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 messengerO
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