

# GENESIS

(Post Graduation Medical Orientation Centre)

## Foundation-1 Batch

Total Number- 60

Pass Mark- 42

Subject: Endocrinology-I

Question 16-30 is based on Single answers

Time: 30 Min

Date: 08/02/20

### 1. What are the effects of vasopressin?

- a) Increase permeability of PCT to  $\text{Na}^+$
- b) Increase permeability of PCT to water
- c) Retention of water in excess of solute
- d) Increase the effective osmotic pressure of the body
- e) Raising the osmolality of body fluid

**FF (CD)TF(decrease)F(decrease) (Ref: Ganong-25th--301)**

### 2. What are the factors that reduce the secretion of growth hormone?

- a) Fasting
- b) Stressful condition
- c) Glucagon
- d) Going to sleep
- e) 2 -deoxyglucose

**FFFFF (REF: Ganong-25th--328)**

### 3. Physiological effects of thyroid hormone

- a) Increase number of  $\beta$ -adrenergic receptors in heart
- b) Formation of HDL receptors
- c) Increase protein synthesis
- d) Increase lipogenesis
- e) Normal growth & skeletal development

**T F FF T (Ganong 25<sup>th</sup>-346)**

### 4. Correct informations regarding thyroid hormones are

- a) 7% of secreted hormone is thyroxine
- b) There is no difference between T3 & T4 regarding intensity of action
- c) Function of T3, T4 is qualitatively same
- d) Tissue use mainly T3
- e) T3 is transported to blood with carrier protein

**F (93)FTTT (Guyton 12th-909)**

### 5. During sleep there is a fall in the circulating level of

- a) Cortisol
- b) Insulin
- c) Adrenaline
- d) Antidiuretic hormone
- e) Growth hormone

**TTTFF (RODDE-446)**

### 6. Destruction of the anterior pituitary gland causes

- a) Amenorrhoea
- b) Diabetes insipidus
- c) Skin pallor
- d) Impaired ability to survive severe stress
- e) A fall in basal metabolic rate (BMR)

**T F T TT (Rodde-489)**

### 7. Hormones that act by activation of gene include

- a) Aldosterone
- b) Thyroid hormones
- c) Calcitriol
- d) Glucagon
- e) Insulin

**TTTFF**

**Explanation:**

**By activating the genes:**

- i. Steroid hormones
- ii. Thyroid hormones
- iii. Vitamin D

[Ref: Guyton 13<sup>th</sup> P-930]

### 8. Vasopression

- a) Is synthesized in the posterior pituitary
- b) Is decapeptide
- c) Has been synthesized in vitro
- d) Is potentiated as regards its action on the kidney
- e) Secretion is defective in nephrogenic diabetes insipidus

**FTTTF [Ref: Guyton & Hall/13<sup>th</sup>/P-949]**

### 9. Following are steroid hormone

- a) Aldosterone
- b) Glucocorticoid
- c) Calcitriol
- d) Catecholamine
- e) Oxytocin

**TTTFF**

### 10. Hormones act through CAMP second messenger system

- a) LH
- b) PTH
- c) ADH
- d) GnRH
- e) ACTH

**TTTFT**

**11. Hormones act through transcription**

- a) Catecholamine
- b) Retinoic acid
- c) Triiodothyronine
- d) Oxytocin
- e) FSH

**FTTFF**

**12. Hormones that use the phospholipase C second messenger system includes**

- a) Oxytocin
- b) Growth hormone
- c) Thyrotropin releasing hormone
- d) Glucagon
- e) Vasopressin

**TFTFT**

**13. The pituitary gland**

- a) Regulates activity in all other endocrine glands.
- b) Output of prolactin is regulated by hypothalamic releasing factors.
- c) Secretes antidiuretic hormone when blood osmolality falls
- d) Has an intermediate lobe which secretes melanotropin
- e) Responds to nervous and hormonal influences from the brain

**FTFTT**

**14. Stimuli increase ADH secretion**

- a) Adrenaline
- b) Alcohol
- c) Clonidine
- d) Angiotensin II
- e) Vomiting

**TFFTT**

**15. Regarding thyroid gland**

- a) During active stage of gland follicles are small
- b) Supplied by branch of external carotid artery
- c) Weight 25mg
- d) Daily  $I_2$  requirement: 150mg
- e) Calcitonin secreted from follicular cell

**TTFTF**

Each question below contains five suggested answers- choose the one best response to each question (16-30)

**16. A 36-year-old head-injury patient developed syndrome of inappropriate antidiuretic hormone secretion (SIADH). This patient manifesting SIADH would be expected to have:**

- a) High serum sodium due to the direct stimulatory effect of ADH on distal tubular sodium resorption
- b) High serum sodium due to the concentrating effect of ADH-induced water excretion in the collecting tubules
- c) Low serum sodium due to the dilutional effect of ADH-induced water retention in the collecting tubules
- d) Low serum sodium due to a direct inhibitory effect of ADH on distal tubular sodium resorption
- e) No change in serum sodium, since the dilutional effect of ADH-induced water retention is balanced by a direct stimulatory effect of ADH on distal tubular sodium resorption

**C**

**17. A 26-year-old woman has Graves' disease. In this woman, one would least likely expect:**

- a) Goitre
- b) Increased metabolic rate
- c) Increased sweating
- d) Increased thyroid-stimulating hormone (TSH) secretion
- e) Weight loss

**D**

**18. Testosterone is the male sex hormone. Testosterone is synthesised in the testes from:**

- a) Cholesterol
- b) Glycine
- c) Oestrogen
- d) Taurine
- e) Tyrosine

**A**

**19. Thyroid hormones, when secreted in excess may cause an increase in the**

- a) Peripheral resistance
- b) Constipation
- c) Attainment of energy required for a given workload
- d) Duration of tendon reflexes
- e) Heart rate when cardiac adrenergic and cholinergic receptors are blocked

**E [Rodde 6<sup>th</sup>/P-193]**

**20. Feature of hypothyroidism**

- a) Hyponatremia
- b) Raised bilirubin
- c) Lag storage glycosuria
- d) Hypercalcaemia
- e) Hypocholesterolaemia

**A**

**21. Regarding SIADH which one is not true?**

- a) Low plasma sodium concentration typically <130 mmol/L
- b) Low plasma osmolality usually > 270 mmol/kg
- c) Plasma urea, creatinine, uric acid low normal
- d) Urine osmolality not minimally low typically > 150 mmol/kg
- e) Urine sodium concentration not minimally low > 30 mmol/L

**B**

**22. Regarding diabetes insipidus which one is incorrect**

- a) Occurs in deficiency of ADH
- b) May occur in renal tubular damage
- c) Symptoms are less marked during pregnancy
- d) Urine osmolality is low
- e) Water deprivation test is diagnostic

**C**

**23. Identify the factor of which another name is multiplication stimulating activity, having effect on diverse tissue, play major role in growth during intrauterine life**

- a) Growth hormone
- b) Insulin
- c) IGF I
- d) IGF-II
- e) Thyroxine

**D (Ref: Ganong-25th--327)**

**24. When the epiphyses are closed, linear growth is no longer possible) In this case, an overabundance of growth hormone produces the pattern of bone and soft tissue deformities known in humans as**

- a) Appositional growth
- b) Gigantism
- c) Acromegaly
- d) Laron dwarfism
- e) Psychological dwarfism

**C (Ref: Ganong-25th--324)**

**25. What is the most common cause of hyperthyroidism?**

- a) Graves disease
- b) Solitary toxic adenoma
- c) Toxic multinodular goiter
- d) Early stages of Hashimoto thyroiditis<sup>a</sup>
- e) TSH-secreting pituitary tumor

**A (REF: Ganong-25th--345)**

**26. In hyperthyroid individual the level of blood glucose is really high because**

- a) It increases glycogenolysis
- b) Enhance gluconeogenesis
- c) Stimulates adrenalin secretion
- d) Enhances glucose absorption from gut
- e) Enhance glucose reabsorption from renal tubule

**D (REF: Ganong-25th--348)**

**27. Which one is function of GH are**

- a) Retogenic
- b) Increase free fatty acid
- c) Cause insulin resistance
- d) Increases protein catabolism
- e) Causes positive nitrogen balance

**D**

**28. during investigating a patient of thyroid disease reveals T<sub>3</sub>- Low, T<sub>4</sub>- Raised & TSH- Undetectable. Now what is the possible diagnosis?**

- a) Sick euthyroidism
- b) Primary thyrotoxicosis
- c) Subclinical thyrotoxicosis
- d) Thyroid hormone resistance
- e) Transient thyroiditis in evolution

**A**

**29. Antidiuretic hormone (ADH) is a peptide hormone liberated from a preprohormone precursor that is synthesised in the hypothalamus as it is transported to the posterior pituitary. ADH secretion is most increased by:**

- a) Decreased plasma osmolarity
- b) Decreased plasma volume
- c) Hypothalamic releasing factor
- d) Increased plasma osmolarity
- e) Increased plasma volume

**D (Increased plasma osmolarity)**

**30. A 22-year-old woman has puffy eyes and hoarse voice. Her plasma thyroid-stimulating hormone (TSH) concentration is low but increases markedly when she is given thyrotrophin-releasing hormone (TRH). She probably has:**

- a) Hyperthyroidism due to a thyroid tumour
- b) Hyperthyroidism due to a primary abnormality in the hypothalamus
- c) Hypothyroidism due to a primary abnormality in the hypothalamus
- d) Hypothyroidism due to a primary abnormality in pituitary gland
- e) Hypothyroidism due to a primary abnormality in thyroid gland

**C (Hypothyroidism due to a primary abnormality in the hypothalamus)**