

- A) Mucus is secreted by Chief Cells
- B) Hydrochloric Acid (HCl) is secreted by Parietal (Oxyntic) Cells
- C) HCO_3^- is secreted by Neck Cells (Surface cells)
- D) Gastrin is secreted by G-cells
- E) Proteolytic Enzymes (Pepsin) is secreted by Chief Cells

8- about omphalocele which of the following is false

- a) Its location in central umbilicus
- b) Sac always present
- c) More frequent in males
- d) Associated anomaly frequent (heart)
- e) Intestinal atresia rare

HPHD

1- In disorder of sexuality and sexual functioning, the term paraphilia refers to :

- A. problem with normal sexual response cycle
- B. sexual urges of fantasias involving unusual sources of gratification problems
- C. An individual is dissatisfied with their own biological sex and have a strong desire to be a member of the opposite sex.
- D. problem with sexual fantasies

2- Sexual dysfunction is one category of disorders of sexuality and sexual functioning. The term sexual dysfunction refers to:

- A. Problems with the normal sexual response cycle
- B. Sexual urges or fantasies involving unusual sources of gratification problems
- C. An individual is dissatisfied with their own biological sex and have a strong desire to be a member of the opposite sex.
- D. Problems with sexual fantasies

3- The main keys to managing stress are

- A. Recognizing and understanding the signs of stress
- B. Identifying sources of stress
- C. Identifying what we can and can't control
- D. All of the above

4- _____ is negative emotional responses or dislike toward members of a group membership

- A. Prejudice
- B. Stereotype
- C. Discrimination
- D. Differential attitude

5- — — — — is differential treatment based on group membership including age, sexual orientation, race, religion etc.

- A. Prejudice
- B. Stereotype
- C. Discrimination
- D. Differential attitude

6- — — — - are beliefs about what members of group are like

- A. Out group
- B. Stereotype
- C. Discrimination
- D. Prejudice

7- Which branch of science investigates the relationship between stress and the nervous and immune systems?

- a) Neurolinguistics
- b) Psychoneuroimmunology
- c) Sociology
- d) Adaptive immunology

8- — — — — skills are very important in managing effects of stress

- A. interpersonal skills
- B. communication
- C. time management
- D. problem solving.

9- Taking care of and supporting yourself during stressful times include all of the following except

- A. talking to others about stress
- B. providing some down time for yourself
- C. suppressing true feelings
- D. creating an emotional outlet

Immunity system

1- Adrenal gland do not produce sufficient steroid hormone in which autoimmune disease?

- A. SLE
- B. Diabetes -2
- C. Addison disease
- D. Pernicious anemia
- E. Good poster syndrome

2- Which of the following cells have receptors which resemble antibody

- A. Macrophage
- B. Neutrophils ~ C. Basophils
- D. T lymphocyte
- E. B lymphocyte

3- natural killer cells contain which of the following ?

- A. CD3
- B. CD8
- C. clonal expansion
- D. T cell receptor
- E. non of above

4- The Enterobacteriaceae a family of bacteria found in intestine. are facultative anaerobic that means ...

- A . Require oxygen
- B. Require reduced oxygen
- C. Require no oxygen
- D . Aerobic and anaerobic
- E. Require increased CO₂

5- Presence of 'Anti-glomerular basement membrane' means that the patient has anauto-immune disease

- A. organ specific
- B. non organ specific
- C. mixed
- D. no auto-immune disease
- E. no of above

6- Urinary tract infection is caused BY Escherichia coli which is a bacillus Gram negative bacteria that means appear as..... body under Gram stain microscopic examination

- a) Red spherical
- b) Blue spherical
- c) Red rod-shaped
- d) Blue rod-shaped
- e) Curved and spiral

Short answer question 26

Urinary system 2*2.5 +1=6

1- Side effects of administration of intravenous contrast media

Ans/

- Allergy or anaphylactic reaction
- Nephrotoxic

2- Describe factors that important in urinary K⁺ excretion?

Ans/

Aldosterone secretion: This is increased directly by hyperkalaemia (and hypovolaemia) and suppressed by hypokalaemia, causes controlling K⁺ in the normal range .ENaC

Flow in the distal tubule activates stretch-sensitive K⁺ channels causes increase urinary K⁺ loss.

Increase tubular sodium delivery, causes increase luminal sodium-activating ENaC directly.

- **ADH or vasopressin** may stimulate (some) sodium reabsorption, so increase K⁺ loss.
- **Alkalosis.**

3- Hormones produced by kidney?

Ans/

Renin - Protein released by juxtaglomerular apparatus ,Stimulation of production of angiotensin I causes sodium and water reabsorption and also as a potent vasoconstrictors (rises BP)

Vitamin D - Steroid hormone that is metabolised in the kidney to produce (1,25-dihydroxyvitamin D) which promotes calcium and phosphate absorption at the gut

Erythropoietin - Protein , promotes,erythropoeisis in the bone marrow in response to hypoxic conditions.

Prostaglandins .

4- Regarding Anatomy of urinary tract write about The Renal hilum?

Ans/

Renal hilum is a vertical slit on the medial border of the kidney, this is the area in which ureter and renal veins leave the kidney the other structures including renal artery, lymphatic vessels and nerves enter the kidney.

Respiratory system

1- How hyperventilation cause tetany?

Ans/

Hyperventilation cause decrease in Co_2 so PH increase), the Ca^{2+} only soluble in acid, so when PH increase the Ca^{2+} remain in blood, so nerve become hyper-excitabile , Thus lead to tetany.

2- Explain what are the part of upper and lower respiratory system ?

Ans/

Upper : Nasal Cavity ,Pharynx ,Larynx

Lower : Trachea , Bronchi (Main/Primary ,Lobar ,Segmental ,Sub-segmental) ,Bronchioles (Terminal ,Respiratory),Alveolar Ducts, Alveoli

3- The natural defense of respiratory tract against infection

Ans/

Cough and sneezing reflex

Muco - ciliary clearance mechanisms

Ciliated columnar epithelium

Nasal hairs

Respiratory mucosal immune system

Lymphoid follicles of the pharynx and tonsils

Alveolar macrophages

Secretory IgA and IgG

4- Explain factors that affect hemoglobin dissociation curve

Ans/

Increasing temperature decrease affinity Hb for O_2 ,so the O_2 dissociation curve shifts to the LEFT and vice versa.

Decreasing PH decrease affinity Hb for O_2 ,so O_2 dissociation curve shifts to the RIGHT and vice versa.

GIT system

1- Enumerate contents of spermatic cord

Ans/ The structures of the spermatic cord are as follows:

Vas deferens

Testicular artery & Testicular veins (pampiniform plexus)

Testicular lymph vessels & Autonomic nerves

Remains of processus vaginalis Genital branch of the genitofemoral nerve

2- 4 Difference between ileum and jejunum

Features	Jejunum	Ileum
Position and length	2.5 m long (proximal two-fifth) and it is mostly in the left upper quadrant of the abdomen.	3.5 m in length (distal three-fifths) and is mostly in the right lower quadrant
Walls	Thicker and more vascular	Thinner and less vascular
Lumen	Wider (diameter 4 cm)	Narrower (diameter 3.5 cm)
Plicae circulares	Longer and closely set	Smaller and sparsely set
Villi	More, larger, thicker, and leaf-like	Less, shorter, thinner, and finger-like
Aggregated lymph follicles	Small, circular, and few in number, and found only in the distal part of the jejunum	Large oval and more in number, and found throughout the extent of ileum being maximum in the distal part (Peyer's patches)
Mesentery	Attached to the posterior abdominal wall above and to the left of the aorta	Attached below and to the right of the aorta
Arterial arcades	One or two rows with long vasa recta	Four or five rows with short vasa recta

3- Write about position adjustment of stomach during embryological life Ans/

- Descent: due to rapid elongation of the esophagus the cardiac end of the stomach descend from C2 at 4 week to T11 at 12 weeks
- Tilting:from a vertical position at 4 weeks to an oblique position by 8 weeks rotation around (antero- posterior axis) due to more rapid growth along the greater curvature
- Rotation:90° clockwise around its longitudinal axis (vertical axis) causing its left side to face anteriorly and its right side to face posteriorly(left vagus nerve innervate anterior wall and right one innervate posterior wall)
- Shift to the left both the dorsal mesentery and the stomach

4-Enumerate macroscopy appearance of gastric cancer.

Ans/

A. Intestinal-type adenocarcinoma. This advanced carcinoma presented as a large, exophytic, polypoid mass.

B. Linitus plastica. The gastric wall is markedly thickened, firm, and fibrotic. In contrast to the intestinal-type carcinoma, the mucosa appears relatively normal.

C. Early gastric cancer. In this example, the adenocarcinoma presents as a small of mucosal

HPHD $2 \times 2.5 = 5$

1- Describe and evaluate key theoretical approaches to understanding stress?

Ans/

Stress on the inside--> Physiological response.

Stress from outside--> as a life events.

Stress as a Process--> Transactional model of Stress.

2- Provide an overview of the nature, assessment and treatment of sexual dysfunction.

Ans/

3- Describe how normal human cognitive functions can lead to stereotypical thinking

Ans/

- inequalities in society.
- Ideas earned about other people/groups from family members, friends and/or the media.
- not spending a lot of time with people who are different from you in some way.
- not being open to different ideas and ways of living.

4- Describe different strategies for coping with illness, and how to support them

Ans/

Cognitive strategies

e.g. cognitive restructuring, hypothesis testing

- **Behavioural strategies**

Skills training

Behavioral strategies

Eg. skill training

Emotional strategies

Counselling, emotional disclosure, social support

- **Physical strategies**

Relaxation training, biofeedback, exercise

Physical strategies

Eg. exercise

Non-cognitive strategies

drugs

Immunity system

1- Enumerate the mechanism of autoimmunity and tolerance break down ?

Ans/

2- Draw a diagram show principle innate and adaptive immune mechanisms

Ans/

3- Mention the morphological characteristics of species of two bacteria that may cause osteomyelitis.

Ans/

4- Describe reason why hepatitis virus is regarded as defective virus?

Ans/

