

# FINAL COLLECTED QUESTIONS OF ECS 018

## 1-Addison's Disease is characterized by

- a. Lack of ACTH.
- b. Excess production of cortisol from zona fasciculata.
- c. Over production of T3.
- d. Over production of T4.
- e. Darken Skin color.

## 2-Which of the following sentence is true?

- a. Highest levels of cortisol are at night following ACTH release .
- b. Cortisol release is same as the circadian pattern of growth hormone secretion.
- c. Lowest levels of cortisol are in early AM following ACTH release Cortisol release.
- d. Cortisol release is opposes the circadian pattern of growth hormone secretion.
- e. None of the above.

## 3-Regarding the thyroid gland which of the following is true

- a. Cuboidal epithelium is the structural & functional units of the thyroid gland.
- b. Thyroid hormones are mainly synthesized in cuboidal epithelium.
- c. The simple cuboidal epithelium undertakes iodide production.
- d. Thyroid hormones are mainly synthesized in colloid.
- e. All of the above.

## 4-The synthesis of thyroidal hormones involves the following

- a. Polypeptide chains of Tg (thyroglobulin) are synthesized in the Golgi body.
- b. Iodide is synthesized by sodium-iodide symporter.
- c. Lysosomal proteolysis of the droplets or vesicles hydrolyzes Tg to release its iodinated amino acids and carbohydrates.
- d. Newly formed Tg is transported to the cell surface in large apical vesicles.
- e. All of the above.

## 5-Regarding the parathyroid glands, which is true?

- a. PTH is secreted from the parathyroid glands in response to a high plasma concentration of ionized (free) calcium.
- b. PTH is secreted in response to high glucose.
- c. PTH is secreted in response of high T4.

- d. PTH immediately causes the transfer of labile calcium stores from bone into the blood stream.
- e. PTH is secreted from the thyroid glands in response to a low plasma concentration of ionized (free) calcium.

#### 6-Calcitonin is ?

- a. Normally stimulated by rising serum calcium levels and suppressed by hypocalcemia.
- b. Normally stimulated by decreasing serum calcium levels and suppressed by hypocalcemia.
- c. Stimulated by high glucose.
- d. Stimulated by high H<sup>+</sup>.
- e. Normally stimulated by hypocalcemia.

#### 7-Hyperparathyroidism is characterized by ?

- a. Excessive production of PTH by one or more of hyperfunctioning parathyroid glands.
- b. Not having a genetic factor involved.
- c. Less production of PTH by one or more of hyperfunctioning parathyroid glands.
- d. Increase in cortisol level.
- e. All of the above.

#### 8-Treatment of Type 2 Diabetes include ?

- a. Agents which decrease insulin secretion.
- b. Agents which decrease the sensitivity of target organs to insulin.
- c. Agents which increase glucose absorption.
- d. Insulin.
- e. All of the above.

#### 9-In addition to its effects on stimulating glucose uptake by tissues, insulin has other physiological actions including ;

- a. Increase hepatic glycogenolysis.
- b. Decreasing hepatic glucose storage into glycogen.
- c. Promoting hepatic gluconeogenesis.
- d. Inhibit lipolysis.
- e. All of the above.

#### 10-Sulfonylurea receptor in B-cell membrane activation results in

- a. ATP-sensitive K<sup>+</sup>-channel activation.
- b. Cellular membrane depolarization.
- c. Ca<sup>2+</sup> removal from the cell via voltage-dependent Ca<sup>2+</sup> channel.
- d. Glucose release.
- e. All of the above.

**11-The main problem of metformin is that :**

- a. It increases the risk of lactic acidosis.
- b. It increases the risk of ketoacidosis.
- c. It causes development of congestive heart failure.
- d. It causes hypoglycemia.
- e. All of the above.

**12-Hypoglycemia rarely seen with these drugs when used as monotherapy EXCEPT:**

- a. Metformin.
- b. Acarbose.
- c. Miglitol.
- d. Glyburide.
- e. All of the above.

**13-All of the following are true statements about the thiazolidinediones EXCEPT**

- a. Thiazolidinediones may be hepatotoxic in some individuals.
- b. Thiazolidinediones increase the number of insulin receptors on the cell membrane surface.
- c. Thiazolidinediones bind a nuclear receptor in tissue termed PPAR-γ.  
Thiazolidinediones are a novel class of drugs that were initially identified for their insulin- sensitizing properties.
- d. All of the above.

**14-Diabetes mellitus signs & symptoms are summarized by the following EXCEPT ;**

- a. Very thirsty.
- b. Feeling tired.
- c. Using the toilet often to urinate.
- d. Feeling full.
- e. All of the above.

**15-Regarding Corticosteroids, which is false;**

- a. The mammalian adrenal cortex is divided into three concentric zones.
- b. The steroidal nature of adrenocortical hormones is established when Reichstein synthesized desoxycorticosterone.
- c. Aldosterone is the main electrolyte-regulating steroid.
- d. Hydrocortisone (cortisol) is the main carbohydrate-regulating steroid.
- e. Hydrocortisone (cortisol) is the main electrolyte-regulating steroid.

**16-Regarding the pharmacological actions of Corticosteroids which is false;**

- a. The pharmacological actions of steroids are generally an extension of their physiological effects.
- b. Glucocorticoids used to suppress inflammation, allergy and immune responses.
- c. Anti-inflammatory effect of Corticosteroids is used in cases of tissue transplantation.
- d. Striking improvements can be obtained up on the use of Corticosteroids with mild side effects.
- e. None of the above.

**17-Regarding actions of the corticosteroids which is true;**

- a. Glucocorticoids directly inhibit cardiac output.
- b. The protein catabolic actions of the glucocorticoids result in a negative nitrogen balance.
- c. The glucocorticoids decrease blood glucose.
- d. The glucocorticoids decrease liver glycogen.
- e. Protein catabolic actions of the glucocorticoids result in a nitrogen imbalance.

**18- Which of the following is False about exophthalmos?**

- a. It may lead to corneal injury.
- b. One cause is inflammatory infiltration of the retroorbital tissue.
- c. It is specific for Graves disease.
- d. It is present in all cases of Graves' disease.
- e. It persists or progresses after treatment of thyrotoxicosis.

**19- Which of the following is most manifestation of thyroid diseases?**

- a. Follicular adenoma.
- b. Graves' disease.
- c. Hashimoto thyroiditis.
- d. Diffuse and multinodular goiter.
- e. Papillary carcinoma.

20- Which of the following genes shows mutation in familial medullary carcinoma?

- a. RET.
- b. RB.
- c. P63.
- d. RAS.
- e. P53.

21- Which of the following thyroid carcinomas is associated with previous radiation therapy?

- a. Papillary carcinoma.
- b. Poorly differentiated thyroid carcinoma.
- c. Medullary carcinoma.
- d. Anaplastic carcinoma.
- e. Follicular carcinoma.

22- Which of the following is False about primary hyperparathyroidism?

- a. Most commonly caused by parathyroid adenoma.
- b. It is the most common cause of clinically apparent hypercalcemia.
- c. It causes osteitis fibrosa cystica.
- d. It can cause nephrocalcinosis.
- e. Characterized by hypophosphatemia.

23- Which of the following statements is False?

- a. Random blood glucose levels more or equal to 200 mg/dl means diabetes.
- b. Fasting blood glucose levels between 100 to 125mg/dl means prediabetes.
- c. Fasting blood glucose levels of more than 126 mg/dl means diabetes.
- d. HBA1C levels between 5.7 and 6.4 % means diabetes.
- e. Plasma glucose levels between 140 and 199 mg/dl on glucose tolerance test means prediabetes.

24- Which of the following is False about diabetes Mellitus type 2?

- a. Inflammation mediated by cytokines results in peripheral resistance.
- b. Accounts for 80-90% of cases of diabetes.
- c. Low levels of free fatty acids play a role in mediating insulin resistance.
- d. Obesity is a risk factor for insulin resistance.
- e. Characterized by B-cell dysfunction.

25- The most common cause of death in diabetic patients

- a. Cerebral infarction.

- b. Chronic renal failure.
- c. Pulmonary edema.
- d. Myocardial infarction.
- e. Pulmonary infarction.

**26- Which of the following is the most common cause of endogenous Cushing syndrome?**

- a. Ectopic production of ACTH.
- b. Adrenocortical carcinoma.
- c. ACTH-producing pituitary adenoma (Cushing disease).
- d. Primary adrenal hyperplasia.
- e. Adrenocortical adenoma.

**27- Brain sand can be seen in which one of the following?**

- a. Parathyroid gland.
- b. Suprarenal gland.
- c. Pineal gland.
- d. Pituitary gland.
- e. Thyroid gland.

**28- Which of the following is False about hyperaldosteronism**

- a. It causes hypertension.
- b. Primary hyperaldosteronism is characterized by decrease renin levels.
- c. It causes hypokalemia.
- d. Secondary hyperaldosteronism can be caused by renal hypoperfusion.
- e. The most common cause of primary hyperaldosteronism is adrenocortical carcinoma.

**29- The most common cause of chronic adrenocortical insufficiency (Addison disease)**

- a. Autoimmune adrenalitis.
- b. AIDS.
- c. Tuberculosis.
- d. Fungal infection.
- e. Metastatic carcinoma.

**30- Which of the following is NOT a clinical manifestation of Cushing syndrome**

- a. Cutaneous striae.

- b. Hypertension.
- c. Truncal obesity.
- d. Hypoglycemia.
- e. Osteoporosis.

**31- Which one of the following structures lies posterior to the thyroid gland?**

- a. The carotid sheath.
- b. The trachea.
- c. The larynx.
- d. Sternohyoid muscle.
- e. Superior and inferior thyroid arteries.

**32- Which of the following is located posterior to both right and left suprarenal glands?**

- a. Bile duct.
- b. The 9th rib.
- c. Portal vein.
- d. The inferior vena.
- e. The diaphragm.

**33- Parathyroid gland, choose the wrong statement;**

- a. The superior parathyroid glands are usually dorsal to the nerve that accompanies the superior thyroid artery.
- b. The dorsal wing of the third pharyngeal pouch differentiates into inferior parathyroid gland.
- c. The inferior parathyroid glands located ventral to the recurrent laryngeal nerve.
- d. The ventral wing of the fourth pharyngeal pouch differentiates into superior parathyroid gland.
- e. The inferior parathyroid glands occasionally migrate to the level of the aortic arch.

**34- Choose the wrong statement about Zona Fasciculata.**

- a. Its cells are typical steroid synthesizing cells.
- b. Its cells are arranged in circles.
- c. Its cells cytoplasm contains lipid droplets.
- d. Its cells secrete glucocorticoids, mainly cortisol.
- e. It is the thickest middle zone that forms around 80% of the cortex.

**35- The development of the suprarenal gland, choose the wrong statement.**

- a. Its medulla originates from ectodermal origin (neural crest cells).

- b. All chromaffin cells migrate and invade the medulla of the suprarenal gland.
- c. Its cortical cells originate from mesodermal mesenchyme.
- d. The basophilic mesothelial cells will form the future glomerular and fascicular zones of the definitive cortex.
- e. The largest cluster of chromaffin cells outside the adrenal medulla is referred to as the organ of Zuckerkandl.

**36-The suprarenal glands, choose the wrong statement.**

- a. The left suprarenal gland does not reach the hilum of the left kidney.
- b. The diaphragm lies posterior to both suprarenal glands.
- c. Found at the level of the 11th rib.
- d. The inferior vena cava lies anteriomedially to the right suprarenal gland.
- e. They are located retroperitoneally at the upper poles of the kidneys.

**37-The blood supply of the suprarenal glands, choose the wrong statement.**

- a. The inferior suprarenal artery is a branch from the renal artery.
- b. The arterial and venous capillaries within the adrenal gland enable it to convert norepinephrine to epinephrine.
- c. The right and left suprarenal glands drain into the inferior vena cava.
- d. The medulla has a dual blood supply.
- e. The suprarenal gland receives the highest blood supply in the body.

**38-The thyroid gland will move upward when the patient is asked to swallow because:**

- a. The thyroid gland and the larynx are covered by the prevertebral fascia.
- b. The thyroid gland and tongue are attached to each other by the thyroglossal duct.
- c. The thyroid gland and the larynx are covered by the superficial fascia of the neck.
- d. The thyroid gland and the larynx are covered by the carotid sheath.
- e. The thyroid gland and the larynx are covered by the pretracheal fascia.

**39-3-year-old boy is admitted to the hospital because of a soft anterior midline cervical mass. When he is asked to protrude his tongue, the mass in the neck is observed to move upward. Which of the following is the most likely diagnosis?**

- a. Defect in the sixth pharyngeal arch.
- b. Cystic fistula of the third pharyngeal arch.
- c. A branchial cyst.
- d. A thyroglossal duct cyst.
- e. Defect in first pharyngeal arch.

#### 40- what is myxoedema (maybe)?

- Is a term used synonymously with severe hyper activity of adrenal gland.
- A condition of severely stunted physical and mental growth due to untreated anemia.
- A condition of increased blood pressure.
- A condition of severely stunted physical and mental growth due to untreated congenital deficiency of thyroid hormones.
- Used to describe a dermatological change that can occur in hypothyroidism.

### Answers

|    |   |    |   |    |   |    |   |
|----|---|----|---|----|---|----|---|
| 1  | E | 11 | A | 21 | A | 31 | E |
| 2  | D | 12 | D | 22 | B | 32 | E |
| 3  | D | 13 | B | 23 | D | 33 | D |
| 4  | C | 14 | D | 24 | C | 34 | B |
| 5  | D | 15 | E | 25 | D | 35 | B |
| 6  | A | 16 | D | 26 | C | 36 | A |
| 7  | A | 17 | B | 27 | C | 37 | C |
| 8  | D | 18 | D | 28 | E | 38 | E |
| 9  | D | 19 | D | 29 | A | 39 | D |
| 10 | B | 20 | A | 30 | D | 40 | E |

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وفي الطريق الطويل؛ يا الله شُدّ على سواعِدنا.