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Question 1

Not answered

Marked out of 0.500

v1 (latest)

The 'peakless' insulin profile is a feature of which of the following preparations?

Select one:

- ☐ A. Glulisine
- ☐ B. NPH
- ☐ C. Glargine
- ☐ D. Lispro
- ☐ E. Regular

The correct answer is:  
Glargine

Question 2

Not answered

Marked out of 0.500

v1 (latest)

Which class of oral antidiabetic drugs acts by closing ATP-sensitive potassium channels on pancreatic  $\beta$ -cells?

Select one:

- ☐ A. Biguanides
- ☐ B. Thiazolidinediones
- ☐ C. Sodium Glucose Cotransporter 2 (SGLT2) inhibitors
- ☐ D. Sulfonylureas
- ☐ E. Dipeptidyl Peptidase IV (DPP-4) inhibitors

The correct answer is:  
Sulfonylureas

Question 3

Not answered

Marked out of 0.500

v1 (latest)

Which non-insulin antidiabetic agent is most likely to cause weight loss?

Select one:

- ☐ A. Meglitinides
- ☐ B. Sulfonylureas
- ☐ C. Glucagon like peptide 1 (GLP-1) receptor agonists
- ☐ D. Dipeptidyl Peptidase IV (DPP-4) inhibitors
- ☐ E. Thiazolidinediones

The correct answer is:  
Glucagon like peptide 1 (GLP-1) receptor agonists

Question 4

Not answered

Marked out of 0.500

v1 (latest)

A 60-year-old male with renal insufficiency treated for type II diabetes mellitus develops lactic acidosis. Which of the following oral antidiabetic agents might cause this adverse effect?

Select one:

- ☐ A. Pioglitazone
- ☐ B. Metformin
- ☐ C. Dapagliflozin
- ☐ D. Acarbose
- ☐ E. Glibenclamide

The correct answer is:  
Metformin

Question 5

Not answered

Marked out of 0.500

v1 (latest)

Which one of the following is an adverse effect associated with combined oral contraceptives?

Select one:

- ☐ A. Hypotension
- ☐ B. Renal failure
- ☐ C. Aggravation of asthma
- ☐ D. Peripheral neuropathy
- ☐ E. Deep venous thrombosis

The correct answer is:  
Deep venous thrombosis

Question 6

Not answered

Marked out of 0.500

v1 (latest)

The estrogen that is used in most combined hormonal contraceptive is:

Select one:

- ☐ A. Diethylstilboestrol
- ☐ B. Norgestrel
- ☐ C. Ethinyl estradiol
- ☐ D. Clomiphene
- ☐ E. Estrone

The correct answer is:

Ethinyl estradiol

Question 7

Not answered

Marked out of 0.375

v1 (latest)

Which of the following is the primary mechanism of action of insulin?

Select one:

- ☐ A. Activating G-protein-coupled receptors (GPCR)
- ☐ B. Inhibition of an AMP-activated protein kinase (AMPK)
- ☐ C. Stimulating a soluble Guanylate Cyclase
- ☐ D. Inhibit-  $\alpha$ -glucosidase enzyme
- ☐ E. Activation of Tyrosine Kinase-linked receptor

The correct answer is:

Activation of Tyrosine Kinase-linked receptor

Question 8

Not answered

Marked out of 0.500

v1 (latest)

Which cells secrete growth hormone (GH)?

Select one:

- ☐ A. Chromophobes
- ☐ B. Gonadotropesn chemicals
- ☐ C. Basophils
- ☐ D. Acidophils

The correct answer is:

Acidophils

Question 9

Not answered

Marked out of 0.500

v1 (latest)

What is the effect of GH on bone growth?

Select one:

- ☐ A. Stimulates chondrocyte multiplication and bone matrix mineralization
- ☐ B. Decreases calcium absorption
- ☐ C. Stops bone growth after birth
- ☐ D. nhibits osteoblast activity

The correct answer is:

Stimulates chondrocyte multiplication and bone matrix mineralization

Question 10

Not answered

Marked out of 0.500

v1 (latest)

What is the diabetogenic effect of GH?

Select one:

- ☐ A. GH prevents gluconeogenesis
- ☐ B. GH lowers blood glucose
- ☐ C. GH increases insulin sensitivity
- ☐ D. GH causes insulin deficiency due to  $\beta$ -cell burnout

The correct answer is:

GH causes insulin deficiency due to  $\beta$ -cell burnout

Question 11

Not answered

Marked out of 0.500

v1 (latest)

Which of the following is an example of a paracrine messenger?

Select one:

- ☐ A. Prostaglandins
- ☐ B. Insulin
- ☐ C. Oxytocin
- ☐ D. Growth hormone

The correct answer is:

Prostaglandins

**Question 12**  
Not answered  
Marked out of 0.500  
v1 (latest)

Which of the following hormones is synthesized from proopiomelanocortin (POMC)?

Select one:

- ☐ A. ACTH
- ☐ B. GHRH
- ☐ C. GH
- ☐ D. PRL
- ☐ E. TSH

The correct answer is: ACTH

**Question 13**  
Not answered  
Marked out of 0.500  
v2 (latest)

Bitemporal hemianopia is a characteristic sign of which of the following diseases?

Select one:

- ☐ A. Hyperprolactinaemia
- ☐ B. Panhypopituitarism
- ☐ C. Cretinism
- ☐ D. Dwarfismt
- ☐ E. Gigantism

The correct answer is: Gigantism

**Question 14**  
Not answered  
Marked out of 0.625  
v1 (latest)

In Laron dwarfism which of the following pathophysiological changes occurs?

Select one:

- ☐ A. Degeneration of acidophilic cells in the anterior pituitary
- ☐ B. GH cannot stimulate liver cells due to GH receptors defect in liver cells
- ☐ C. There is a congenital defect in secretion of IGF-1 from kidney cells
- ☐ D. Deficiency of GHRH from hypothalamus
- ☐ E. Non-functioning tumor of chromophobes compresses and destroys the normal cells secreting GH

The correct answer is: GH cannot stimulate liver cells due to GH receptors defect in liver cells

**Question 15**  
Not answered  
Marked out of 0.500  
v1 (latest)

Which of the following best describes Sheehan's syndrome?

Select one:

- ☐ A. It is characterized by acromegalic face
- ☐ B. The patient suffered this syndrome is very tall reach 2 meter
- ☐ C. In which, Supracellar cyst which compress anterior pituitary
- ☐ D. It causes Simmond's disease after postpartum hemorrhage
- ☐ E. Caused by surgical removal of pituitary gland

The correct answer is: It causes Simmond's disease after postpartum hemorrhage

**Question 16**  
Not answered  
Marked out of 0.500  
v1 (latest)

Which cells in the thyroid gland secrete calcitonin?

Select one:

- ☐ A. Cuboidal epithelial cells
- ☐ B. Thyroglobulin cells
- ☐ C. Parafollicular cells
- ☐ D. Follicular cells

The correct answer is:  
Parafollicular cells

**Question 17**  
Not answered  
Marked out of 0.500  
v1 (latest)

Which hormone is produced by combining two molecules of DIT?

Select one:

- ☐ A. Reverse T3
- ☐ B. MIT
- ☐ C. T4
- ☐ D. T3

The correct answer is:  
T4

**Question 18**  
Not answered  
Marked out of 0.500  
v1 (latest)

What is the effect of thyroxine on basal metabolic rate (BMR)?

Select one:

- ☐ A. Decreases BMR
- ☐ B. No effect on BMR
- ☐ C. Stabilizes BMR
- ☐ D. Increases BMR

The correct answer is: Increases BMR

Question 19

Not answered

Marked out of 0.500

v1 (latest)

An example of a hormone derived from amino acid is ..... hormone

Select one:

- ☐ A. glucagon
- ☐ B. oxytocin
- ☐ C. insulin
- ☐ D. prolactin
- ☐ E. adrenaline

The correct answer is: adrenaline

Question 20

Not answered

Marked out of 0.500

v1 (latest)

Group I hormones are characterized by:

Select one:

- ☐ A. hydrophilic
- ☐ B. need a second messenger
- ☐ C. bind to cell surface receptors
- ☐ D. require carrier protein
- ☐ E. have a short half life

The correct answer is: require carrier protein

Question 21

Not answered

Marked out of 0.500

v1 (latest)

Which of the following *isn't true* for hormones that inhibit adenylate cyclase?

Select one:

- ☐ A. Their action can be terminated by dissociation of the hormone from the receptor
- ☐ B. Their action is mediated by G protein
- ☐ C. Their action can be terminated by activation of phosphodiesterase enzyme
- ☐ D. An example of these hormones is angiotensin II
- ☐ E. They are hydrophilic hormones

The correct answer is: Their action can be terminated by activation of phosphodiesterase enzyme

Question 22

Not answered

Marked out of 0.500

v2 (latest)

Which of the following *is true* for atrial natriuretic factor (ANF)

Select one:

- ☐ A. It inhibits aldosterone secretion
- ☐ B. It is produced by the liver
- ☐ C. It produces vasoconstriction
- ☐ D. It stimulates soluble guanylate cyclase
- ☐ E. It increases the blood pressure

The correct answer is: It inhibits aldosterone secretion

Question 23

Not answered

Marked out of 0.500

v2 (latest)

Hormones that act through Ca and phosphoinositides as a second messenger are not characterized by:

Select one:

- ☐ A. activates calmodulin protein
- ☐ B. stimulate Ca release from intracellular organelles
- ☐ C. stimulate Ca entry into the cell
- ☐ D. they are lipophilic
- ☐ E. activates phospholipase C through G protein

The correct answer is: they are lipophilic

Question 24

Not answered

Marked out of 0.500

v3 (latest)

Growth hormone gene is located on chromosome .....

Select one:

- ☐ A. 17
- ☐ B. 23
- ☐ C. 11
- ☐ D. 6
- ☐ E. 1

The correct answer is: 17

Question 25  
Not answered  
Marked out of 0.500  
v2 (latest)

The hormone that is produced by the supraoptic nucleus of the hypothalamus is .....

Select one:

- ☐ A. Growth hormone
- ☐ B. Prolactin
- ☐ C. LH
- ☐ D. FSH
- ☐ E. ADH

The correct answer is: ADH

Question 26  
Not answered  
Marked out of 0.500  
v1 (latest)

Thyroid hormones are synthesized from .....

Select one:

- ☐ A. glycine
- ☐ B. tryptophan
- ☐ C. tyrosine
- ☐ D. threonine
- ☐ E. phenylalanine

The correct answer is: tyrosine

Question 27  
Not answered  
Marked out of 0.500  
v1 (latest)

The prolactin hormone acts by .....

Select one:

- ☐ A. binding to hormone response element
- ☐ B. Ca & phosphoinositides
- ☐ C. protein kinase cascade
- ☐ D. cAMP
- ☐ E. cGMP

The correct answer is: protein kinase cascade

Question 28  
Not answered  
Marked out of 0.500  
v1 (latest)

Which of the following cells of pars distalis stained specifically by azocarmine dye?

Select one:

- ☐ A. Lactotrophs
- ☐ B. Thyrotrophs
- ☐ C. Corticotrophs
- ☐ D. Somatotrophs
- ☐ E. Gonadotrophs

The correct answer is:  
Lactotrophs

Question 29  
Not answered  
Marked out of 0.500  
v1 (latest)

The cell which secretes TSH hormone belongs to which of the following?

Select one:

- ☐ A. Acidophils of pars distalis
- ☐ B. Basophils of pars distalis
- ☐ C. Neurosecretory cells of pars nervosa
- ☐ D. Chromophobes of pars distalis
- ☐ E. Pitucytes of pars nervosa

The correct answer is:  
Basophils of pars distalis

Question 30  
Not answered  
Marked out of 0.500  
v3 (latest)

Which of the following is true about somatotrophs?

Select one:

- ☐ A. Stains orange with orange G
- ☐ B. Secrete prolactin hormone
- ☐ C. Their granules are glycoprotein in nature
- ☐ D. Decrease in number during pregnancy
- ☐ E. Increase in size during pregnancy

The correct answer is:  
Stains orange with orange G

Question 31

Not answered

Marked out of 0.500

v1 (latest)

Which of the following is a downward extension of the median eminence of pituitary gland?

Select one:

- ☐ A. Pars nervosa
- ☐ B. Infundibulum
- ☐ C. Pars distalis
- ☐ D. Pars tuberalis
- ☐ E. Pars intermedia

The correct answer is:  
Infundibulum

Question 32

Not answered

Marked out of 0.625

v1 (latest)

Which of the following is true about the chromophobes of anterior pituitary?

Select one:

- ☐ A. Their percentage is 11%
- ☐ B. They are the smallest cell type
- ☐ C. They secrete anterior pituitary hormones
- ☐ D. They have stainable granules
- ☐ E. They have high affinity to dyes

The correct answer is:  
They are the smallest cell type

Question 33

Not answered

Marked out of 0.500

v2 (latest)

A thyroid biopsy shows tall columnar epithelial cells forming papillary infoldings with scalloped colloid What is the most likely diagnosis?

Select one:

- ☐ A. Hashimoto thyroiditis
- ☐ B. Follicular adenoma
- ☐ C. Papillary thyroid carcinoma
- ☐ D. Subacute thyroiditis
- ☐ E. Graves’ disease

The correct answer is:  
Graves’ disease

Question 34

Not answered

Marked out of 0.500

v2 (latest)

A 70-year-old woman with a long-standing multinodular goiter presents with a rapidly enlarging, fixed neck mass. Biopsy reveals spindle and giant cells with marked pleomorphism and necrosis. What is the origin of this tumor?

Select one:

- ☐ A. On top of autoimmune thyroiditis
- ☐ B. Transformation from well-differentiated thyroid carcinoma
- ☐ C. Viral-induced neoplasm
- ☐ D. De novo mutation in C cells
- ☐ E. On top of follicular adenoma

The correct answer is:  
Transformation from well-differentiated thyroid carcinoma

Question 35

Not answered

Marked out of 0.500

v2 (latest)

A 58-year-old diabetic man develops nephropathy and retinopathy. Which pathologic mechanism underlies these complications?.

Select one:

- ☐ A. Immune complex deposition
- ☐ B. Autoimmune attack on endothelium
- ☐ C. Amyloid deposition
- ☐ D. Non-enzymatic glycosylation of vascular basement membranes
- ☐ E. Hypovitaminosis A

The correct answer is:  
Non-enzymatic glycosylation of vascular basement membranes

Question 36

Not answered

Marked out of 0.375

v2 (latest)

A 29-year-old woman has a thyroid nodule and enlarged cervical lymph nodes. FNA shows “Orphan Annie eye” nuclei. What is the typical route of spread?

Select one:

- ☐ A. Hematogenous
- ☐ B. Transluminal
- ☐ C. Transcoelomic
- ☐ D. Perineural
- ☐ E. Lymphatic

The correct answer is:  
Lymphatic

Question 37

Not answered

Marked out of 0.375

v2 (latest)

A 42-year-old woman presents after a viral upper respiratory infection with a painful neck swelling and transient hyperthyroidism. Two months later, she is euthyroid. What explains this transient course?

Select one:

- ☐ A. Fibrosis-induced TSH resistance
- ☐ B. Release of thyroid hormones due to follicular destruction
- ☐ C. Iodine toxicity
- ☐ D. Pituitary adenoma with secretion of TSH
- ☐ E. Autoimmune antibody production

The correct answer is:

Release of thyroid hormones due to follicular destruction

Question 38

Not answered

Marked out of 0.375

v2 (latest)

A 10-year-old child presents with a midline neck cystic swelling that moves upward when protruding the tongue. What is the most likely diagnosis?

Select one:

- ☐ A. Branchial cleft cyst
- ☐ B. Dermoid cyst
- ☐ C. Epidermoid cyst
- ☐ D. Thyroglossal duct cyst
- ☐ E. Cystic hygroma

The correct answer is:

Thyroglossal duct cyst