

WRITTEN TEST FOR MFCP OF PERFUSIONIST - A TO B

1. The first arterial switch operation was performed by
  - a) Scwann
  - b) Jatene ✓
  - c) Lillehie
  - d) none of the above
2. The first centrifugal pump was developed by
  - a) John Gibbon
  - b) Dennis Papin
  - c) Forest Dodrill
  - d) Walton Lillehie
3. Who isolated heparin first?
  - a) Wilfred Bigelow
  - b) Jay McLean
  - c) Donald Hill
  - d) Clarence Crafoord
4. Recommendation from society of Thoracic surgeons (STS) regarding intra- operative glucose management in Diabetic and non- diabetic patients is
  - a) Glucose level < 150 mg/dl
  - b) Glucose level < 180 mg/dl
  - c) Glucose level < 200 mg/dl
  - d) none of the above
5. 300 ml FFP contains approximately .....iu of AT III
  - a) 30,000 IU
  - b) 3000 IU
  - c) 300 IU
  - d) none of the above
6. Safest Bivalirudine infusion dose for maintaining anticoagulation in CPB is
  - a) 1.0 mg/Kg/hr
  - b) 1.5 mg/Kg/hr
  - c) 2.0 mg/Kg/hr
  - d) 2.5 mg/Kg/hr or higher
7. Most common accidents reported in Kurusz et al (1982-85) survey published about perfusion safety are
  - a) Protamine reaction, hypo perfusion and gas embolism
  - b) Arterial line embolism, DIC, electrical failure & oxygen failure
  - c) Protamine reactions, coagulopathy & heater cooler failure
  - d) Air embolism, DIC, inadequate perfusion
8. Low risk timing of a elective cardiac surgery that requires CPB in pregnant patient is
  - a) first Trimester
  - b) second trimester
  - c) third trimester
  - d) before 10 weeks
9. pH of plasmalyte A solution is
  - a) 7.5
  - b) 7.4
  - c) 7.6
  - d) 4.45
10. The major source of haemolysis during CPB is
  - a) Bank blood
  - b) Cardiotomy suction
  - c) Arterial cannula
  - d) Membrane fibres

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11. Drug used to neutralize heparin are the following except

- a) Platelet factor 4
- b) Protamine
- c) Heparinase
- d) Danaparoid sodium

12. The rate of heat exchanger through a particular material is proportional to the temperature gradient and the area of transfer is known as

- a) Fick 1<sup>st</sup> law
- b) Fourier's law
- c) Equilibrium law
- d) Laplace theory

13. Which of the following is true about pulmonary circulation?

- a) Blood oxygen content is higher in the pulmonary vein than in the pulmonary artery
- b) Blood is pumped by left ventricle
- c) Resting blood pressure in the pulmonary artery is equal to that in the aorta
- d) The cardiac output to the pulmonary artery is approximately 1/6 of that into the systemic circuit

14. The first successful open-heart surgery was performed using heart lung machine in

- a) 1952
- b) 1953
- c) 1962
- d) 1965

15. Who among the following introduced potassium citrate for cardioplegic arrest?

- a) Bertschneider
- b) Melrose
- c) Bigelow
- d) Buckberg

16. The following are components of Delnido cardioplegia except?

- a) Mannitol
- b) Lignocaine
- c) Calcium
- d) Sodium bicarbonate

17. The main aim of Zero balance ultrafiltration is

- a) To reduce fluid overload
- b) To remove inflammatory mediators
- c) To remove heparin
- d) To reduce lactate level

18. The priming volume of 3/16 tubing in ml/M is

- a) 15
- b) 30
- c) 60
- d) 100

19. What is the negative suction most commonly used in a vacuum assisted venous drainage

- a) 10 mmHg
- b) 20-40 mmHg
- c) 60 mmHg
- d) 100 mmHg

20. What does near infraRed spectroscopy (NIRS), when applied to forehead, measure

- a) Electrical activity of brain
- b) Arterial oxygen saturation
- c) Tissue oxygenation
- d) Venous saturation

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32. First clinical use of controlled cross circulation for open heart surgery was by
- a) Kirklin                      b) Lillehei                      c) Gibbon                      d) Barrat- Bl
33. Harrow type I protamine reaction is due to
- a) rapid administration                      c) anaphylactoid reaction  
b) anaphylactic reaction                      d) pulmonary vasoconstriction
34. Inadequate venous return during CPB can be due all EXCEPT
- a) Hypovolemia                      c) Peripheral vasoconstriction  
b) Malposition of cannulae                      d) high reservoir position
35. The best brain protection during deep hypothermic CPB in neonates is achieved by of the following acid base strategy
- a) alpha stat                      b) pH stat  
c) alpha stat cooling & pH rewarming                      d) pH stat cooling & alpha stat rewarming
36. The maximum permissible coronary sinus pressure during retrograde cardioplegia is
- a) 20 mm Hg                      b) 35 mm Hg                      c) 50 mm Hg                      d) 75 mm Hg
37. All are used for treating hyperkalemia EXCEPT
- a) Insulin                      b) calcium                      c) digoxin                      d) Sodium polystyrene sulfonate
38. Acute Marginal Coronary artery is a branch of
- a) Left anterior descending artery  
b) Diagonal artery  
c) Left Circumflex artery  
d) Right coronary artery
39. All the following are used to control arrhythmia post cross clamp period except
- a) Lignocaine                      b) Amiodarone                      c) Propofol                      d) Magnesium
40. Life span of a normal RBC (in days) is
- a) 90                      b) 70                      c) 120                      d) 250
41. Mechanism of action of Heparin is
- a) Activation of Antithrombin 3                      c) Activation of cGMP  
b) Activation of Platelet Factor 4                      d) Activation of Factor 10A
42. Contraindication for use of IABP
- a) Aortic Stenosis                      c) Mitral Stenosis  
b) Aortic regurgitation                      d) Mitral Regurgitation



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43. Which is contraindicated in vasoplegic patients

- a) Methylene Blue
- b) Phenyl ephrine
- c) Dobutamine
- d) Nor adrenaline

44. Cardiac pacing mode, which is more physiologic is

- a) VOO
- b) DDD
- c) VVI
- d) AOO

45. Heartmate II LVAD is

- a) Extracorporeal Nonpulsatile
- b) Paracorporeal Pulsatile
- c) Intracorporeal Nonpulsatile
- d) Intracorporeal Pulsatile

46. CPB flow rate of neonate in ml/kg/mt is

- a) 75
- b) 150
- c) 200
- d) 100

47. Moderator Band is seen in

- a) RA
- b) LA
- c) RV
- d) LV

48. The normal blood pH is between

- a) 7.25-7.35
- b) 7.35-7.45
- c) 7.45-7.55
- d) 7.15-7.25

49. Oxygen dissociation curve is shifted to right in all except

- a) Hyperthermia
- b) Decreased 2,3, DPG
- c) Acidosis
- d) Increased  $p\text{CO}_2$

50. The most important purpose of left heart venting is to

- a) improve venous return
- b) reduce air embolism
- c) prevent distension
- d) prevent rewarmed

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ANSWER KEY

1. B	11. D	21. A	31. B	41. D
2. B	12. B	22. A	32. B	42. B
3. B	13. A	23. A	33. A	43. C
4. B	14. B	24. B	34. C	44. B
5. C	15. B	25. A	35. B	45. C
6. D	16. C	26. C	36. C	46. B
7. A	17. B	27. D	37. C	47. C
8. B	18. A	28. A	38. D	48. B
9. B	19. B	29. D	39. C	49. B
10. B	20. C	30. D	40. C	50. C

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