GENESIS

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FCPS PART-I MOCK TEST-I

SUBJECT : Surgery
PAPER : II

Exam Date	:	**Mock-I**	**: 13-12-20/17-12-20/20-12-20**
		Mock-II	**: 25-12-20/26-12-20/27-12-20**
Exam Time	**:**	**2.30.pm-4.00pm**	
Total Number	**:**	**100**	

Question 26-50 based on single answer

1. A 73 year old man develops disseminated intravascular coagulation following an abdominal aortic aneurysm repair. He received cryoprecipitate transfusion. What is the major constituent of this transfusion?
a) Factor VIII
b) Factor IX
c) Protein C
d) Fibrinogen
e) Factor V

2. Inhibition of Na^+, K^+-ATPase would result in increased
a) Intracellular K+ concentration
b) Intracellular Ca++ concentration
c) Intracellular Na+ concentration
d) Na+-glucose cotransport
e) Na+-Ca++ counter transport

3. Renal tubular function tests are
a) Albuminuria
b) Water deprivation test
c) Creatinine clearance rate
d) Acid load test
e) Osmolality measurements in plasma and urine

4. Regarding micturition reflex
a) Is an autonomic reflex
b) Center is located at L2 to L4
c) Can be voluntarily controlled by pelvic nerve
d) Is self regenerative
e) Is inhibited by exercise

5. Which of the following about blood transfusion are false?
a) A haemoglobin level of 10 g/dL or less is now considered a typical indication.
b) Fresh frozen plasma (FFP) is considered as the first-line therapy in coagulopathic haemorrhage
c) Cryoprecipitate is useful in low fibrinogen states and in factor VIII deficiency.
d) Platelets have a shelf life of 3 weeks.
e) Patients can pre-donate blood up to 3 weeks before surgery for autologous transfusion

6. Which of the following affects the choice of prophylactic antibiotic?
a) The expected spectrum of organisms likely to be encountered
b) Cost
c) Personal preference
d) Hospital policies
e) Local resistance strains.

7. Hyperkalemia usually found in following condition:
a) Acute renal failure
b) Addison's disease
c) Captopril therapy
d) SIADH
e) Cardiac failure

8. A patient following thyroidectomy develops hematoma in his neck, which causes carbon-dioxide retention due to compression to the trachea.
The patient is likely to have:
a) Metabolic acidosis
b) Alkaline urine
c) Cool extremities
d) Raised cerebral blood flow
e) Raised plasma bicarbonate

9. Metabolic alkalosis results from
a) Prolonged vomiting
b) Diarrhea
c) Ureterosigmoidostomy
d) Massive blood transfusion
e) Excess mineralocorticoids

10. Which of the following pairs are true statement regarding shock?
a) Distributive shock: High venous pressure
b) Cardiogenic shock: High mixed venous saturation
c) Hypovolumic shock: Base deficit high
d) Septic shock: Mixed venous saturation >10%
e) Obstructive shock: Low cardiac output

11. Mean blood pressure
a) Determines perfusion pressure
b) Controls tissue blood flow
c) Is affected mostly by systolic blood pressure
d) Depends on cardiac output
e) Is regulated directly by vasomotor tone

12. During normal quiet breathing, following events happen:
a) Most of the tidal air enters into the apex of the lungs,
b) Intrapleural pressure is lowest at the apex of the lung
c) Intra alveolar pressure is lowest at mid-inspiration
d) Intra alveolar pressure is lowest at the end of inspiration
e) Intrapleural pressure is lowest at the end of inspiration

13. Surfactant lining the fluid on alveolar epithelium:
a) Prevents the collapse of the alveoli
b) Increases the compliance of the lungs
c) Increases the elastic recoil pressure of alveoli
d) Increases the work of breathing
e) Reduces the surface tension of the alveolar fluid

14. Which of the following statements are true?
a) Raised serum amylase is always diagnostic of acute pancreatitis
b) There is always gas under the right dome of the diaphragm in perforated duodenal ulcer.
c) Ultrasound (US) and computed tomography (CT) scan are often diagnostic)
d) On diagnostic peritoneal lavage (DPL), bile aspiration indicates perforated duodenal ulcer or perforated gall bladder
e) Ca stomach can be diagnosed from endoscopic biopsy

15. Bile salts:
a) Are the only constituents of bile necessary for digestion of fat
b) Have characteristic parts, water soluble & fat soluble
c) Are reabsorbed mainly in the upper small intestine
d) Are derived from cholesterol
e) lnhibit bile secretion by the liver

16. Oxy-hemoglobin dissociation curve is shifted to the right by
a) Increased PH
b) Increased DPG
c) Ascent to high altitude
d) Presence of fetal hemoglobin
e) Exercise

17. Slow waves in gut smooth muscles are:
a) Action potential
b) Phasic contraction
c) Tonic contraction
d) Oscillating resting potential
e) Controlled by interstitial cells of Cajal

18. Factors increasing glomerular filtration rate (GFR) are:
a) Increased plasma colloidal osmotic pressure
b) Increased filtration coefficient
c) Sympathetic stimulation
d) Dehydration
e) Increased arterial blood pressure

19. Platelets produce and secret
a) Plasminogen
b) Thromboplastin
c) Thromboxane A_2
d) Prothrombin
e) Kallikreins

20. Renal tubule normally reabsorbs:
a) Above 99% of glomerular filtrate
b) All filtered bicarbonate in respiratory acidosis
c) All filtered creatinine
d) More potassium than chloride
e) All filtered plasma proteins

21. Absorption of most of the
a) Iron occurs in the duodenum
b) Calcium occurs in the duodenum
c) Taurocholate occurs in the jejunum
d) Vitamin B12 takes place in ileum
e) Water occurs in the stomach

22. Deep sensory receptors in muscles and tendons are:
a) Ruffini endings
b) Expanded tip organs
c) Muscle spindles
d) Meissen's corpuscle
e) Golgi tendon organs

23. Thyroid hormones:
a) Increases protein breakdown
b) Promotes skeletal development
c) Increases carbohydrate absorption in the gut
d) Decreases metabolic rate
e) Decreases lipolysis

24. Human plasma albumin
a) Contributes more to plasma colloid osmotic pressure than globulin
b) Filters freely at the renal glomerulus
c) Is negatively charged at the normal pH of blood
d) Carries carbon dioxide in blood
e) Lacks the essential amino acids contents

25. Posterior column damage in the spinal cord may impair
a) Pain sensation
b) The flexor plantar response to stimulation of the sole
c) Touch sensation
d) The ability to stand steadily with the eyes closed
e) Vibration sense

Each question below contains five suggested answers- choose the one best response to each question (26-50)

26. Which one of these statements is true?
a) Chest radiograph yields very useful information about primary lung cancer.
b) Computed tomography (CT) is only useful for guiding fine-needle aspiration.
c) Positron emission tomography (PET)bhas high specificity for bronchial carcinoma)
d) Sputum cytology has a high sensitivity.
e) Invasive procedures such as mediastinoscopy, mediastinotomy and thoracoscopy are not staging procedures

27. Chemicals sensitizing pain in nerve ending are:
a) Serotontn
b) Substance P
c) Bradykinin
d) Enkephajin
e) Phromboxane A_2

28. Iron absorption from GIT is enhanced by
a) Ingestion of protein rich food
b) Partial gastrectomy
c) Ingestion of tea
d) Use of proton pump inhibitors
e) Iron deficiency states

29. Following hormones are synthesized in kidney:
a) Renin
b) Angiotension II
c) Vasopressin
d) Erythropoietin
e) 25-dihydroxycholecalciferol

30. Serum total cortisol is high in:
a) Pregnancy
b) Congenital adrenal hyperplasia
c) On long term benzodiazepine therapy
d) Primary hyper aldosteronism
e) Puberty

31. Which of the following is not typically included in total parenteral nutritional solutions?
a) Fiber
b) Lipid
c) Potassium
d) Glucose
e) Magnesium

32. A young woman has puffy skin & hoarse voice. her plasma TSH concentration is low but increases markedly when she is given TRH. She probably has-
a) Hyperthyroidism due to thyroid tumor
b) Hypothyrodism due to defect in thyroid gland
c) Hypothyroidism due to defect in pituitary gland
d) Hypothyroidism due to abnormality in hypothalamus
e) Hyperthyrodism due to abnormality in hypothalamus

33. Which of the following is a recognised feature of ketamine when used as an anaesthetic agent?
a) Malignant hyperpyrexia
b) Adrenal suppression
c) Myocardial depression
d) Dissociative anaesthesia
e) Marked respiratory depression

34. You are the cardiothoracic surgery trainee in NICVD reviewing a patient referred for an aortic valve replacement. The 40-year-old man is being investigated for progressive breathlessness in a previous respiratory clinic. The notes show he has smoked for the past 25 years. Pulmonary function tests reveal the following:
1. FEV1: 1.4 L
2. FVC: 1.7 L
3. FEV1/FVC: 82%
What is the most likely explanation?
a) Asthma
b) Bronchiectasis
c) Kyphoscoliosis
d) Chronic obstructive pulmonary disease
e) Laryngeal malignancy

35. A 44 year old man undergoes a distal gastrectomy for cancer. He is slightly anemic and therefore receives transfusion of 4 units of packed red cells to cover both the existing anemia and associated perioperative blood loss. On investigation, ECG changes that are not consistent with ischemia. What is the most likely cause?
a) Hyponatraemia
b) Hyperkalaemia
c) Hypercalcaemia
d) Metabolic alkalosis
e) Hypernatraemia

36. A 43 years old lady has undergone a total thyroidectomy for multinodular goitre You are called to see her because of respiratory distress. On examination she has a marked stridor, her wound seems healthy but there is a swelling within the operative site
What is the most likely explanation for this problem?
a) Bilateral superior laryngeal nerve injury
b) Hypocalcaemic tetany
c) Anxiety
d) Contained haematoma
e) Unilateral recurrent laryngeal nerve injury

37. A 48 year old lady is being prepared for a Whipples procedure. A right sided subclavian line is inserted and then anaesthesia is induced. Following intubation the patient becomes progressively hypoxic and haemodynamically unstable
What is the most likely underlying explanation?
a) Drug allergy
b) Simple pneumothorax
c) Tension pneumothorax
d) Halothane toxicity
e) Haemothorax

38. Which cell does not need insulin to increase glucose uptake?
a) Macrophage
b) Adipocyte
c) Renal tubules
d) Skeletal muscle
e) Cardiac muscle

39. As part of a research project you are trying to ascertain whether the use of dummies in infants is linked to sudden infant death syndrome which is very rare. What is the most appropriate form of study design?
a) Randomized controlled trial
b) Cross-over trial
c) Cross-sectional survey
d) Case-control study
e) Cohort study

40. The following features are typical of superficial partial dermal burns except:
a) Erythema
b) Absence of blisters
c) Spontaneous healing in most cases
d) No extension beyond proximal dermal papillae
e) Good capillary refill at the burn site

41. A 32 year old male is receiving a blood transfusion after being involved in a road traffic accident. A few minutes after the transfusion he complaints of loin pain. His observations show temperature 39 oC, HR 130bpm and blood pressure is 95/40mmHg. What is the best test to confirm his diagnosis?
a) USG of abdomen
b) Direct Coomb's test
c) Blood cultures
d) Peripheral blood film
e) Sickle cell test

42. A 22 year old man suffers 20% partial and full thickness burns in a house fire) There is an associated inhalational injury. It is decided to administer intravenous fluids to replace fluid losses. Which of the intravenous fluids listed below should be used for initial resuscitation?
a) Dextran 40
b) 5% Dextrose
c) Fresh frozen plasma
d) Hartman's solution
e) Blood

43. What is the mechanism of action of macrolides?
a) Causes misreading of mRNA
b) Interferes with cell wall formation
c) Inhibits DNA synthesis
d) Inhibits RNA synthesis
e) Inhibits protein synthesis

44. Gastric acid is, together with several enzymes and the intrinsic factor, one of the main secretions of the stomach. Which of the following statements regarding control of gastric acid secretion from oxyntic cells is CORRECT?
a) Acetylcholine increases gastric acid secretion
b) Gastrin reduces gastric acid secretion
c) Histamine reduces gastric acid secretion
d) Prostaglandin increases gastric acid secretion
e) Somatostatin increases gastric acid secretion

45. A 60 year-old man comes to see his clinician complaining of severe epigastric pain, frequent heartburn, and unexplained weight loss of 10 Kg over a 6-month period) He claims to have obtained no relief from over-the-counter H1 antihistamine or PPI drugs. He is referred to a gastroenterologist and upper endoscopy reveals erosions and ulcerations in the proximal duodenum and an increased output of gastric acid in the fasting state) The patient is most likely to have a tumor, secreting which of the following hormones?

a) Secretin
b) Somatostatin
c) Motilin
d) Gastrin
e) Cholecystokinin

46. Maximum absorption of short-chain fatty acids produced by bacteria occurs in the:

a) Stomach
b) Duodenum
c) Jejunum
d) Ileum
e) Colon

47. In the absence of vasopressin, the greatest fraction of filtered water is absorbed in the

a) Proximal tuble
b) Loop of henle
c) Distal tuble
d) Cortical collecting duct
e) Medullary collecting duct

48. Calcitonin decreases serum calcium level directly by-

a) ↑ Bone formation
b) ↑ Urinary excretion of Ca++
c) ↓ Bone resorption
d) ↓ Intestinal absorption of Ca++
e) ↓ Formation of D3

49. During a neurological examination, a patient exhibited extension of his toes when the plantar surface of his foot was stroked. An additional neurological finding might be:

a) Atrophy
b) Fasciculations
c) Hyporeflexia
d) Hypotonia
e) Spasticity

50. A 65-year-oid diabetic patient has poorly controlled diabetes mellitus. Which of the following biochemical changes is associated with inadequately controlled diabetes?

a) Abnormally rapid fall of blood glucose following a meal
b) Abnormally low concentration of fatty acids in blood
c) Increased protein breakdown
d) High rate of glycogen synthesis in liver
e) Decreased gluconeogenesis

Surgery Mock-I, Paper-II

1. TFFTF [Ref: Bailey and Love 27th/P-21]

Cryoprecipitate:

Blood product made from plasma

Usually transfused as 6 unit pool

Indications include massive hemorrhage and uncontrolled bleeding due to hemophilia

Composition Agent Quantity

Factor VIII 100IU

Fibrinogen 250mg

von Willebrand factor Variable

2. FTTFF [Ref. Linda Physiology/P-25/Q-23]

+[Ganongphysio/P- 51/figure 2.19, Abc : 5th/P-103)

3. FTFTT [Ref: ABC Biochemistry/7th/P-567]

4. TFTTF

5. TFFTF [Ref: Bailey & Loves 27thedt/P-20, 21, 22]

6. TTFTT [Ref: Bailey and Love 27th/P-53]

7. TTTFF [Ref: ABC Biochemistry-5th/P-379]

8. FFFTT [Ref: Rodde/6th/Q-179]

9. TFFFT [Ref: ABC Biochemistry-5th /P-324]

10. FFTFT [Ref: Bailey & Loves 27th edt/P-14]

11. TTFTT [Ref: Guyton 13th/P-183, 217]

Explanation:

It is considered to be the perfusion pressure for the organs in the body

As it is directly related to cardiac output & vascular resistance

Diastolic pressure

Mean pressure = (Cardiac output x systemic vascular resistance) + central venous pressure

[Ref: Guyton 13th/P-183, 217]

12. FTTFT [Ref: Guyton 12th 468 + Rodde 6th /Q-14S P-63]

Explanation:

a) Based) Mid (Ganong P- 628 figere 34.7)

[Ref: Guyton 12th/P-468 + Rodde 6th/Q-14S P-63]

13. TTFFT [Ref: Ganong 25th/P-630, 631]

14. FFTTT [Ref: Bailey & Loves 27th/P-1110,1111]

The serum amylase may be raised in perforated peptic ulcer and therefore not diagnostic of acute pancreatitis. In perforated duodenal ulcer there may not be gas under the right dome of the diaphragm in early cases, if the perforation is small or if it is plugged by omentum at an early stage) US and CT scan are very reliable diagnostic aids, as is DPL.

15. TTFTF [Ref: Rodde/6th /Q-217/P-93]

16. FTTFT [Ref: Ganong/25th/P- 640/Figer-35.1]

17. FTFTT [Ref: Guyton & Hall/13th/P-797,798 +BRS/P-199]

18. FTFFT [Ref: Guyton & Hall/13th/P-339]

19. FTTFF [Ref: Ganong/Ed-25th/P–79]

20. TTFFT (About 20 times as much Cl- as K+ is filtered)

[Ref: Rodde/6th/Q-399]

21. TTFTF [Ref: Ganong/25th/P-477/Table 26.1]

22. FFTFT

Explanation:

Deep sensory receptors in muscle and tendon

Muscle spindles

Golgi tendon organs

[Ref: Guyton 13th/P-596]

23. TTTFF [Ref: Ganong physiology/25th/T-19.5/P-346]

24. TFTTF [Ref: Guyton 13th/P-196 + Roddy 6th/Q-10/P-3]

25. FFTTT (Ref: Vision/8th/P-515)

[Ref: BRS Neuroanatomy/5th/P-104]

[Ref: Guyton/13th/P-609]

26. A [Ref: Bailey & Loves 27th/P-14- 928/Fig: 55.13]

27. B [Ref: Guyton & Hall/13th/P-621]

28. D [Ref: Davidson 22nd/P-1022]

29. D [Ref: Vision physiology: P-267,268]

[Ref: Guyton & Hall/13th/P-234]

30. A [Ref: Guyton 13th/P- 976]

31. A [Ref: B/L, 23rd/P-286-287]

There is no indication for inclusion of fibre in solutions of TPN, nor would it be safe to do so.

Total parentenal nutrition:

Commonly used in nutritionally compromised surgical patients.

- **Bags contain combinations of glucose, lipids and essential electrolytes, the exact composition is determined by the patients nutritional requirements.**
- **Although it may be infused peripherally, this may result in thrombophlebitis.**
- **Longer term infusions should be administered into a central vein (preferably via a PICC line).**
- **Complications are related to sepsis, re-feeding syndromes and hepatic dysfunction.**

32. D [Ref: Ganong/25th/P-349]

33. D [Ref: Bailey & Loves 27th/P-269, Table: 18.1]

Unlike most anaesthetic agents ketamine does not cause myocardial or marked respiratory depression. It is not associated with the adrenal suppression that may occur with etomidate) It is however, associated with a state of dissociative anaesthesia which patients may find distressing.

34. C [Ref: B/L 23rd/P-916,917/Table: 55.1/Fig: 55.5]

These results show a restrictive picture, which may result from a number of conditions including kyphoscoliosis. The other answers cause an obstructive picture) We note that most people have chosen COPD as the answer. In COPD the FEV1/FVC would show an obstructive picture with the FEV1/FVC value being low (approximately less than 70%). In restrictive conditions the FEV1/FVC is normal or increased (greater than 70%). With the FEV1/FVC being over 70% the most likely answer is kyphoscoliosis.

35. B [Ref: Bailey & Loves 27th/P-22]
The transfusion of packed red cells has been shown to increase serum potassium levels. The risk is higher with large volume transfusions and with old blood)
36. D [Ref: Bailey & Loves 27th/P-19]
In this setting a contained haematoma is the most likely cause due to secondary haemorrhage) This will impair venous return resulting in laryngeal oedema and respiratory compromise)
37. C [Ref: Bailey & Loves 27th/P-288, Summary box: 19.4] Central lines (and particularly subclavian lines) are risk factors for the development of pneumothorax. In the context of positive pressure ventilation a tension pneumothorax is a strong possibility and would be associated with hemodynamic instability.
38. C
Explanation:
Brain, RBC, Renal tubule uptakes glucose without help of insulin.
39. D
Sudden infant death syndrome is relatively rare. A case-control design is more appropriate than a cohort study
40. B [Ref: Bailey & Love's 27th/P-622/Fig: 41.4 (a)]
Superficial dermal burns are typically erythematous, do not extend beyond the upper part of the dermal papillae, capillary return and blisters are both usually present.
41. B [Ref: Bailey & Love's 27th/Page-22]
The diagnosis is of an acute haemolytic transfusion reaction, normally due to ABO incompatibility. Haemolysis of the transfused cells occurs causing the combination of shock, haemoglobinaemia and loin pain. This may subsequently lead to disseminated intravascular coagulation. A Coomb's test should confirm haemolysis. Other tests for haemolysis include: unconjugated bilirubin, haptoglobin, serum and urine free haemoglobin.Mnemonic for transfusion reactions:
Got a bad unit
Graft vs. Host disease
Overload
Thrombocytopaenia
Alloimmunization
Blood pressure unstable
Acute haemolytic reaction
Delayed haemolytic reaction
Urticaria
Neutrophilia
Infection
Transfusion associated lung injury
42. D [Ref: Bailey & Love's 27th/P-622-624]
In most units a crystalloid such as Hartman's (Ringers lactate) is administered initially. Controversy does remain and some units do prefer colloid. Colloid may leak in the interstitial tissues that may increase the risk of edema.
43. E [Ref: Lippincott paharma 5th/P-401]
Macrolides act by inhibiting bacterial protein synthesis. If pushed to give an answer they are bacteriostatic in nature, but in reality this depends on the dose and type of organism being treated) Erythromycin was the first macrolide used clinically. Newer examples include clarithromycin and azithromycin.
44. A [Ref: B/L 23rd/P-1110/Table: 63.1]
45. D [Ref: Ganong 25th/P-474]
46. E [Ref: Ganong 25th/P-493]
47. A [Ref: Ganong/25th/P-693]
48. C [Ref: Ganong/25th/P-383]
49. E [Ref: Ganong 25th/P-233, clinical/Box: 12-2]
50. C [Ref: Ganong, 25th/P-435, Clinical/Box: 24-1]