ENDOCRINE SYSTEM ROUH- FINAL

Done BY: Shaimaa Ababneh

1.Hyperprolactinemia is ?

Bromocriptine

2.Duration of rapid insulin ?

A. 10 min

B. 20 min

C. 10 sec

D. 30 min

E. 20 sec

Answer:A

3.which of the following is wrong about rapid action insulin:

A. soluble form

B. given SC, IM, IV

C. its action begins within 10 mins

D. for controllong DM

E. given in cases of diabetic ketoacidosis

Answer:C

4.Which of the following not produce by anterior pituitary ?

A. TSH

B. FSH

C. GH

D. Prolactin

E. ADH

Answer:E

5.Which of the following not secreted by anterior pituitary ?

A. TSH

B. ACTH

C. FSH

D. Oxytocin

E.PRL

Answer: D

6.A 40 years old pregnant woman has a sugar craving, Her serum glucose increases which cause release of insulin which is known to increase the activity of acetyl Co carboxylase, the rate limiting step in fatty acid biosynthesis. Which of the following best describes this regulatory enzyme?

Select one:

A. It catalyzes a reaction that requires biotin and ATP

B. It is activated by malonyl COA

C. It catalyzes a reaction that condenses acetyl group with malonyl group

D. It is activated by carboxylation

E.It converts malonyl CoA to acetyl CoA

Answer:A

7. The final product for complete oxidation of odd chain fatty acids yields which of the following?

Select one:

A. Acetyl CoA and propionyl COA

B. Acetyl CoA only

C. Succinyl COA

D. Propionyl CoA only

E. Palmitoyl CoA

Answer:A

8.H2 connect with H3 by?

A. C1

B. C2

C. E1

D. E2

E. E3

Answer: C

9.False about medullary carcinoma ?

A. Associated with pituitary adenoma

B. Flushing and diarrhea

Answer:A

10. The hypothalamo - hypophysial portal system carries hormones from the?

Select one:

A. Brain to thyroid gland

B. Anterior pituitary to the hypothalamus

C. Hypothalamus to the posterior pituitary

D. Posterior pituitary to the hypothalamus

E. Hypothalamus to the anterior pituitary

Answer:E

11) the origin of adrenal cortex is:

A. endoderm

B. neuroectoderm

C. ceolomic epithelium

D. surface ectoderm

Answer:C

12)the cause of presence of craniopharyngeal canal:

A. failure of degenerarion of thyroglossal duct

B. Failure of degeneration of the rathk's pouch

C. anterior pituitary is on upper oropharynx

Answer:B

13. All true except related to colloid ?

A. Iodination occur inside lumen

B. In parathyroid cell

Answer:B

14. Conn disease ?

A. Hyperkalemia and hypertension

B. Hypocalcemia and hypotension

C. Hypokalemia and hypertension

Answer:C

15. which structure related to pituitary gland superiorly ?

A. Diaphragm sella
B. Intercavernous sinuses.
C. Cavernous sinus
D. Dorsum sellae
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Answer:A

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A. Betamethasone
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C. Triamcinolone
D. Fludrocortisone

Answer:D

17. which enzyme used to diagnosis thiamin deficiency?

A. Transaldose
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Answer:B

18. If a woman hears her baby cry, she may experience milk ejection from the nipples even before the baby is placed to the breast. What is the explanation for this?

A. The sound of the hungry baby's cry elicits secretion of oxytocin from the posterior pituitary, which reaches the breast and causes contraction of the myoepithelial cells

B. The sound of the hungry baby 's cry causes a reflex relaxation of the myoepithelial cells, allowing the milk to flow

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Answer:A

19. according to accelerated atherosclerosis all is true except(Mechanisms for vascular disease in diabetes ALL True except ?

A. impaired vasodilatory response attributable to nitric oxide inhibition

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C. Decrease of endothelial growth factors.

Answer:C

20. Defined of diabetes insipidus?

A) large amount of dilute urine

21.The glycolysis and gluconeogenesis linked by which enzyme ?

A. Phosphoglycerate kinase

B. hexokinase

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D. PFK -2/FBPase-2

Answer:D

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Answer::A

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B. 1.3Bisphosoglucerate

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27. hypercalcemia all true except ?

A. diuresis with a loop diuretic such as furosemide

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D. 1,25 (OH)2 D (calcitriol)

E. Rehydration with saline solution

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42. increase of steroid cause all of the following except ?

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43. Which of the following is not involved in regulation of plasma Ca++ levels?

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B.Skin

C. Liver

D.Intestine

E. Lungs

Answer::E

44.If we remove hormone's receptor from organs what happens?

A.continue responding to hormone without any change

B.continue responding to hormones but randomly

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Answer:C

45) a female patient of 36 age years old, is suffering from severe pain and inflammation. Her doctor has prescribed for her prednisone as pain management, noting that she already has other medications for that purpose. Prednisone tablets are likely to be consumed at all after 2 months of use. What will happen if the patient is unable to refill her prescription?

A. cardiovascular collapse (adrenal crisis)

B. risk of infection

C. insomnia

D. osteoporosis

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A. a second messenger

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48)what happens when the binding of hormone to plasma proteins increase?

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B. increases the action resulted from hormone

C. reduces half life of hormone

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49)which of the following is not an indication for mecasermin?

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Answer:A

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Answer:B

51)PGHS/COX utilizes _____ for synthesis of PGH2

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B) glycine

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53)a patient is poisoned with antimycin A that inhibits cytochrome c of ETC, what changes occur to energy production?

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B) energy is produced in less amounts

C) energy is produced in slower rate

D) energy is produced for short period of time

E) energy production is not affected due to increased rates of ETC

Answer::A

54)thyrocalcitonin is secreted by:

A) anterior pituitary

B) hypothalamus

C) thyroid

D) parathyroid

E) adrenal

Answer::C

55)which of the following is incorrectly matched?

A) hashimoto = oncocytic change

B) de quervain thyroiditis = preserved follicular epithelium with dense lymphocytic infiltrate **

Answer:B

56)Why is pentose phosphate pathway is not processed in muscular tissues?

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B) muscles do not requir the produced pentoses

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D) muscles have small number of dehydrogenases

Answer::D

57) The DNA binding domain? (كان لازم except)

A. mediates dimerization

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C. have the nuclear localization signal which recruits coactivator

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Answer::C

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Endocrine

دفعة وتين

لجنة الطب والجراحة

1)Pars distalis is the ?

A)anterior pituitary

B)posterior pituitary

C)infundibulum

D)pituitary stalk

Answer: A

2)Pars nervosa is the?

A)anterior pituitary

B)posterior pituitary

C)infundibulum

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Answer: B

3)Protruding tounge and umbilical hernia are symptoms of??

A)Hashimato thyroiditis

B)De Quevan thyroiditis

C)Subacute lymphocytic thyroiditis

D)certinism

Answer: D

4)Neurohypophysis?

A)pars distalis

B)pars tuberalis

C)pars nervosa

Answer: C

5) Right adrenal gland anteriorly related to ?

A)body of pancreas

B)liver

C)Diaphragm

D)kidney

Answer: B

6) Superior to the pituitary gland?

A)diaphragma sellae

B)sphenoid air sinus

C)dorsum sellae

D)pons and basilar artery

Answer: A

7) All Treatment of hypercalcemia except?

A)calcitonin

B)Bisphosphonate

C)phosphate

D)PTH

Answer: D

8) All Treatment of hypocalcemia except?

A)calcium(iv or oral)

B)Vit.D

C)PTH

D)calcitonin

Answer: D

9) All Treatment of osteoporosis except?

A)calcitonin

B)Estrogen replacement therapy

C)Dietary Ca supplements &Vit.D

D)PTH

Answer: D

10) Which of the following polypeptide loops connect the domains(H3 &H4) in GPCRs??

A) C3

B) E2

C)E1

D)C2

Answer: D

11) All are true according to the gonadotropin toxicity and contraindication except?

A)multiple pregnancies

B)Headache

C)edema and depression

D)ovarian hypostimulation syndrome

Answer: D

12)IP3-gatedchannel(receptor)composed of _large identical subunit.

A)1

B)3

C)2

D)4

Answer: D

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A)coelomic epithelium

B)neural crest

C)copula of His

D)1st pouch between tuberculum impar

Answer: A

14) All of the following are true according to the hyperglycemia during pregnancy except??

A)defined by the same criterua as in non pregnant person

B)consider as a risk factor for developing T2DM

C)Diagnosed at glucose cut-off points that are higher than those for diabetes

Answer: A

15) According to the Waterhouse friderichsen syndrome all are true except?

A)grossly, the adrenals are hemorrhagic and shrinken

B)in histo ,little residual cortical architecture is discernible

C)always unilateral

D)in infant with overwhelming sepsis

Answer: C

16) All are correct about Ganirelix except?

A)absorbed rapidly

B)given orally

C)preventing the LH surge during controlled ovarian hyperstimulation

D) can cause nausea and headache

Answer: B

17) All of the following Adverse effect of carbimazole except?

A)rash

B) liver damage

C)arthralgia

D)granulocytosis

Answer: D

18) Calcitonin is secreted from?

A)chief cells

B)islet of langerhans

C)parafollicular cells(c-cells)

D)oxyphil cells

Answer: C

19) According to the steroid nucleus all are true except?

A)4 rings(A,B,C,D)

B)composed of 17 carbon atoms beside 2 methyl groups

C) there is a methyl group at C17

D)there is methyl group at C13

Answer: C

20) Deficiency in 21-hydroxylase can lead to all of the following except?

A)Excess adrenal androgens

B)Deficiency in cortisol and aldosterone

C)Ambiguous genitals

D)adrenogenital syndrome

Answer:

21) According to the cholesterol all true except?

A)has 2 methyl group (one of them between (A,B)ring and another between (C,D) ring

B)eight -carbon branched hydrocarbon chain attached to C17 of the D ring

C)Ring A has hydroxyl group at C3

D)Ring B has double bond between C6 &C7

Answer: D

22) All are true according to the adverse effects of thyroid hormones except?

A)Muscle pain(myalgia)

B)Anginal attacks

C) Headache

D)hyperthyrodism

E)Arrhythmias

Answer: B

23) Outer part of the adrenal cortex?

A)Z.glumerulosa

B)Z.fasciculata

C)Z.reticularis

Answer: A

24) Inner part of the adrenal cortex?

A)Z.glumerulosa

B)Z.fasciculata

C)Z.reticularis

Answer: C

25)All are true about the soluble insulin except?

A)short duration of action

B)used 30m before meals

C)given 3 times per day

D)given (IM) in diabetic ketoacidosis

Answer: D

26) All are mass effect of pituitary adenoma except ??

A)elevated intracranial pressure

B)hypopituitarism

C) cranial nerve palsy

D)symptoms of hormone production

E)visual field abnormalities

Answer: D

27) Energy rich molecule??

A)NADH\FADH2

B)phosphoenolpyruvate

C)1,3bisphosphoglycerate

D)1,3disphosphoglycerate

Answer: A

28) The enzyme that is inhibited by fluoride?

A)Fumarase

B)Enolase

C)malate dehydrogenase

D)pyruvate kinase

Answer: B

29) According to the reactant in gluconeogenesis all are true except?

A)2 pyruvate

B) 2NAD

C)4ATP

D)4Pi

E)2GTP

Answer: D

30) Total ATP molecules in the liver ??

A)28

B)30

C)32

D)34

Answer: C

31) The following reaction or step is reversible?

Select one:

A) AcetylCoA formation reaction

B) Formation of pyruvate from phosphoenolpyruvate

C) Phosphorylation of fructose-6-phosphate to fructose 1,6 bisphosphate

D) Cleavage of fructose 1,6 bisphosphate by aldolase enzyme

E) Phosphorylation of glucose to glucose-6-phosphate

Answer: D

32) For chylomicrons, the major lipid is?

A) Free fatty acids

B) Cholesterol esters

C) Cholesterol

D) Triglycerides

E) Phospholipids

Answer: D

33) Hemolytic anemia occurs in patients who are diagnosed with favism only when they eat?

A)Broad beans

B)Meat

C)Bread

D)Bananas

E)Rice

Answer: A

34) Favism is caused by deficiency in?

A) Glycogen synthase

B) Fructokinase

C) Galactokinase

D) G6PD

E) Glucokinase

Answer: D

Endocrine System – Final Exam

دفعة نبض 2019

Question 1
Which statement about eicosanoids is not correct?
Select one:

a.Some of them have diverse effects
b.All of the molecules are unsaturated
c.The parent molecule contains 20 carbon atoms
d. Eicosatrienoic acid is a precursor to arachidonic acid
e. Eicosanoids function as local hormones

Question 2
Intermediates of which of the following metabolic pathway have not been used in the synthesis of amino acids?
Select one:

a. Gluconeogenesis
b. Pentose phosphate pathway
c.Citric acid cycle
d. Fatty acid biosynthesis
e.Glycolysis

Question 3
Which one of the following is not a secondary messenger in hormone action?

Select one:

a.cAMP
b.Calcium
c.Sodium
d.DAG
e.cGMP

Question 4
Which of the following is produced only by large amounts of glucocorticoids?
Select one:

a.Increased excretion of a water load
b.Normal responsiveness of fat depots to norepinephrine
C.Inhibition of the inflammatory response
d. Maintenance of normal vascular reactivity
e.Stimulation of ACTH secretion

Q:5
A patient with parathyroid deficiency after damage to the parathyroid glands during thyroid surgery would probably have?
Select one:

a. Increased muscular excitability, a high plasma Ca2+ level, and bone demineralization
b. High plasma phosphate and Ca2+ levels and bone demineralization
c. Low plasma phosphate and Ca2+ levels and tetany
d. Low plasma phosphate and Ca2+ levels and tetanus
e.A low plasma Ca2+ level, increased muscular excitability, and spasm of the muscles of the upper extremity (Trousseau
sign)

Question 6
The following pathway occurs in the mitochondrial matrix?
Select one:

a.Glycolysis
b. Citric acid cycle
c.PPP
d.Glycogenolysis
e.Glycogenesis

Question 7
The net result of ATP molecules generated from the splitting of two glucose molecules to 4 pyruvate molecules via the glycolysis
pathway are?
Select one:

a.8 ATP molecules
b.2 ATP molecules
c.6 ATP molecules
d.12 ATP molecules
e.4 ATP molecules

Answer: E

Question 8
Oligomycin inhibits the mitochondrial ATP synthase. Which of the following would be an immediate effect of oligomycin in
normal mitochondria?
Select one:

a.Decreased rate of electron transport
b.Decreased rate of ATP/ADP exchange
c.Decreased rate of ATP synthesis
d.Decreased proton gradient
e.Decreased rate of oxygen consumption

Answer: C

Q:9
Complete oxidation of one glucose molecule in.
and
tissues generate 30 ATP molecules due to
shuttle?
Select one:
a.Brain,hepatic,DHAP/G3P
b. Cerebral,skeletal muscle,DHAP/G3P
c.Heart,brain,DHAP/G3P
d. Cardiac,hepatic,aspartate/malate
e.Liver,skeletal muscle,aspartate/malate

Answer: D

Q:10
The omega- oxidation is a type of fatty oxidation. It requires all the following except?
Select one: غير مطلوب

a.NADPH
b.NAD
O c.Mixed function oxidase
d.Alcohol dehydrogenase
e.Cytochrome P450

Answer: D

Question 11
Which of the following is the precursor of thyroid hormone?
Select one:

a.DOPA
b.Threonine
c.Tryptophan

d.Glutamine
e.Tyrosine

Question 12
Excessive secretion of aldosterone gives rise to?
Select one:

a.Polyuria
b.Hyperkalaemia
c.Hypotension
d.Normal muscular performance
e.Alkalosis

Question13
Carbimazole:Which of the following is false?
Select one:

a. Is converted to its active metabolite methimazole in liver
b. Can cause agranulocyosis as adverse effect
c.Can increase size of primary toxic goiter in overdose
d. Inhibits thyroid gland peroxidase
e. Is preferred to propylthiouracil for hyperthyroidism during pregnancy

Question 14
In non-oxidative phase of PPP, the ribulose sugar molecules are recycled to the following intermediates to join the glycolysis?
Select one:

a. Xylulose-5-phosphate and ribose-5-phosphate
b. Glyceraldehyde-3-phospate and glucose-6-phosphate
c.Fructose-6-phosphate and pyruvate
d.Glyceraldehyde-3-phosphate and fructose-6-phosphate
e. Glyceraldehyde-3-phosphate and sedoheptulose-7-phosphate

Q:15
About 70% of the iodide in thyroglobulin exists in form of?
Select one:

a.DIT
b.MIT
Flag question
c.MIT and DIT
d.T3
e.T4

Question16
UDP-glucose is the substrate for the following two enzymes?
Select one:

a. Galactokinase and glucokinase
b.Glycogenin and glycogen phosphorylase
c.Glycogen synthase and glycogenin
d. Glycogen synthase and glycogen phosphorylase
e.Glycogen synthase and fructokinase

Question 17
All following are effects of cortisol EXCEPT?
Select one:

a.Delay wound healing
b.Reduces inflammatory response
c.Increase lymphocytes
d.Skin atrophies
e.Promotes gluconeogenesis

Question 18
How many ATP are converted to AMP and PPi to form arginosuccinate in urea cycle?
Select one:

a.1
b.2
c.6
d.4
e.3

Question19
A 25-year-old female has been experiencing frontal headaches for 9 months,with worsening symptoms in the last 2 months she
had multiple emergency visits where she had high blood pressure reaching 187/139 mmHg sometimes.Examination revealed
normal BMI and no skin lesions and she had no menstrual abnormalities. Serum creatinine, sodium and potassium are within
normal limits.Which of the following findings would you most expect to be present in this patient?
Select one:
a. Neck mass found to be 2 cm hot thyroid nodule
b. Neck mass found to be 3 cm carotid body mass
c. Bilateral adrenal masses found to be breast cancer metastasis
d.Multiple infiltrative lung masses
e. Bilateral hemorrhagic necrosis of adrenal glands

Answer: E

Question 20
One of the following is correct about congenital adrenal hyperplasia?
Select one:

a. All precursor steroids are channelled into sex steroid synthesis

b. Most cases in males lead to infertility.
c.Decrease androgenic activity causes virilization symptoms
d. 21-hydroxylase is required for synthesis of cortisol but not aldosterone
e.Hiah serum cortisol leads to decrease secretion of ACTH.

Question 21
These two enzymes are expressed mainly in liver?
Select one:

a. Hexokinase IV and glucose-6-phosphatase
b.Hexokinase ll and fructokinase
c.Glucose-6-phosphatase and phosphofructokinase-1
d.Glucokinase and phosphofructokinase-1
e.Fructokinase and phosphofructokinase-1

Question 22
All the following drugs and hormones induced diabetes mellitus except?
Select one:

a.Glucagon
b. Beta blockers
c.Glucocorticoids
d.Pencillin
e.Oral contraceptive

Question 23
Which of the following is true regarding thyroid nodule?
Select one:

a. Hot nodules are more likely to be malignant
b.Most of the nodules arising from C cells
c.Nodules in males are more likely to be malignant
d. Nodules in older patients are more likely to be benign
e.Multiple nodule is more likely to be neoplastic than solitary

Question24
Which out of the following amino acids is not converted to succinyl CoA?
Select one:

a. Isoleucine
b.Histidine
c.Methionine
d.Threonine
e.Valine

Question 25

Which of the following statements about glycogen metabolism is correct?
Select one:

a. In muscle in the fasting state, glycogen is broken down to glucose 6-phosphate,then free glucose
b. Insulin inhibits the synthesis of glycogen
c. Glucagon increases the synthesis of glycogen
d.A key step in the synthesis of glycogen is the formation of UDP-glucose
e.Glycogen is stored mainly in the liver and brain

Question 26
What hormone does the parathyroid produce?
Select one:

a.PTH
b.PFH
c.Calcitonin
d.Thyroxin
e.Insulin

Question 27
All followings are correctly combined (Disease: main symptom or sign),except?
Select one:

a.Hashimoto thyroiditis:Exophthalmos
b.Pheochromocytoma:paroxysmal attacks of increased Blood pressure
c.Sheehan syndrome:Inability to breast-feed
d.Congenital hypothyroidism:Cretinism
e.Acromegaly:Large bone and Jaw

Question 28
Dental caries can be avoided by using?
Select one:

a.Fluoride containing toothpaste
b.Iodide containing toothpaste
c.Zinc containing toothpaste
d.Calcium containing toothpaste
e.Bromide containing toothpaste

Question29
Thyroperoxidase,choose the wrong statement?
Select one:

a.Stimulates the coupling of two DIT molecules to form T4
b. Stimulates the coupling of MIT and DIT to form T3
c. Stimulates lysosomes fuse with thyroglobulin vesicles and the release of free T4 and T3O
d.Uses H2O2 for its oxidation reaction

e.Oxides iodide to iodine

Q:30
All are true about Thyroid swelling except?
Select one:

a.More common in females than males
b.Physiological goitre is due to decrease of thyroxine level
c. Most common neck swelling in adults
d.Malignant swelling is associated with thyrotoxicosis
e.Majority are benign swelling

Answer: C

Q:31
In an elderty patient with primary hypothyroidism:Which statement is true?
Select one:

a.Plasma TSH is low and goiter is usualy present切
b.Overdose with thyroid hormone can cause exophthalmous
C.Treatment is began usually with small doses of triodothyronine to get quick relief®
d.Treatment is started with small dose of T4 and slowly increased to avoid cardiac arrhythmia
e.The halif-life of oral l-thyroxine is usually not affected

Question 32
The following are true about the hormones secreted by the adrenal cortex EXCEPT?
Select one:

a. Secretion of aldosterone is stimulated by ACTH
b. Zona glomerulosa secretes aldosterone
c.Cortisol increases sodium resorption from the enal tubules
d.Zona fasciculata secretes cortisol
e.Cortisol secretion reaches a maximum at 6:00pm

Question 33
Dorsal pancreatic bud gives all except? غير مطلوب
Select one:

a. Neck of pancreas
b.Body of pancreas
c.Tail of pancreas
d.Uncinate process of pancreas
e. Upper part of head of pancreas

Question34
Which one of the following is a definition of glycaemic index?
Select one:

a.The increase in blood insulin concentration after consuming the food
b. The decrease in blood glucagon concentration after consuming a food compared with that after consuming an equivalent
amount of white bread
Oc.The increase in blood glucose concentration after consuming the food compared with that after consuming an equivalent
amount of white bread
d. The increase in blood insulin concentration after consuming the food compared with that after consuming an equivalent
amount of white bread
e.The increase in blood glucose concentration after consuming the food

Question 35
Insulin?
Select one:

a. Inhibits entry of potassium into cells
b. Facilitates protein anabolism
c. Has the same effect on blood sugar as growth hormone
d. Secretion is not affected by catecholamines
e.Decreases deposition of fats

Question 36
Which of the following cells can be classified as Acidophils?
Select one:

a.Gonadotrophs
b.Corticotrophs
c.Clear cells
d.Thyrotrophs
e.Somatotroph

Question37
A 7-year-old boy is evaluated for short stature. His average circulating growth hormone level is within the normal range for his
age,but levels of Somatomedins are reduced.His growth failure is most likely due to a defect in?
Select one:

a.Androgen synthesis
b. GHRH release from the hypothalamus
c.Growth hormone receptors
d.GHRH receptors
e. Estrogen synthesis

Question38
In elderly patient, the most common system affected with thyrotoxicosis is?
Select one:

a.Cardiovascular system
b.Musculoskeletal system
c.Respiratory system
d.Digestive system
e. Nervous system

Question 39
Peptides and proteins hormones? choose the wrong statement
Select one:

a. They are made from three to over 200 amino acids
b. Are the most numerous hormones
c.Most peptide hormones are water-soluble
d.Their synthesis require gene transcription
e.Their secretion do not require stimulation

Question40
In the rate limiting reaction of PPP, the G6P dehydrogenase enzyme is activated by high level of?
Select one:

a.ATP
b.NAD+
c.NADPH
d.NADP+
e.NADH

Question 41
It is NOT the most abundant cell type in parathyroid gland?
Select one:

a.Chromaffin cells
b.Oxyphil cell
c.Follicular cells
d. Parafollicular cells
e.Chief cells

Question 42
Cholinesterase is among the enzymes that can be used as biomarkers for the diagnosis of diseases,what is correct about this
enzyme?
Select one:

a.It is present only in red blood cells
b. It shows high activity during pregnancy
c. Its plasma level is high in cases of organophosphorus poisoning
d. It has a high plasma activity in liver dysfunction
e. It is a nonspecific enzyme

Question 43
All the followings are TRUE about diabetes, EXCEPT?
Select one:

a. Diabetes mellitus in pregnancy is defined by the same criteria as in non-pregnant persons
b. It is an old disease known as early as the 5th century AD
c.T1DM onset occur in childhood only
d. We use (unclassified diabetes) category temporarily when there is not a clear diagnostic category
e.Nearly 3% of global blindness can be attributed to diabetic retinopathy

Question 44
G-protein coupled receptors(GPCRs)? choose the wrong statement
Select one:

a. Growth factors, odorant molecules and light can activate these receptors
b.Hormones binds to N-terminal of the receptor
c. The polypeptide loop E2 connect H3 and H4 membrane-spanning a-helix domains
d.Are the largest family of cell-surface receptors
e. The extracellular part contain the N-terminal

Question 45
Concerming calcitonin, all the followings are true EXCEPT?
Select one:

a. It is released in response to decreased blood calcium
b. It is formed in the thyroid gland
c. It is used in treatment of PAGET Disease
d.It is a polypeptide hormone
e.It decreases renal calcium absorption

Queston 46
DNA binding domain (DBD) of the nuclear receptor? choose the wrong statement
Select one:

a. Mediates specific recognition of the HRE mostly in the minor groove of the DNA
b. Stabilizes binding to HRE of DNA
c. Contains the nuclear localization signal domain
d.Mediates dimerization
e. Has two zinc fingers each is 10-20 amino acids long

Question47
The final product for complete oxidation of odd chain fatty acids yields which of the following?
Select one:

a.Acetyl CoA and propionyl CoA
b.Acetyl CoA only

c.Succinyl CoA
d. Propionyl CoA only
e. Palmitoyl CoA

Answer: A

Question48
The following are causes of hyperprolactinemia except?
Select one:

a. Hypothyroidism
b.Oestrogens
c.Basophil microadenoma of pituitary
d. Galactorrhea-amenorrhea syndrome
e. Haloperidol

Question 49
The molecule that functions as the electron donor in a redox reaction of the electron transport chain?
Select one:

a. Gains electrons and gains energy
b. Loses electrons and loses energy
c. Loses electrons and gains energy
d. Gains electrons and loses energy
e. Neither gains nor loses electrons, but gains or loses energy

Question 50
Second messengers,choose the wrong statement?
Select one:

a.They are the ones that bring out the cellular responses
b. They affect gene transcription
c.Are nonprotein molecules
d. Are often not free to diffuse to compartments of the cell
e. Signal may be amplified significantly in the generation of second messengers

Question51
The thyroid gland lies against the vertebrae?
Select one:

a.C6,C7,T1
b.C3,C4,C5
c.C5,C6,C7,T1
d.C2,C3,C4
e.C4,C5,C6,C7

Question52
Where are parathyroid glands NORMALY present?
Select one:

a. Upper chest under breastbone
b.On top of kidneys
c.Posterior surface of lateral lobes of thyroid
d.Posterior to stomach
e. In mediastinum

Question 53
Which one of the following is false about growth hormone?
Select one:

a. Its growth-promoting effect is reduced in children with cretinism
b.Raises IGF 1 levels in epiphyseal cartilage of long bones and in plasma
c. Its secretion is normally enhanced by the hyperglycemia during glucose tolerance test
d. Is indicated to stimulate growth in pituitary dwarfs due to defective GHRH secretion
e. Is misused by athletes to enhance muscle development and exercise tolerance

Question 54
ACTH:Which of the following is false?
Select one:

a. Can slow recovery of adrenal cortex after cessation of prolonged corticosteroid therapy
b.Its biological trophic activity requires the first 24-amino acid sequence
c. Its prolonged use can cause virilism due to hyperandrogenism
d.Causes pigmentation of skin and mucous membrane with prolonged high plasma level
e. Does not significantly increase cortisol plasma level if given i.v. in patients with Addison"s disease

Question 55
A 40 years old pregnant woman has a sugar craving, Her serum glucose increases which cause release of insulin which is known
to increase the activity of acetyl CoA carboxylase, the rate limiting step in fatty acid biosynthesis.Which of the following best
describes this regulatory enzyme?
Select one:

a. It catalyzes a reaction that requires biotin and ATP
b.It is activated by malonyl CoA
c.It catalyzes a reaction that condenses acetyl group with malonyl group
d. It is activated by carboxylation
e.It converts malonyl CoA to acetyl CoA

Question 56
Loss of which of the following pituitary hormones might be expected to increase responses to painful stimuli?
Select one:

a.Growth hormone

b.β-Endorphin
c.ACTH
d.β-MSH
e.a-Melanocyte stimulating hormone(α-MSH)

Question 57
Which of the following is not true about gluconeogenesis?
Select one:

a. Two different sources of energy are utilized to convert pyruvate to phosphoenol pyruvate
b.It is inhibited by increased ATP/ADP,Acetyl CoA/CoA and glucagon/insulin ratios
c.For starting materials, it can use the carbon skeletons from most amino acids
d. It is one of the ways that the liver maintains glucose homeostasis
e. It is inhibited by the regulator fructose 2,6-bisphosphate

Question 58
Renin is secreted by?
Select one:

a. Granular cells in the juxtaglomerular apparatus
b. Cells in the proximal tubules
c. Cells in the distal tubules
d. Cells in the peritubular capillary bed
e. Cells in the macula densa

Question59
A young woman has puffy skin, decreased BMR, Sleepiness and a hoarse voice. Her plasma TSH concentration is low but
increases markedly when she is given TRH. She probably has?
Select one:

a. Hypothyroidism due to a primary abnormality in the pituitary gland
b. Hyperthyroidism due to a primary abnormality in the hypothalamus
c.Hypothyroidism due to a primary abnormality in the hypothalamus
d. Hyperthyroidism due to a thyroid tumor
e.Hypothyroidism due to a primary abnormality in the thyroid gland

Answer: C

Question 60
Which of the following statements about glucose metabolism is correct?
Select one:

a. Fructose cannot be used for gluconeogenesis in the liver
b. Red blood cells can only metabolise glucose by anaerobic glycolysis and the pentose phosphate pathway.
c. All of the reactions of glycolysis are freely reversible for gluconeogenesis
d.Glycolysis can proceed in the absence of oxygen only if pyruvate is formed from lactate in muscle
e. Red blood cells can catalyse aerobic glycolysis because they contain oxygen bound to haemoglobin

Question 61
Epinephrine hormone causes glucose mobilization for energy and muscle contraction through,choose the wrong statement?
Select one:

a. Inhibition of glycogen phosphorylase
b.Increases cAMP levels
c. Prevent the synthesis of glycogen through phosphorylation of glycogen synthase
d.Activation of protein kinase A
e.Binding to its G protein-linked receptor

Question 62
The following are true about the thyroid hormone?
Select one:

a.T4 and T3 bind to the receptors in nuclei
b. A greater proportion of tri-iodothyronine is formed when iodine is deficient
c. Thyroid hormones decrease the number of B-receptors in myocardium
d. Iodide ions enter the follicle cells by passive diffusion
e.Thyroxine increases cholesterol

Question 63
True statements about aldosterone include?
Select one:

a. It decreases the acidity of urine
b.It increases the sodium content of the sweat
c.It increases the amount of Na+-K+ ATPase in the target cells
d. It decreases the potassium content of urine
e. The basal secretion is decreased even after hypophysectomy

Question64
All the following matching are incorrect except?
Select one:

a.Addison disease: Elevation of corticosteroid
b.Nelson's Syndrome:Corticotroph cell adenoma
c.Diabetes insipidus: Hyponatremia
d. Most common pituitary adenoma: prolactin and growth hormones secreting adenoma
e.Papillary thyroid carcinoma: Elevation of calcitonin

Q:65
Fructose malabsorption occurs due to impairment in?
Select one:

a.GLUT3
b.GLUT2
c.GLUT8
d.GLUT5
e.GLUT4

Q:66
All the following anti-diabetics drugs act by the same mechanism Except?
Select one:

a.Tolbutamide
b.Repaglinide
c.Chloropropamide
d.Gliclazide
e.Metformin

Question 67
Steroids are?
Select one:

a. They are synthesized from epinephrine and involved in the synthesis and transmission of peptides, proteins and
neurotransmitters
b. A type of cell membrane which is impenetrable but moveable
c.They are synthesized from cholesterol and play role in sexual development
d.A type of exocrine cell responsible for producing sweat
e. They are short and long chains of amino acids which facilitate physiological,biochemical and growth processes

Q:68
One of the following is incorrect about diabetes type II Pathogenesis?
Select one:

a. Excess free fatty acids compromise beta cell function
b. It involves interactions of genetics and environmental risk factors
c. Either Beta cell dysfunction or insulin resistance can lead to diabetes mellitus alone
d. Visceral fat is more likely to be associated with diabetes than peripheral fat
e.Adiponectin decrease blood glucose by increasing the insulin sensitivity

Question 69
What is the etiology of Graves' disease?
Select one:

a.Type (I)Hypersensitivity reaction
b.Viral infection of thyroid gland
c.Autoimmune disorder
d. Benign tumor of thyroid gland

e. Increase secretion of TSH hormone from pituitary gland

Question70
Which of the following statements is false about gluconeogenesis?
Select one:

a. From the hydrolysis of fat,glycerol can be used as carbon source
b. From red blood cells, lactate can be used as a carbon source
c.The carbons skeletons of most amino acids can be used a carbon source
d. From musde vigorous muscle activity, lactate can be used as a carbon source
e. From the hydrolysis of fat, fatty acids can be used as a carbon source

Q:71
In de novo synthesis of fatty acids, each turn of the reactions add 2 carbon atoms. Which of the following is the compound that
supply the 2 carbon atoms?
Select one:

a.Propionyl CoA
b.Succinyl CoA
c.Acetyl CoA
d.Malonyl CoA
e.Keto acyl CoA

Q:72
Colloid is a substance associated with which of the following endocrine organs?
Select one:

a.Pineal gland
b.Thyroid gland
c.Suprarenal glands
d.Pars intermedia of human
e.Parathyroid gland

Question 73
All following are types of glucocorticoids EXCEPT?
Select one:

a.Methylprednisolone
b.Prednisone
c.Esomeprazole
d.Dexamethasone
e.Betamethasone

Question 74
All following about adrenocorticosteroids are true EXCEPT?
Select one:

a.Principal human glucocorticoid is Hydrocortisone (cortisol)
b. Hydrocortisone is short acting
Flag question
c. They vary in their anti-inflammatory potency
d. Betamethasone is long acting
e. Triamcinolone can be given during pregnancy

Question 75
All of the followings are examples of effector proteins except?
Select one:

a.Inositol trisphosphate
b.Phospholipases
c.Adenylyl cyclases
d.Calcium ion channels
e.Phosphodiesterases

Question 76
The following are true about aldosterone, except?
Select one:

a. It is secreted by the adrenal medulla
b. Its secretion is stimulated by decreased blood volume
c. Abnormal secretion occurs in Conn's syndrome
d. It stimulates active reabsorption of sodium in the distal renal tubules
e. It causes increased secretion of potassium by the distal renal tubules

Question77
One of the following sets of enzymes can be used as tumor markers for the diagnosis and monitoring the response to the
treatment of the liver cell carcinoma and urinary bladder cancer?
Select one:

a.Leucine amino peptidase and β-glucuronidase
b. β-glucuronidase and amylase
c.Alkaline phosphatase and neuron specific Enolase
d.Lactate dehydrogenase and acid phosphatase
e. Alkaline phosphatase and acid phosphatase

Question 78
The pancreas related to these veins except? غير مطلوب
Select one:

a. Inferior pancreaticoduodenal vein
b.IVC
c.Superior mesenteric vein
d.Renal veins
e.Gonadal veins

Question 79
The following are true about the antidiuretic hormone?
Select one:

a. It increases the renal absorption of sodium
b.It increases the peripheral resistance
c.It is produced by the anterior pituitary gland
d. It reduces the cardiac output
e. It decreases the release of ACTH

Question 80
Anti-diuretic hormone(ADH)?
Select one:

a.Its secretion is increased by a low plasma osmolarity
b.Increases the permeability of the distal convoluted tubule
c. Is released by neurosecretion
d. Is synthesized by the posterior lobe of the pituitary gland
e.Its secretion is decreased in early post-operative period

The End

ENDOCRINE SYSTEM

EXAM - wareed batch

إعداد :

الجلسة الأولى

1) Which of the following can be formed by hydroxylation of phenylalanine?

a. Serine
b. Tyrosine
c. Tryptophan
d. Leucine
e. Glycine

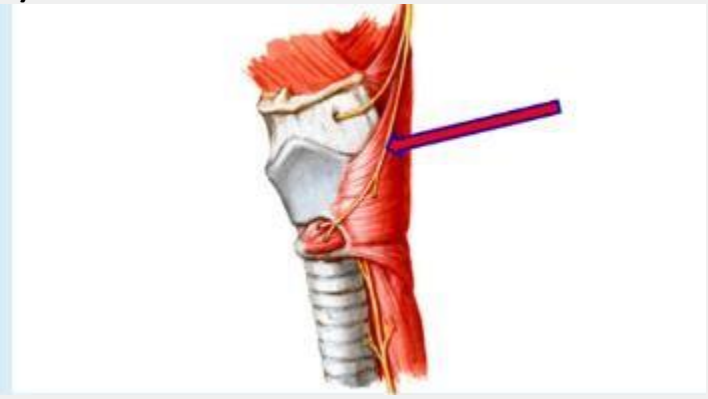
Answer: B

2) A 27 year old anxious patient presented with amenorrhea and galactorrhea. She was prescribed an oral medication that restored her menstruation, and stopped the galactorrhea. Which of the following is incorrect?

a. The patient might have had a pituitary microprolactinoma.
b. Pituitary surgery has higher cure rate than drug treatment of microprolactinomas.
c. The patient was probably prescribed cabergoline.
d. The DA2 receptor blocker haloperidol might worsen her hyperprolactinemia.
e. Her infertility is due probably to decreased gonadotrophins effect on ovary.

Answer: B

3) What is the labeled structure ?



a. Superior laryngeal nerve
b. inferior laryngeal nerve
c. External laryngeal nerve
d. Recurrent laryngeal nerve
e. Internal laryngeal nerve

Answer: C

4) Corticostreoids are contraindicated in all following conditions EXCEPT?

a. Peptic ulcer
b. Hypertension
c. Allergic rhinitis
d. Heart failure
e. Patients with history of diabetes

Answer: C

5) All the following are TRUE about diabetes, EXCEPT?

a. Nearly 3% of global blindness can be attributed to diabetic retinopathy
b. It is an old disease known as early as the 5th century AD
c. We use (unclassified diabetes) category temporarily when there is not a clear diagnostic category
d. T1 DM onset occur in childhood only
e. Diabetes mellitus in pregnancy is defined by the same criteria as in non-pregnant persons

Answer: D

6) It is known that amino acids may be glucogenic, ketogenic or mixed. Which of the following amino acids is not converted to acetyl co A upon metabolism?

a. Tyrosine
b. Leucine
c. Tryptophan
d. Lysine
e. Valine

Answer: E

7) Which of the following are symptoms of Addison's disease?

a. hyperglycemia
b. Moon face
c. Striae
d. Hyperpigmentation
e. Weight gain and Fatigue

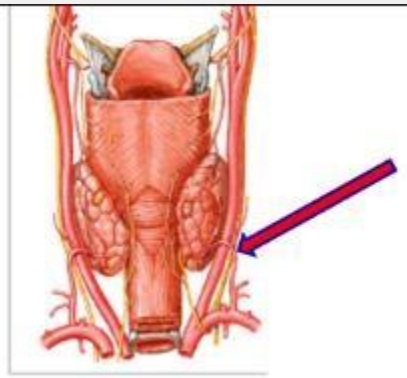
Answer: D

8) The rate limiting step in de novo fatty acid synthesis is catalyzed by which of the following enzymes?

a. Ketoacyl synthase
b. Acetyl co A carboxylase

Answer: B

9) What is the labeled structure?



a. subaavran artery
b. Superior thyroid artery
c. Thyrocervical trunk
d. Inferior thyroid artery
e. External carotid artery

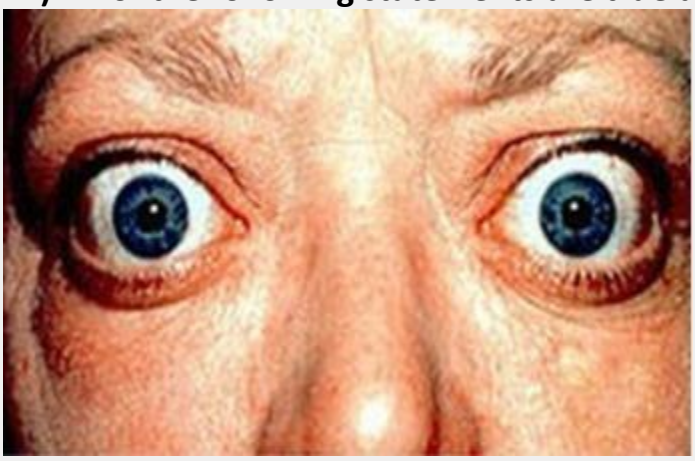
Answer: D

10) A patient has been advised to take a medication containing acetyl salicylic acid to reduce the risk of ischemic heart disease. The objective of using this treatment is which of the following?

a. To inhibit prostacyclin isomerase activity
b. To reduce 15-lipooxygenase activity
c. To inhibit thromboxane synthase activity
d. To increase 5-liopoxygenase activity
e. To increase lipoxin synthase activity

Answer: C

11) All of the following statements are true about this condition except?



a. This disease is caused by anti-TPO autoantibodies.
b. It is associated with HLA-DR.
c. It is caused due to anti-thyrotropin antibodies.
d. Most commonly affects middle aged women.
e. It is a common cause of hyperthyroidism.

Answer: B

12) What is true regarding the thyroid hormones?

a. T3 is more abundant than T4
b. They decrease the BMR
c. They decrease the GIT motility
d. T3 is more active than t4
e. iodide intake stimulates T3 and T4 synthesis in endemic goiter

Answer: D

14)
15)

16) The chemical formula of urea is NHZ CO NH2. the source of the two nitrogen of urea are derived from?

a. Pyruvate and ammonia
b. Glutamate and ammonia
c. Argininosuccinate and ammonia
d. Alanine and ammonia
e. Aspartate and ammonia

Answer: E

17) During fetal development. abnormally low levels of the thyroid hormones result in a condition known As?

a. Gorter
b. Cretinism
c. Hashimoto's disease
d. Graves' disease
e. Myxedema

Answer: B

18) Aqueous vasopressin: Which statement is false?

a. is useful in treatment of cranial diabetes insipidus complicating head injury.
b. may cause hyponatremia in overdose.
c. is less bioavailable by nasal spray than by subcutaneous injection.

Answer: C

19) Criteria for the Diagnosis of Diabetes according to American Diabetes Association Standards of Medical Care in Diabetes, include the following, EXCEPT?

a. Fasting plasma glucose (FPG), ?126 mg/dL (7.0 mmol/L)
b. 2-h plasma glucose ?20() mg/Dl (11.1 mmol/L) during an OGTT
c. HbA1 c more or equal 6.5%
d. Classic diabetes symptoms + random plasma glucose ?200 mg/dL (11.1 mmol/L)
e. HbA1c more or equal 6.5% + Ketoacidosis (DKA)

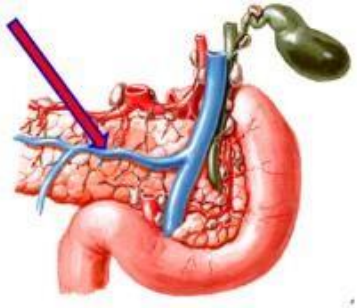
Answer: E

20) A 42-year-old woman presents with fatigue, weight gain, cold intolerance, low T3 and T4 levels and an elevation in TSH. All of the following are potential causes of these findings except?

a. Chronic lymphocytic thyroiditis.
b. Total thyroidectomy.
c. Iodine deficiency.
d. Pituitary adenoma.
e. Hashimoto thyroiditis.

Answer: D

21) What is the labeled structure?



a. Splenic vein
b. inferior mesenteric vein
c. Portal vein
d. Neck of pancreas
e. Superior mesenteric vein

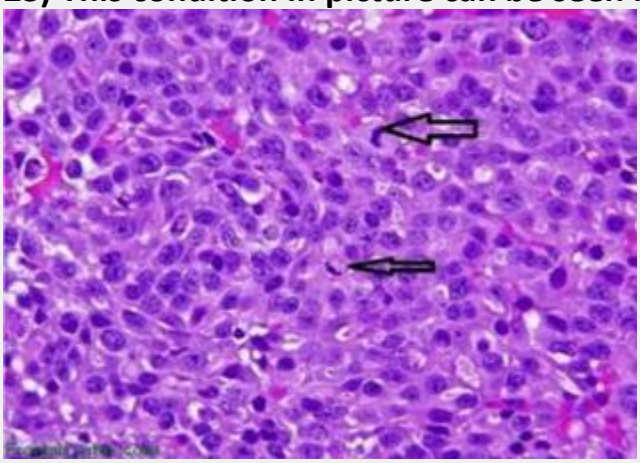
Answer: A

22) Corticosteroids can be used in all following conditions EXCEPT?

a. Autoimmune diseases
b. Bronchial asthma
c. Osteoporosis
d. Diagnosis of Cushing‘s syndrome
e. Addison's disease

Answer: C

23) This condition in picture can be seen in all of the following, except? غير مطلوب



a. Prolactinoma.
b. Growth hormone adenoma.
c. Dyshormogenic goiter.
d. Classic papillary carcinoma.
e. Follicular adenoma.

Answer:

24) All following are adverse effetcs of corticosteroids EXCEPT?
a. Hypoglycemia
b. Hypertension
c. Osteoporosis
d. Decreased growth in children
e. Cataract

Answer: A

25) Selective destrucdon of the zona glomerulosa of the adrenal cortex would produce a deficiency of which hormone?
a. aldosterone
b. androstenedione
c. cortisol
d. dehydroepiandrosterone
e. erythropoietin

Answer: A

26) NADPH is important hydrogen donor for reduction reactions, it is synthesized by the action of which of the following enzymes?
a. Glucose 6 P dehydrogenase
b. Pyruvate dehydrogenase
c. Acetyl co A carboxylase
d. Lipoprotein lipase
e. Glycerol kinase

Answer: A

27) Reducing equivalents oxidation rate utilizing the shuttle systems through the entrance of protons to complex I of ETC will?
a. Be decreased in active and inactive muscle.
b. Increase when cyanide is used to prevent electron transfer through ETC.
c. Be very high if the ATP synthase is inhibited, but increase when an uncoupler is added.
d. Increase if mitochondrial ADP is depleted and AMP is increased
e. Be interrelated to an enzymatic and transporter exchanger activity.

28) All following are oral hypoglycemic drugs EXCEPT?
a. Sulfonylureas
b. Meglitinides
c. Biguanides
d. Hydrochlorothiazide
e. Thiazolidinediones

Answer: D

29) Concerning calcium metabolism?
a. the net effect of parathyroid hormone is to increase serum calcium
b. Vitamin D increases renal excretion of both calcium and phosphate
c. Calcitonin is secreted by parathyroid chief cells
d. Insulin decreases bone formation
e. parathyroid hormones decrease calcium excretion in urine

Answer: A

30) Choose correct statement about action of increased thyroid hormone production?
a. T3 sensitizes the myocardium to the effects of catecholamines
b. T3 and T4 cause hyperprolactinemia
c. Weight gain is related with thyroid overproduction

Answer: A

31) What is the most common primary malignant thyroid neoplasm in countries with adequate dietary iodine intake?
a. Follicular adenoma.
b. Follicular carcinoma
c. Medullary thyroid carcinoma.
d. Anaplastic carcinoma.
e. papillary thyroid carcinoma.

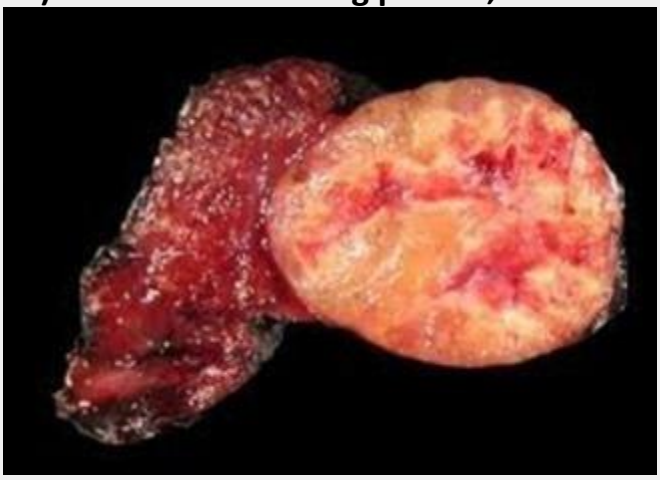
Answer: E

32) A 40 years old woman complains of decreased energy, weight gain and cold intolerance. She is seen by her family physician who diagnosed her as a case of hypothyroidism. Which of the following is the precursor of thyroid hormone?
a. DOPA
b. Glutamine
c. Tyrosine
d. Tryptophan
e. Threonine

Answer: C

33) Carbimazole: Which of the following is false?
a. enhances uptake of radioiodine by the thyroid gland .
b. inhibits thyroperoxidase reaction more effectively than high intracellular iodide.
c. has a longer plasma half-life than propylthiouracil.
d. is converted to its active metabolite methimazole by liver. **Answer: A**
e. is less preferred than propylthiouracil to control hyperthyroidism during pregnancy.

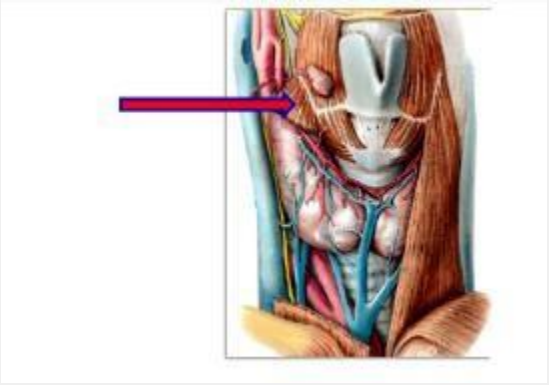
34) About the following picture, all of the following are true, except?



a. Solitary nodules. in general, are more likely to be neoplastic than are multiple nodules.
b. Nodules in males are more likely to be neoplastic than are those in females.
c. Nodules that take up radioactive iodine in imaging studies are less likely to be benign than malignant.
d. Nodules in younger patients are more likely to be neoplastic than are those in older patients.
e. About 10% of cold nodules prove to be malignant.

Answer: C

35) What is the labeled structure?



a. Omohyoid muscle
b. Sternothyroid muscle
c. Thyrohyoid muscle
d. Sternohyoid muscle
e. Sternomastoid muscle

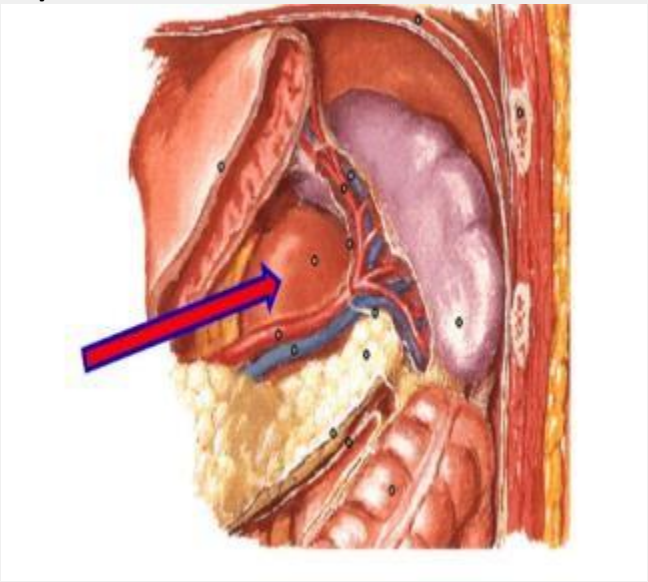
Answer: B

36) Fructose-2,6-bisphosphate?

a. Inhibits phosphofructokinase-1and phosphofructokinase-Z
b. Activates fructose 1, 6 biphosphatase and inhibits phosphofructokinasel
c. Inhibits fructose 1, 6 biphosphatase and inhibits phosphofructokinased
d. Activates hexokinase and fructose 2, 6 biphosphatase
e. Inhibits fructose 1, 6 biphosphatase and activates phosphofructokinase-1

Answer: E

37) What is the labeled structure?



a. Stomach
b. Left kidney
c. Spleen
d. Pancreas
e. Right kidney

Answer: B

38) A 5 years old boy presents with altered mental status. heart failure and muscle weakness. He is diagnosed as primary carnitine deficiency. In which of the following is carnitine directly involved?

a. Beta- oxidation
b. Transport of fatty acyl co A
c. Activation of fatty acids
d. Omega- oxidation
e. Alpha- oxidation

Answer: B

39) All of the following nuclear changes are typically seen in papillary thyroid carcinoma except?

a. Grooves.
b. Pseudo inclusions.
c. Nuclear enlargement.
d. Fine chromatin.
e. Papillary architecture.

Answer: D

40) Clinical manifestations of adrenocortical insufficiency do not appear until 90% of the cortex has been compromised. One of the following is NOT among the clinical of manifestation of Secondary (Pituitary related) adrenocortical insufficiency?

a. Progressive weakness.
b. Gastrointestinal disturbances (nausea and vomiting).
c. Hyperkalemia and Hyperpigmentation.
d. Hypoglycemia.
e. Anorexia.

Answer: C

41) What is the main cause of Cushing disease?

a. Hypersecretion of GH
b. Tuberculosis
c. Adrenocortical carcinoma
d. Autoimmune adrenalitis
e. Hypersecretion of catecholamines

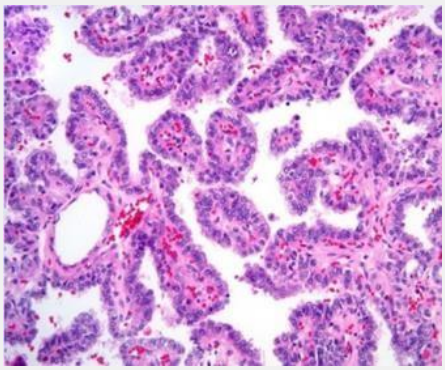
Answer: D

42) The following can reduce secretion of respective hormone or substance except?

a. Octreotide: Somatotropin from acidophil tumour of pituitary.
b. Leuprolide SC injection daily: LH and FSH from anterior pituitary.
c. Sermorelin: ACTH from from pituitary basophil microadenoma.
d. Large dose of sodium iodide: Thyroxine.
e. Ganirelix: LH from anterior pituitary.

Answer: C

43) Which of the following histologic findings is a feature of classic type of papillary thyroid carcinoma ?



a. Composed entirely of follicles.
b. Nuclei of the lesional cells are small and round without nuclear membrane irregularity.
c. Contains well-formed papillae with fibrovascular core.
d. Lesional cells have a cell height at least 2 - 3 times of the cell width.
e. Amyloid deposits is seen which is positive for congo red stain.

Answer: C

44) A diagnosis of pituitary carcinoma requires which one of the following findings?
a. Marked nuclear pleomorphism.
b. Discontinuous subarachnoid space deposits.
c. More than one mitotic figure per 10 HPF.
d. Tumor necrosis.
e. High NC ratio.

Answer: B

45) A 32-year-old woman presents with amenorrhea and bilateral white breast discharge. No breast lesions are palpated and pregnancy test is negative. What is the most likely finding on an MRI scan of the brain?
a. An empty sella turcica.
b. Glioblastoma.
c. Pituitary macro adenoma.
d. Pituitary micro adenoma.
e. Pituitary carcinoma.

Answer: C

46) What do you call the material deposited on the islets of Langerhans?
a. Dystrophic calcification.
b. Amyloid.
c. Atherosclerosis.
d. Hyaline.
e. Microrganisms.

Answer: B

47) Large doses of iodide in hyperthyroidism decreases the following except?
a. the srze and vascularrty of toxrc gorter.
b. thyroid hormone release for about 2 weeks.
c. peripheral conversion of thyroxine into 13 in case of sodium ipodate.
d. uptake of radioiodine by the thyroid gland.
e. intrafollicular storage of iodotyrosines in thyroid gland.

Answer: C

48) Barbiturates, nigericin, and calcium are interfering with energy production through ETC. Which of the following statements correctly describes the mode of action of the three?

a. Barbiturates and calcium inhibit the ETC, and nigericin inhibits ATP synthesis
b. Calcium inhibits the ETC, whereas nigericin and barbiturate inhibit ATP synthesis
c. All of them compete with 02 for cytochrome oxidase.
d. Nigericin and barbiturates inhibit ATP synthesis; while, calcium blocks the ETC.
e. Barbiturates partially inhibit ETC, but calcium with nigericin prevents ATP synthesis.

Answer: A

49) One of the following causes for Hypercortisolism (Cushing Syndrome) is ACTH dependent?

a. Iatrogenic hypercortisolism
b. Cushing disease.
c. Adrenocortical hyperplasia.
d. Adrenocortical carcinoma.
e. Adrenocortical adenoma.

Answer: B

50) How does antidiuretic hormone affect water absorption in the kidney?

a. Antidiuretic hormone causes the kidney to produce large volume of urine.
b. Antidiuretic hormone causes the kidney to release more urea into the urine, causing increased urine production.
c. Antidiuretic hormone causes the kidney to increase water absorption into the blood by causing the nephrons to express more aquaporins.
d. Antidiuretic hormone causes the kidney to increase water absorption into the blood by causing the nephrons to express less aquaporins.
e. All choices are correct

Answer: C

Question 1 : Regarding parathyroid gland, the action of parathormone is mediated through activation of the following enzyme?

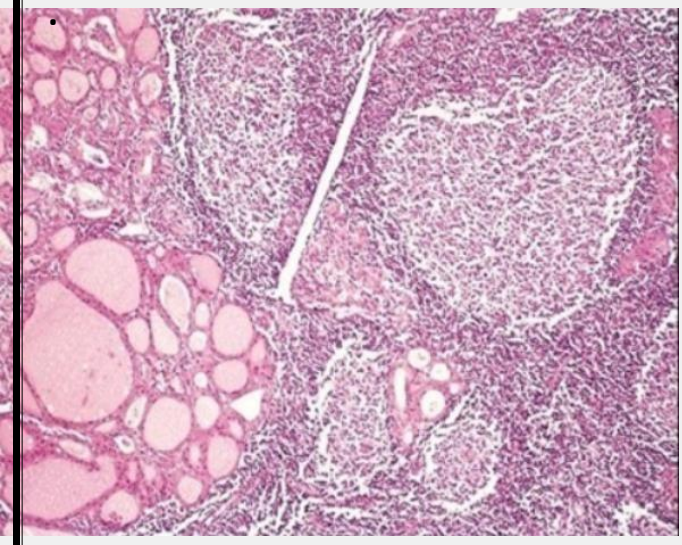
a. Adenyl cyclase.
b. Phosphodiesterase.
c. Iodinase.
d. Reductase.
e. Cholinesterase.

Answer: A

Question 2: In the following tissues, which of the following enzymes best matches the type of steroid hormone produced?

a. Zona fasciculata has 11-beta-hydroxylase to synthesize cortisol.
b. Zona glomerulosa has 16-hydroxylase to synthesize aldosterone.
c. Zona reticularis has 18-hydroxylase to synthesize cortisol.
d. Ovarian theca cell has active cytochrome P450 aromatase to synthesize estradiol.
e. Leydig cell of testis lack 17 beta-hydroxysteroid dehydrogenase to release androstenedione as end-product.

Question 3 : A 41 -year-old woman has hypothyroidism. A biopsy of her thyroid gland is shown, all of the following statements are true regarding this process except

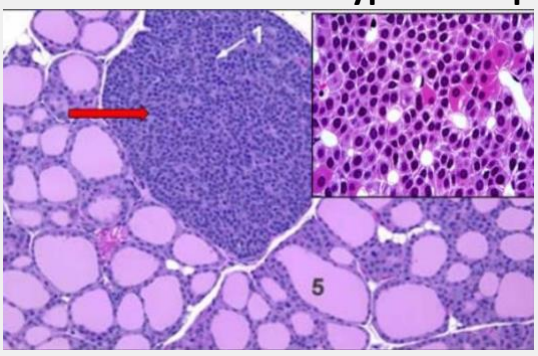


a. Associated with antithyroglobulin antibodies.
b. More common in men than women.
c. Hurthle cell metaplasia of follicular epithelium is characteristic.
d. Patient with this disorder has an increased risk of other autoimmune diseases.
e. The disease is a risk factor for development of papillary thyroid cancer.

Answer: B

Question 4

The most numerous cell type in the pointed structure is?



Select one:
a. Parafollicular cells.
b. Oxyphil cell.
c. Follicular cell.
d. Chief cell.
e. Oxyntic cell.

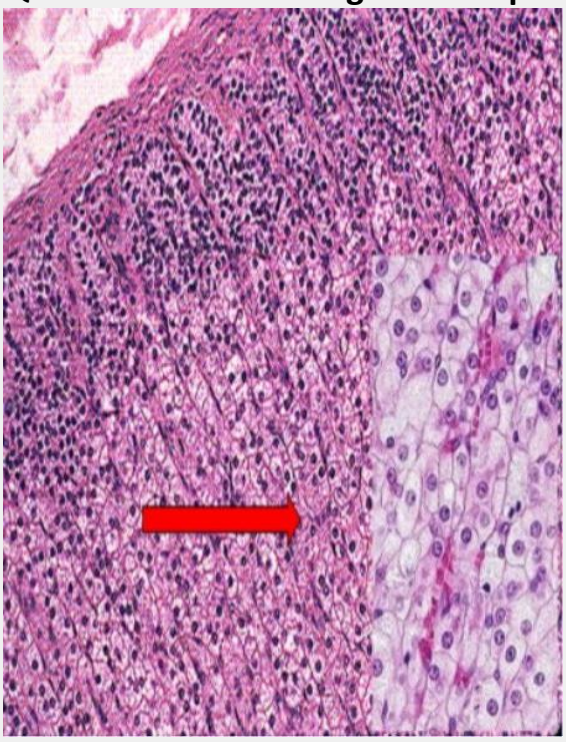
Answer: D

Question 5: Which anterior pituitary hormone plays a major role in the regulation of a non-endocrine target gland?

a. ACTH
b. TSH
c. Prolactin
d. FSH
e. LH

Answer: C

Question 6: Concerning the cells present in the pointed zone the False statement is?



a. Called spongiocytes
b. Contains numerous mitochondria.
c. Abundant lipid droplets
d. Secrete glucocorticoids.
e. Contains extensive rough endoplasmic reticulum.

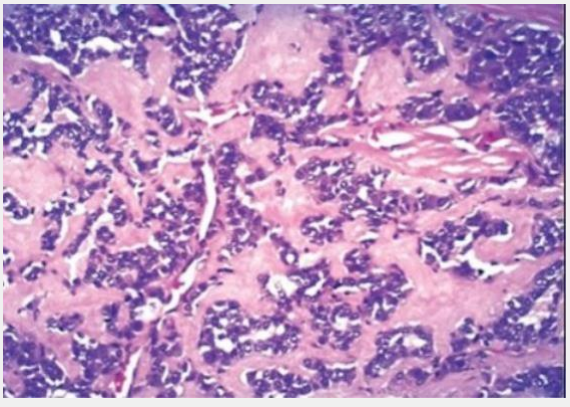
Answer: E

Question 7 :Biomarkers have diagnostic significance, from the following sets of them choose the most sensitive to be used in diagnosis of myocardial infarction, viral hepatitis, Paget's disease and organophosphorus compounds poisoning, respectively?

a. AST, pseudocholinesterase, CK-MB and GGT
b. LDH, ALP, TnT2 and cholinesterase
c. Enolase, lipase, ALT and acid phosphatase
d. Beta- Glucuronidase, cholinesterase, GGT and AST
e. TnT2, AL T, ALP and cholinesterase

Answer: E

Question 8 : Screening method for medullary carcinoma of thyroid?



a. Serum calcitonin.
b. Serum calcium.
c. Serum ALP.
d. Serum acid phosphatase.
e. Serum TSH.

Answer: A

Question 9 : All the following sentences are causes of osteoporosis EXCEPT?
a. Postmenopausal deficiency of estrogen.
b. Deterioration of bone homeostasis due to aging.
c. Rheumatoid arthritis.
d. Excessive thyroxine.
e. Hypothyroidism.

Answer: E

Question 10 : A 27-year-old male presented to the outpatient clinic with complaints of bone pain and progressive increase in height. A homozygous mutation was detected in the cytochrome P450 aromatase gene. What is the action of this enzyme?
a. It catalyzes the formation of testosterone from androstenedione.
b. It forms dihydrotestosterone from testosterone.
c. It converts dehydroepiandrosterone (DHEA) to androstene-dione.
d. It synthesizes androstene-diol from testosterone.
e. It converts testosterone to Estradiol.

Answer: E

Question 11: Production and phagocytosis of thyroglobulin is the function of?
a. Parathyroid oxyphil cell
b. Thyroid parafollicular cells
c. Thyroid follicular cells
d. Interfollicular cells
e. Adrenal chromaffin cells

Answer: C

Question 12 : Diacylglycerol, choose the wrong statement?
a. It is an important source for the release of arachidonic acid.
b. It stimulates protein kinase A
c. It is made up of two fatty acids and a glycerol.
d. It is a hydrophobic molecule.
e. It is synthesized in the cell membrane and remains in the cell membrane.

Answer: B

Question 13: GH produces all the following effects, except?
a. Enhance cell division.
b. Stimulate protein synthesis.
c. Stimulate bone growth.
d. Hyperglycemia.
e. Corpus luteum formation.

Answer: E

Question 14 : Deficiency of glucose-6-phosphate dehydrogenase can lead to.
a. Fructosuria
b. Galactosemia
c. Hereditary fructose intolerance
d. Dietary Fructose Intolerance
e. Favism

Answer: E

Question 15 : The gonadal function is regulated by:
a. Pituitary gonadotropins.
b. Hypothalamic releasing hormones.
c. ADH
d. Oxytocin.
e. ACTH.

Answer: A

Question 16 : There are three different types of Beta-adrenergic receptors Betal, Beta2, and Beta3. Choose the wrong statement.
a. Betal receptor is the major adrenergic receptor in the human heart.
b. The Beta2 receptor is involved in release of glucose through glycogenolysis.
c. Agonists for Beta2 receptor may prove to be beneficial for weight loss.
d. Protein kinase A phosphorylates phospholamban thus reducing its association with SERCA2a.
e. Protein kinase A phosphorylates phospholamban thus increasing heart beat.

Answer: C

Question 17
The following is not correct regarding AcetylCoA?
Select one:
a. It acts as a link between carbohydrate and fat metabolism.
b. The pyruvate is converted to acetylCoA after being transported to mitochondria via its specific transporter protein.
c. The generation of acetylCoA from pyruvate is irreversible reaction.
d. The two carbons of acetylCoA which joined the krebs cycle recently are emitted immediately as C02 in the first round.
e. The acetylCoA formation reaction is catalysed by pyruvate dehydrogenase complex.

Answer: D

Question 18
What is the origin of the tumor seen in this photo? غير مطلوب

a. Adrenal cortex: zona fasciculata.
b. Adrenal cortex: zona reticularis.
c. Adrenal cortex: zona glomerulosa.
d. Adrenal medulla.
e. Renal medulla.

Question 19 : Which of the following is CORRECT as regards the major energy source for different tissues in different metabolic states?

a. In fasting, ketone bodies are the main energy source for liver.
b. In starvation, muscle spares its proteins and oxidizes fatty acids as primary energy source.
c. Fatty acids provide the major energy source for erythrocytes in fed state.
d. Neural tissue is exclusively dependent on ketone bodies in starvation.
e. During food ingestion, glucose is derived from muscle glycogenolysis.

Answer: B

Question 20 : Mitochondria in brown fat of human infants regulate heat generation by manipulating the permeability of inner mitochondrial membrane, which increases heat output due to?

a. Inhibition of adenine nucleotide translocase
b. Inhibition of FO/FI ATP synthase
c. Increasing ATP synthesis in the mitochondria.
d. Increasing the rate of electron transport.
e. Decreasing the rate of 02 consumption.

Answer: D

Question 21 : Where is the endocrine portion of the pancreas housed in?

a. Islets of Langerhans b. Alpha cells c. Beta cells
d. Delta cells e. Pancreatic acini

Answer: A

Question 22 : Insufficient growth hormone in child release causes?

a. Diabetes insipidus. b. Diabetes mellitus. c. Tetany.
d. Hyper-aldosteronism. e. Dwarfism.

Answer: E

Question 23 : All of the followings correctly describe the features of glycogen synthase enzyme except.

a. UDP-glucose is the substrate for this enzyme.
b. It can only add glucose units to non-reducing ends.
c. It can not elongate a branch containing less than 4 glucose subunits.
d. It can elongate a glycogen core or primer containing at least 8 glucose monomers.
e. It catalyzes the formation of branch points with 1,6-glycosidic bonds

Answer: E

Question 24 : In catecholamine hormones synthesis, choose the wrong statement.

a. Tyrosine hydroxylase converts tyrosine to DOPA.
b. Phenylethanolamine N-methyltransferase converts norepinephrine to epinephrine.
c. Aromatic amino acid decarboxylase converts dopamine to norepinephrine.
d. Epinephrine has one extra hydroxyl group and one methyl group than dopamine.
e. Conversion of epinephrine to norepinephrine occurs in the storage vesicles.

Answer: C

Question 25: Thyroid hormones, choose the wrong answer:

a. When iodine supplies are sufficient, the T4:T3 ratio is about 7:1.
b. Thyroperoxidase stimulate the coupling of two DIT to form T4 or MIT and DIT to form T3.
c. TSH stimulates the endocytosis of thyroglobulin.
d. About 30% of thyroid gland is thyroglobulin.
e. Somatostatin stimulate cAMP which inhibit growth hormone production.

Answer: E

Question 26 : This reaction is not regulatory step or rate-limiting step in its corresponding metabolic pathway?

a. phosphorylation of Glucose to G6P by hexokinase -—-———-— glycolysis
b. phosphorylation of Fructose-6-P by PFK-I -—-———-— glycolysis
c. oxidation of G6P by G6P dehydrogenase -—-———-— PPP
d. regeneration of oxaloacetate from L-malate -—-———-— Krebs cycle
e. the generation of pyruvate from phosphoenolpyruvate -—-—-— glycolysis

Answer: D

Question 27: Which one of the followings is not correctly matched?

a. PPP and glycogenesis -—-———-— anabolic pathways
b. glucokinase -—-———-— phosphorylation of any hexose (galactose, glucose, etc)
c. fructokinase deficiency -—-———-— fructosuria
d. energy rich molecules -—-———-— NADH and FADH2
e. direct pathway for ATP synthesis -—-———-— substrate-level phosphorylation

Answer: B

Question 28 : Due to ..... , each NADH molecule generated through glycolysis in cardiac tissues is used to generate ..... molecules by oxidative phosphorylation?

a. Aspartate/malate shuttle / 2.5 ATP
b. Aspartate/malate shuttle / 1.5 ATP
c. DHAP/G3P shuttle / 2.5 ATP
d. DHAP/G3P shuttle / 1.5 ATP
e. Malate/oxaloacetate shuttle / 5 ATP

Answer: A

Question 30 : Lack of cortisol with normal aldosterone level might be a consequence of which of the following enzymatic defects in the adrenal cortex?

a. 21beta-hydroxylase.
b. 17-alpha-Hydroxylase.
c. 18-Hydroxylase/hydroxysteroid dehydrogenase.
d. 11-beta-Hydroxylase.
e. 3beta (OH) steroid dehydrogenase(3beta-HSD)/delta 5-4 isomerase.

Answer: B

Question 31 : Choose the wrong statement regarding tyrosine kinase receptor:

a. They are functional only as dimers, so they are always found as dimmers.
b. Its transmembrane segment is a single hydrophobic alpha helix.
c. Its mutations may lead to cancer.
d. Upon activation only tyrosine residues are phosphorylated.
e. There must be autophosphorylation for this receptor to function.

Answer: A

Question 32 : According to the blood supply of the suprarenal glands, which is incorrect?

a. Superior suprarenal artery arises from the superior phrenic artery.
b. The right suprarenal vein end in the inferior vena cava.
c. Middle suprarenal artery arises from the abdominal aorta.
d. The left suprarenal vein end in the left renal vein.
e. Inferior suprarenal artery arises from the renal artery.

Answer: A

Question 33 : In the reaction catalyzed by succinate dehydrogenase in Krebs cycle, the following molecule was used as a strong oxidizing agent?

a. NAD+ b. NADH c. FADH2
d. FAD e. NADP+

Answer: D

Question 34 : The pyramidal lobe is connected to the hyoid bone by:

a. The suspensory ligament of Berry
b. The levator glandulae thyroidae
c. Fibrous capsule
d. Directly
e. Pretracheal fascia

Answer: B

Question 35: Which of the following statements about gluconeogenesis is correct?

a. Pyruvate is first converted to phosphoenolpyruvate by phosphoenolpyruvate carboxykinase
b. Fructose 1, 6-biphosphatase converts fructose 1,6-bisphosphate into fructose 1-phosphate.
c. Glucose 6-phosphatase hydrolyzes glucose 6-phosphate to release glucose into the blood.
d. Glucose 6-phosphatase hydrolyzes glucose 6-phosphate and is found in liver and muscle.
e. Phosphoenolpyruvate carboxykinase converts pyruvate into oxaloacetate.

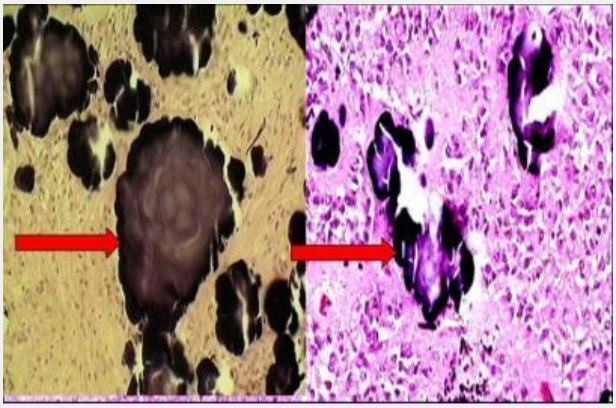
Answer: C

Question 36: Biomarkers can be used for diagnosis of different diseases, one of the following sets of enzymes can be used for diagnosis of alcoholic liver disease?

a. CPK, lipase and choline esterase
b. LDH, AST and ALP
c. ALT, AST and gamma-GT
d. Asparaginase, 5'-nucleotidase and ALT
e. Glucose 6 phosphate dehydrogenase, choline esterase and ALP

Answer: C

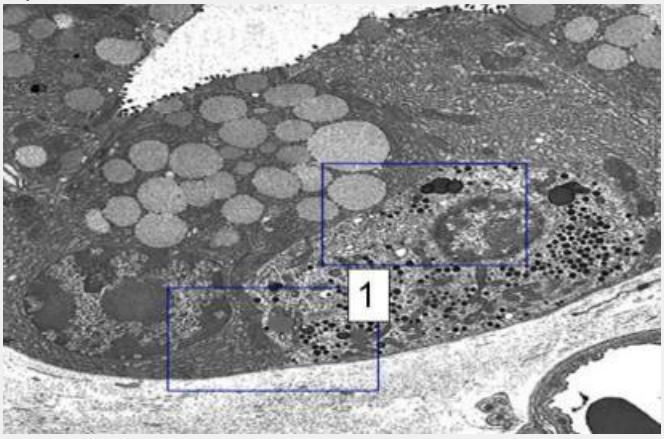
Question 37: The pointed structure present in?



a. Pituitary gland.
b. Parathyroid gland
c. Pineal body.
d. Cerebral cortex.
e. Suprarenal gland

Answer: C

Question 38 : The true statement for the cell (1) is?



a. Present in Parathyroid gland.
b. Secretory granules are apical.
c. Secrete T3 and T4.
d. Called clear cell.
e. Contain numerous lysosomes.

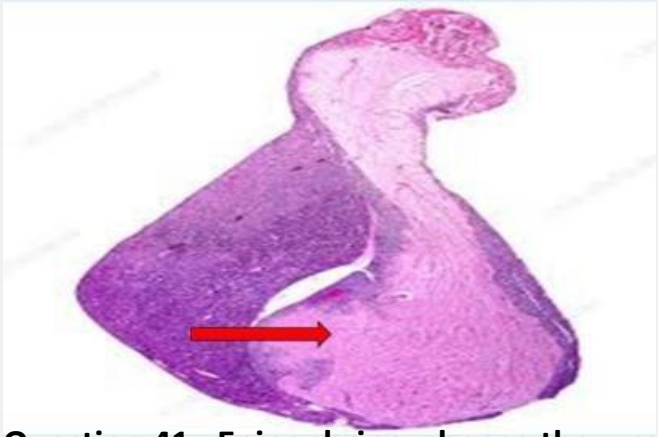
Answer: D

Question 39 : What is the posterior relation of the neck of the pancreas?

a. Beginning of the portal vein
b. Beginning of the superior mesenteric artery
c. Beginning of the splenic vein
d. Beginning of the superior mesenteric vein
e. Beginning of the splenic artery

Answer: a

Question 40 : The true statement for the cell present in the pointed area?



a. Multipolar nerve cells.
b. Called astrocytes.
c. Produce oxytocin and ADH
d. Modified neurons.
e. A type of glial cell

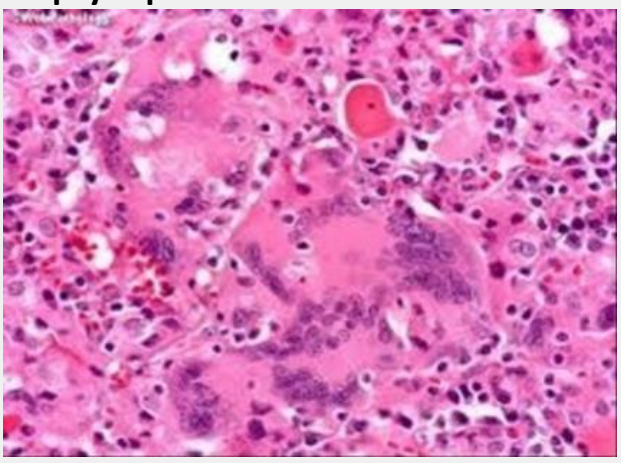
Answer: E

Question 41 : Epinephrine, choose the wrong statement?

a. Increases cAMP levels
b. Lead to activation of Beta 3 adrenergic receptor which stimulates fatty acid oxidation
c. Causes mobilization of fuel and increase blood glucose through the breakdown of muscle and liver glycogen
d. Lead to activation of protein kinase A
e. Released in stress situations.

Answer: C

Question 42 : A 51 -year-old woman presents with a painful neck mass, palpitations, weight loss and heat intolerance. Clinical exam demonstrates a diffusely enlarged and tender thyroid gland. A biopsy is performed. What is the best diagnosis? غير مطلوب



a. Chronic lymphocytic thyroiditis.
b. Sarcoidosis.
c. Sub-acute thyroiditis
d. Papillary thyroid carcinoma.
e. Graves' disease.

Question 43 : Fructose is contraindicated as I.V. infusion because of all of the followings except:
a. In excessive amounts, fructose is converted to triglycerides.
b. It can lead to depletion of Pi stores in the liver.
c. It can lead to activation of glycogenolysis and gluconeogenesis.
d. there is a strong association between high fructose intake and obesity, cardiovascular diseases, and onset of diabetes.
e. It is lipogenic.

Answer: C

Question 45 : Eicosanoids are a fatty acid derivatives, acting as local hormones through signal cascades, which of the following is incorrect?
a. All of the molecules in this category are unsaturated.
b. Their parent molecule, arachidonic acid, contains 20 carbon atoms.
c. Eicosanoids are acting as short-term chemical messengers.
d. Eicosatrienoic acid is a precursor for arachidonic acid.
e. Eicosanoids are produced by multiple pathways.

Answer: D

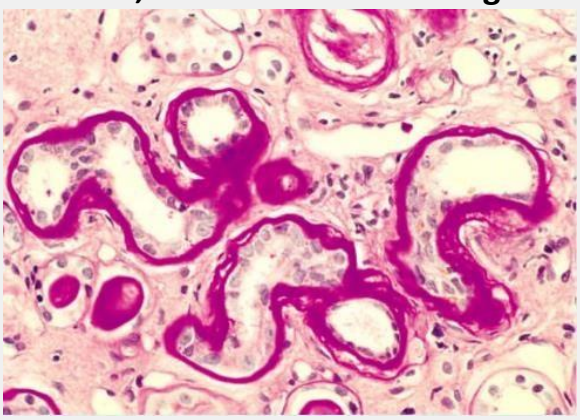
Question 47 : A 7-year-old boy is diagnosed as insulin-dependent diabetes mellitus. Which of the following enzymes would be inactive in this boy?
a. Protein kinase A.
b. Phosphoenolpyruvate carboxykinase.
c. Glycogen phosphorylase.
d. Hormone sensitive lipase.
e. Glycogen synthase.

Answer: E

Question 48 : Calcium ions, choose the incorrect statement of the followings.
a. Phosphatidylinositol bisphosphate causes release of Ca2+ from endoplasmic reticulum.
b. Ca2+-calmodulin complex lead to regulate ion pumps.
c. Ca2+-calmodulin complex lead to regulate components of the cytoskeleton.
d. Ca2+-calmodulin complex regulate the activity of some enzymes.
e. Binding of four Ca2+ ions converts calmodulin into a regulatory element.

Answer: A

Question 49: In the attached photo, you can see one of the common chronic complication of diabetes, which of the following best describes it?



a. Gangrene.
b. Amyloid deposition.
c. Atherosclerosis.
d. Hyaline arteriosclerosis.
e. Microangiopathy.

Answer: E

Question 50 : Which of the following's nerves related to the inferior thyroid artery?

a. Internal laryngeal nerve
b. Superior laryngeal nerve
c. Recurrent laryngeal nerve
d. External laryngeal nerve
e. Vagus nerve

Answer: C

Endocrine System- Midterm

دفعة نبض 2019

Question 1
Which of the following statements concerning the components of ETC is correct?
Select one:

a. Cyanide inhibits electron flow but not proton pumping or ATP synthesis
b. All of the components of ETC are present in large multi-subunit protein complexes embedded in the inner mitochondrial
membrane
c. Oxygen directly oxidizes cytochrome C
d. Succinate dehydrogenase directly reduces cytochrome C
e. ETC contains some polypeptides coded by the nuclear DNA and some coded by mtDNA

Question 2
The following reaction or step is reversible?
Select one:

a. AcetylCoA formation reaction
b.Formation of pyruvate from phosphoenolpyruvate
c.Phosphorylation of fructose-6-phosphate to fructose 1,6 bisphosphate
d. Cleavage of fructose 1,6 bisphosphate by aldolase enzyme
e. Phosphorylation of glucose to glucose-6-phosphate

Question3

For chylomicrons, the major lipid is?
Select one:

a. Free fatty acids
b.Cholesterol esters
c.Cholesterol
d.Triglycerides
e.Phospholipids

Question4
Hemolytic anemia occurs in patients who are diagnosed with favism only when they eat?
Select one:

a.Broad beans
b.Meat
c.Bread
d. Bananas
e.Rice

Question 5
The activated nuclear receptor that bind with DNA has?
Select one:

a. Two zinc fingers
b.One zinc finger
c.Three zinc fingers
d.Four zinc fingers
e. Eight zinc fingers

Question 6
Adenylyl cyclase,cAMP,and PKA choose the incorrect statement?
Select one:

a. Phospholipases converts cAMP to AMP
b. Protein kinase A phosphorylates some transcription factors thus affecting gene transcription
c. Adenylyl cyclase is a membrane-bound enzymeO
d. cAMP activates protein kinase A(PKA)
e.cAMP directly activates ligand-gated channels

Question 7
Diabetes is due to?
Select one:

a.Na+ deficiency
b. Enzyme deficiency
C. lodine deficiency
d.Both enzyme and hormonal deficiency
e.Hormonal deficiency

Question 8
A 35-year-old woman presents with Fuulnees in her neck(Goiter).The enlargement has been gradual and painless for more than
1 year.Physical examination confirms diffuse enlargement of the thyroid gland. Laboratory studies of thyroid function show a
normal free T4 level and an increased TSH level.What is the most likely cause of these findings?
Select one:

a.Hashimoto thyroiditis
b.Grave's Disease
c.Papillary thyroid carcinoma
d.Toxic adenoma
e.Toxic multinodular goiter

Question 9
Which one of the following statements about cortisol is FALSE?
Select one:

a. It regulates carbohydrate metabolism
b. It is synthesized in adrenal cortex
c. It is released in stress
d. It controls menstrual cycle
e.It is 21-carbon steroid

Question 10
The hormone sensitive lipase is stimulated in all the following states except?
Select one:

a.Tuberculosis
b.Prolonged fasting
c.High CHO diet
d.Starvation
e. Uncontrolled diabetes mellitus

Favism is caused by deficiency in?
Select one:
a.Glycogen synthase
b.Fructokinase
C.Galactokinase
d.G6PD
e.Glucokinase

All followings are adverse effects of corticosteroids EXCEPT?
Select one:
a.Osteoporosis
b.Decrease hair growth
C.Hypertension

d.Decreased growth in children
e.Cataract

Question13
Which of the following regulates the female reproductive cycle?
Select one:

a.Estrogens
b.Cortisone
C.Glucocorticoids
d.Testosterone
e.Progesterone

Question 14
Which hormone is not secreted from the anterior pituitary?
Select one:
a.FSH
b.Thyroid-stimulating hormone(TSH)
c.Growth hormone
d.Prolactin(PRL)
e.Oxytocin

Queston15
Fasting hypoglycaemia results when fructose is given as I.V infusion because of?
Select one:

a. inhibition of glycolysis
b. inhibition of electron transport chain
c.inhibition of glycogenesis
d.inhibition of glycogenolysis
e.inhibition of krebs cycle

Queston16
Choose the incorrect answer?
Select one:
a. Agenesis of the pituitary gland leading to delayed growth of the infant
b. Isthmus of thyroid gland is developed from thyroglossal duct
c. The anterior lobe of pituitary gland connected to hypothalamus by blood capillaries
d. Cortisol hormone is endoderm in origin
e. The end of the 4th part of duodenum is related to inferior surface of pancreas

Question17
A patient has been exposed to a compound that increases the protons permeability across the inner mitochondrial membrane.
What would be expected to happen?
Select one:

a. Increased oxygen utilization

b.Decreased pyruvate dehydrogenase activity
c.Decreased malate-aspartate shuttle activity
d.Increased ATP levels
e.Increased FO/F1 ATP synthase activity

Q:18
A 5 year old child brought to the emergency with his mother with classic features of diabetic ketoacidosis, that is, weight loss and
extreme weakness and osmotic features.The fasting blood sugar level was 330 mg/dL. Urine analysis revealed High ketone and
glucose levels in urine.Which of the following morphologic changes is most likely to present in this child pancreas at this stage?
Select one:

a. Pancreatic neuroendocrine tumor
b.Pancreatic adenocarcinoma
c.Amyloid deposition within the islets
d. Loss of more than 90% of the islets
e Agute inflammation of the islets

Question19
Choose the correct statement?
Select one:
a.The posterior pituitary is also called the hypophysis
b.Releasing hormones stimulate the hypothalamus
c.4 of 6 anterior pituitary hormones target endocrine glands
d.Growth hormone secreted by inhibitory mechanism
e.PRL is also called somatotropic hormone

Question20
The following are true about L-thyroxine except?
Select one:

a. has a slower onset than triiodothyronine
b.Is useful in reducing the size of simple goiter in endemic areas
c. Must be given early in treatment of cretinism to prevent mental deficit
d. Its requirements are reduced during pregnancy
e. Its peripheral conversion to T3 can be inhibited by propylthiouracil

Question 21
Epinephrine, choose the wrong statement?
Select one:

a.Turns off glycogen synthase through phosphorylation

b.Lead to activation of protein kinase A
Flag question
c.Increases cAMP levels

d. Causes mobilization of glucose through the breakdown of muscle and liver glycogen
e. Lead to activation of β3 adrenergic receptor which stimulates fatty acid oxidation and thermogenesis

Question 22
A 32-year-old female patient known case of rheumatoid arthritis, and has been treated with corticosteroid for many years. While
she is visiting relatives in another city for few days she discovered that she has forgotten her pills. In the third day of her visit she
started to feel lethargic and easy fatigability, increased sweating, anorexia, generalized aches and irritability. Which of the
following morphologic changes is most likely to be found in this patient adrenal cortex?
Select one:

a.Micronodular hyperplasia
b.Adenoma
c.Atrophy
d.Bilateral hemorrhagic necrosis
e.Carcinoma

Question 23
A 45-year-old woman complains of weakness and easy fatigability of for 3 months' duration.Physical examination is
unremarkable. Laboratory studies revealed serum calcium of 9.5 mg/dL,inorganic phosphorus of 3.4 mg/dL,and serum
parathyroid hormone of 65 pg/mL. The normal range for the following:calcium(8.5-10.5mg/dL),phosphorus(3-4.5mg/dL)and
PTH(11-51pg/mL). What is the most likely cause of these findings?

Select one:
a.Secondary hyperparathyroidism
b.Acute renal failure
c.Tertiary hyperparathyroidism
d. Primary hyperparathyroidism
e.Polycystic renal disease

Question 24
The hypothalamo-hypophysial portal system carries hormones from the?
Select one:

a.Brain to thyroid gland
b.Anterior pituitary to the hypothalamus
c.Hypothalamus to the posterior pituitary
d.Posterior pituitary to the hypothalamus
e. Hypothalamus to the anterior pituitary

Question25
Antidiuretic hormone acts on the
and regulates

Select one:

a. Thyroid,protein
b.Liver,oxygen intake
c. Kidneys,body water
d. Pancreas, blood sugar
e.Lung,blood pressure

Question26
This portion of human hypophysis cerebri releases NO known hormones?
Select one:

a. Pars intermedia
b.Pars nervosa
c.Pars distalis
d. They all secrete hormones
e.Pars tuberalis

Q:27
The following is true regarding Anaplerotic pathway?
Select one:

a.Transamination reaction can compensate for l-ketoglutarate and fumarate intermediates
b.ATP-dependent carboxylation of pyruvate catalyzed by pyruvate dehydrogenase re-generates oxaloacetate in matrix
c. Oxaloacetate is regenerated by oxidation reaction of pyruvate
d. Transamination of aspartate will compensate for oxaloacetate
e. Can be defined as group of reactions which compensate the shortage in Krebs cycle energy rich molecules such as NADH
and FADH2

Q:28
During gluconeogenesis, the conversion of glucose-6-P to glucose is catalyzed by glucose-6-phosphatase.Which of the
following statement is true about this reaction?
Select one:
a.The reaction occurs in mitochondria
b. Abnormal glycogen accumulation in liver is a result of this enzyme deficiency
c. Conversion of glucose-6-phosphate to glucose releases a molecule of ATP
d. It is a highly active enzyme in skeletal muscles
e. It can be reversed also by hexokinase and /or glucokinase

Question 29
All the followings are essential amino acids except?
Select one:

a.Serine
b.Lysine

c.Valine
d.Threonine
e.Leucine

Question 30
The glycerol phosphate shuttle moves electrons from the cytosol to the mitochondrial matrix. Which statement is not true about
this shuttle?
Select one:

a. Mitochondrial glycerol phosphate dehydrogenase converts glycerol-3-phosphate to DHAP
Flag question
b.Cytoplasmic glycerol phosphate dehydrogenase converts DHAP to glycerol-3-phosphate
c.Cytoplasmic NADH is oxidized to NAD+
d. Mitochondrial NAD+ is reduced to NADH
e.2 ATPs are formed per cytoplasmic NADH shuttled

Question 31
Which hormone promotes strong contractions?
Select one:

a.Melatonin
b.Lutenizing hormone
c.Progesterone
d.Prolactin
e.Oxytocin

Question 32
Criteria for the Diagnosis of Diabetes according to American Diabetes Association Standards of Medical Care in Diabetes, include
the following,EXCEPT?
Select one:

a.HbA1c≥ 6.5%+Ketoacidosis (DKA)
b.HbA1c≥6.5%
C. Fasting plasma glucose (FPG), ≥126 mg/dL(7.0 mmol/L)
d. Classic diabetes symptoms + random plasma glucose ≥200 mg/dL (11.1 mmol/L)
e.2-h plasma glucose ≥200 mg/DI(11.1 mmol/L)during an OGTT

Question 33
Desmopressin:All the following are true except?
Select one:

a. Is ineffective in patients with nephrogenic diabetes insipidus
b.Is effective by nasal spray as well as orally and subcutaneously
c.Increases Factor Vlll level in plasma of patients with mild hemophilia A
d. Is infused i.v. to stop bleeding from esophageal varicies complicating portal hypertension
e.Is longer acting than aqueous vasopressin

Question34
The superior thyroid artery is branch of which artery?
Select one:

a.Axillary artery
b.Common carotid artery
c.Subclavian artery
d.External carotid artery
e.Internal carotid artery

Question 35
G-proteins in G-protein-coupled receptors act as?
Select one:

a.Second messengers
b.Hormone receptors
c.Hormone carriers
d.Enzyme receptor
e.Signal transducers

Answer: E

Question 36
Low serum TSH but high Free T4 suggests?
Select one:

a.Hypothalamus hypothyroidism
b.Primary hyperthyroidism
C.Pituitary hyperthyroidism
d.Primary hypothyroidism
e.Pituitary hypothyroidism

Question37
Conceming the mechanism of action of PARATHORMONE, the following is true?
Select one:

a.Activation of adenyl cyclase enzyme.
b.Activation of amylase enzyme.
c.Activation of reductase enzyme.
d.Activation of transferase enzyme.
e.Activation of lipase enzyme.

Question38
Which of the following statements is not correct about dopamine?
Select one:

a. It has one hydroxyl group less than dihydroxyphenylalanine
b.It suppress the secretion of prolactin from anterior pituitary
c.It is synthesized from dihydroxyphenylalanine

d. It is a neurotransmitter that can act as hormone
e. It is converted to norepinephrine by the action of dopamine β-hydroxylase

Question39
Insulin hormone produces all the following effects,EXCEPT?
Select one:

a.Protein biosynthesis
b.Lipolysis
c.Lipogenesis
d. Anabolic action
e. Decrease blood glucose

Question40
In case of liver cirhosis, ammonia is not detoxified and can causes brain encephalopathy. Which of the following amino acids can
covalently bind ammonia, transport and store in a non-toxic form?
Select one:

a.Tryptophan
b.Serine
c.Aspartate
d.Cysteine
e.Glutamate

Question 41
Choose the incorrect answer?
Select one:

a. The neural crest is ectoderm in origin
b. The pituitary gland has dangerous relation than suprarenal gland
c. Major duodenal papilla is important than minor
d. The pancreas is related to seven veins
e. The development of pancreas is endoderm in origin

Question 42
Corticosteroids are contraindicated in all following conditions EXCEPT?
Select one:

a.Peptic ulcer
b.Patients with history of diabetes
c.Hypertension
d.Heart failure
e.Bronchial asthma

Question 43
Which of the following is not involved in regulation of plasma Ca++ levels?
Select one:

a.Kidneys
b.Skin
c.Liver
d.Intestine
e.Lungs

Question 44
One of the following drugs is sulphonylureas has long duration effects?
Select one:

a.Tolbutamide
b.Glipizide
c.Gliclazide
d.Glibeclamide
e.Chlorpropamide

Question 45
All the followings about metformin and rosiglitazone are true Except?
Select one:

a. Metformin is useful for patients overweight type two diabetes
b.Rosiglitazone is indicated once daily in patients has not controlled by metformin
Remove flag
c. Long use of metformin can cause vitamin β12 deficiency
d. Metformin is contraindicated in patients with kidney impairment
e.Rosiglitazone increase hepatic glucose production

Question 46
Atrial natriuretic peptide brings?O
Select one:

a.Afferent arteriolar constriction in kidney
b.Contraction of mesangial cells
c.Increases renin secretion
d.Arteriolar constriction
e. Inhibition of Aldosterone secretion and action

Question 47
IP3 choose the incorrect statement?
Select one:

a. It activates protein kinase C

b. It stimulates the release of calcium ions from smooth endoplasmic reticulum
c.Diffuse from cell membrane to cytoplasm
d. It is inositol 1,4,5-trisphosphate
e.Phosphorylated to inositol thus its signal is turned off

Question 48
The pyruvate is an important intermediate in the glycolysis and it can follow different fates. One of the followings is not
considered as a fate of pyruvate?
Select one:

a. It can undergo oxidative decarboxylation in mitochondrial matrix to form AcetylCoA
b. In yeast, it is converted to ethanol
c. It is a precursor for alanine
d. It can be used for biosynthesis of malate
e. In anaerobic bacteria, it is oxidized to lactic acid

Question 49
G-protein coupled receptors,choose the wrong statement?
Select one:

a.Uses cAMP as a second messenger
b. Uses phosphatidylinositol bisphosphate as a second messenger
c. Uses diacylglycerol as a second messenger0
d. Uses cGMP as a second messenger
e.Uses Ca2+ as a second messenger.

Question 50
The following can reduce secretion of respective hormone or substance except?
Select one:

a. Large dose of sodium iodide: Thyroxine
b. Somatostatin:Growth hormone
c.Cabergoline:Prolactin from prolactinoma
d. Ganirelix: Gn hormones from anterior pituitary basophils
e.Leuprolide single SC injection:LH and FSH

Q:51
In the synthesis pathway of T4 and T3? choose the wrong statement
Select one:

a. Thyroid hormones are stored in the colloid in the follicular space
b. Thyroperoxidase uses H202 to reduce iodide to Iodine
c.Thyroperoxidase stimulates the coupling of two DIT or an MIT and DIT
d.Thyroid hormone synthesis occurs in the follicular space (with colloid)
e.TSH stimulates the endocytosis of thyroglobulin to form endocytic vesicles within the thyroid cells

Answer: B

Question52
A common intermediate in the conversion of glycerol and lactate to glucose is?
Select one:

a.3-phosphoglcerate
b.Phosphoenolpyruvate
c.Glucose-6-phosphate
d.Oxaloacetate
e.Pyruvate

Question 53
Spongiocytes are present in_?
Select one:

a.Zona fasciculata
b. Hypothalamus
c.Zona glomerulosa
d.Anterior lobe of pituitary gland
e.Suprarenal medulla

Question54
A 32-year-old female patient reports increasing weakness over the past 6 months.On examination, she had central obesity,
hoarseness, hirsutism, and hypertension. Biochemical parameters estrogen,T3,T4,TSH,FSH within normal limits.Testosterone
and serum cortisol were elevated. Which of the following pathologic lesions is most likely to explain her findings?
Select one:

a.Addison disease
b.Pheochromocytoma
c.Papillary thyroid carcinoma
d.Adrenocortical carcinoma
e.Multinodular goiter

Question55
The neurotransmitter that inhibits prolactin is?
Select one:

a.Dopamine
b.Adrenaline
Flag question
c.Serotonin
d.GABA
e.Noradrenaline

Question 56
Which two hormones are released from the posterior lobe of the pituitary gland?
Select one:

a.ADH and GH
b.TRH and CRH
c.ADH and oxytocin
d.Growth H.and FSH
e.ACTH and TSH

Question 57
Hypothyroidism is associated with increased levels of?
Select one:

a.Albumin
b.Cholesterol
c.Heart rate
d.Iodine
e.TBG

Question 58

A 42-year-old obese female presented to the emergency room complaining of nausea, vomiting, midepigastric and right upper
quadrant pain. Blood biochemistry revealed high level of serum amylase. What is the probable diagnosis for this patient?
Select one:

a.Acute gastritis
b.Viral hepatitis
c.Acute Pancreatitis
d.Renal colic
e.Acute cholecystitis

Question59
The following enzyme cannot elongate a branch containing less than 4 glucose subunits?
Select one:

a.Branching enzyme
b.UDP-glucose pyrophosphorylase
c.Glycogen phosphorylase
d.Glycogen synthase
e.Debranching enzyme

Question 60
Glycerol in adipose tissue cannot be used in esterification of fatty acids to TAG due to deficiency of?

Select one:

a. Acyl CoA synthetase
b.Acetyl CoA carboxylase
c.Hormone sensitive lipase
d.Glycerol kinase
e.Lipoprotein lipase

Answer: D

Question 61
Corticosteroids can be used in all following conditions EXCEPT?
Select one:

a.Peptic ulcer
b.Diagnosis of Cushing's syndrome
c.Autoimmune diseases
d.Addison's disease
e.Bronchial asthma

Question 62
Acetyl CoA (which is required for fatty acids biosynthesis) cannot pass through the mitochondrial membranes. This obstacle is
overcomed by?
Select one:

a.Citrate shuttle
b.Carnitine shuttle
c.Conversion of acetyl CoA to oxaloacetate
d. Breakdown of acetyl CoA
e. Conversion of acetyl CoA to malonyl CoA

Question63
Urea contains 2 nitrogen atoms, what are the sources of these atoms?
Select one:

a. Both are derived from aspartate
b. One from ammonia and one from arginine
c.Both are derived arginine
d. Both are derived from ammonia
e. One from ammonia and one from aspartate

Q:64
Large doses of iodide in hyperthyroidism decreases the following except?
Select one:

a. Peripheral conversion of thyroxine into T3 in case of potassium iodide
b.Synthesis of thyroid hormone

c. The size and vascularity of diffuse toxic goiter
d. Uptake of radioiodine by the thyroid gland
e. Thyroid hormone release for about 2 weeks

Question 65
A 54-year -old male was rushed to the emergency room.ECG was conclusive of AMI and serum level of CPK-MB was elevated.
Which set of the following biochemical investigations would be the best to confirm the diagnosis?
Select one:

a.Total CPK and atrial natriuretic peptide
b.Lactate dehydrogenase and total CPK
c.Cardiac troponins and aspartate aminotransferase
d. Aspartate aminotransferase and brain natriuretic peptide
e. Serum myoglobin and troponin T2

Question 66
Hypersecretion of thyroxin would be caused by an increase in the release of?
Select one:

a.Prolactin
b. TRH or TSH
c.FSH or LH
d. TSH or ACTH
e.GHRH

Question67
Patient with thyroid pathology could have all of the following except?
Select one:

a.Dyspnea
b. Dysphagia
c.Neck swelling
d.Tinnitus in ears
e.Hoarseness of voice

Question68
Which of the following statements about prostaglandins is not true?
Select one:

a. The synthesized prostaglandins have a fever-reducing effect
b. Prostaglandins are eicosanoids are made from unsaturated fatty acids
c. The synthesized prostaglandins have a pain-relieving effect
d.Prostaglandins are eicosanoids are made from saturated fatty acids
e.Prostaglandins are having hormonal like actions

Answer: D
also a & c are incorrect

Question69
Which hormone is decreased in blood when both ovaries are removed?
Select one:

a. Prolactin
b.Gonadotropin releasing factor
c.Oxytocin
d. Estrogen
e. Both estrogen and testosterone

Question70
Which one of the followings is not correctly matched?
Select one:

a.Super-high energy molecules/NADH and FADH2
b.Gal-1-p Uridyltransferase enzyme deficiency/classic galactosemia
c.Glycolysis/catabolic pathway
d.Indirect pathway for ATP synthesis/Electron transport chain
e. Hexokinase II/phosphorylation of any hexose (galactose,glucose, etc)

Question71
The following viral infections can trigger T1DM,EXCEPT?
Select one:

a.Mumps
b.Cytomegalovirus
c.Measles
d.Coxsackie B
e.Congenital rubella

Question72
Choose the incorrect answer? غير مطلوب
Select one:

a. Uncinate process drains into the major duodenal papilla
b. Venous drainage of right suprarenal gland is better than left
c. The part of pancreas related to portal vein is formed by dorsal pancreatic bud
d. Large size of the tongue due to failure of development of thyroid gland
e.Repeated neonatal vomiting may be caused be annular pancreas

Question 73
Human growth hormone:Which statement is false?
Select one:

a. Does not need replacement therapy if deficient in adults
b. Its release is stimulated by sermorelin

Remove flag
c.Accelerates linear growth in young giris with Turner syndrome
d. Is released from anterior pituitary in response to hypoglycemia
e. Its growth promoting effect is enhanced in diabetic children

Answer: A

Question 74
Hormone secretion by the anterior pituitary is controlled by?
Select one:

a.The overall rate of metabolism
b. Hormones of the thalamus
c. Itself (anterior pituitary) because it is the master gland of the body
d.Neurohormones of the hypothalamus
e.Posterior pituitary

Question75
Angiotensin increases blood pressure by acting on the following EXCEPT?
Select one:

a.Aldosterone secretion
b. Parasympathetic nervous system
c.Sympathetic nervous system
d.Vascular smooth muscle
e.Thirst centre

Question76
Thyrocalcitonin?
Select one:
a. Is secreted by thyroid
b.Is secreted by hypothalamus
c.Increases Ca++ absorption by stomach
d.Decreases Phosphate level in blood
e.Is secreted by parathyroid

Question77
Calcitonin is secreted by these specific cells
Select one:

a.Acidophils
b.Chief cells of the parathyroid
c. Basophils
d. Parafollicular cells of the thyroid
e.Follicular cells of the thyroid

Question78
Patient with untreated hypothyroidism may suffer from?
Select one:

a.Low blood sugar
b.High serum cholesterol
c.Tachycardia
d.Amenorrhea
e.Heat intolerance

Question79
In the Krebs cycle reaction which is catalysed by succinate dehydrogenase, the following molecule acts as oxidizing agent?
Select one:

a.FADH2
b.NADH
c.FAD
d.NADP+
e.NAD+

Question80
Which of these amino acids are essential for infants?
Select one:

a.Lysine and Leucine
b.Tryptophan
c.Methionine
d.Arginine and Histidine
e.Valine

The End