1. Which is not true regarding acute epiglottitis:
   a- Usually caused by a virus.
   b- A serious disease of young children.
   c- Death may occur from asphyxia.
   d- Characterized by stridor which develops rapidly.

2. The most serious type of pneumothorax is:
   a- Spontaneous pneumothorax.
   b- Traumatic pneumothorax.
   c- Tension pneumothorax.
   d- Secondary pneumothorax.

3. Which of the following provides the best indication of pulmonary functional impairment:
   a- Cough.
   b- Wheezes.
   c- Dyspnea.
   d- Sputum.

4. Pre-operative pulmonary risk factors include all of the following except:
   a- Smoking.
   b- Obesity.
   c- Lower abdominal surgery.
   d- Pre-existing pulmonary disease.

5. Predisposing factors in bronchial asthma include all of the following except:
   a- Exposure to cold.
   b- Acute respiratory infections.
   c- Exercise.
   d- Beta agonists.

6. Cardiac enzymes elevated in myocardial infarction include all of the following except:
   a- Troponin.
   b- AST (SGOT).
   c- Tropomyosin.
   d- CPK-MB.

7. Which Chest-X-ray finding indicates presence of heart failure:
   a- Cardiomegally.
   b- Hyperinflation.
   c- Wedge-shaped density.
   d- Pneumothorax.

8. Post-operative causes of high blood pressure include all of the following except:
   a- Inadequate analgesia.
   b- Dehydration.
   c- Bladder distention.
   d- Increased intra-cranial pressure.

9. Methods used to prevent hypertensive response to intubation include all of the following except:
   a- Ephedrine.
   b- Beta-blockers.
   c- I.V Lidocaine.
   d- Deep anesthesia.
10. A thirty year old female patient has galactorrhea, amenorrhea & infertility; which of the following hormones is expected to be elevated:
   a- Testosterone.
   b- Growth hormone.
   c- ACTH (Adreno-cortico-tropic-hormone).
   d- Prolactin.

11. All of the following are features of hyperthyroidism except:
   a- Heat intolerance.
   b- Sinus bradycardia.
   c- Hyper-active reflexes.
   d- Exophthalmus.

12. Which of the following hormones is secreted by the adrenal medulla:
   a- Aldosterone.
   b- Cortisol.
   c- Epinephrine.
   d- Dobutamine.

13. Intraoperative glucose level should be maintained in the range of:
   a- 50-100 mg/dL.
   b- 120-200 mg/dL.
   c- 300-400 mg/dL.
   d- 200-300 mg/dL.

14. A diabetic patient was noted intraoperatively to have sweating, hypertension & tachycardia, the most important step to consider is:
   a- Giving intravenous analgesia.
   b- Giving intravenous muscle relaxant.
   c- Giving intravenous sedation.
   d- Giving intravenous glucose.

15. Risk factors for the development of halothane-hepatitis include all of the following except:
   a- Old age.
   b- Female sex.
   c- Obesity.
   d- Second exposure to halothane within 4 weeks.

16. Which of the following hepatitis viruses has a mild course with full recovery:
   a- Hepatitis A virus.
   b- Hepatitis B virus.
   c- Hepatitis C virus.
   d- Hepatitis D virus.

17. Which of the following is a safe drug in patients with renal diseases:
   a- Gallamine.
   b- Atracurium.
   c- Metocurine.
   d- Methoxyflurane.

18. Which reading represents a normal pH:
   a- 7.00.
   b- 7.40.
   c- 7.20.
   d- 7.60.

19. Which induction agent increases intra-cranial pressure:
   a- Pentothal (Sodium thiopental).
   b- Diprivan (Propofol).
   c- Ketamine.
   d- Etomidate.

20. Which is true concerning Glasgow Coma Scale (GCS):
   a- The minimum score is Zero.
   b- The maximum score is 15.
   c- The patient is intubated if his GCS is below 10.
   d- Spontaneous eye opening gets a score of 6.
21. One of the following is considered an endogenous opioid:
   a- Fentanyl.  
   b- Enkephalin.  
   c- Pethidine.  
   d- Remifentanyl.

22. Which is part of pain pathways:
   a- Dorsal root ganglia.  
   b- Precentral gyrus.  
   c- Cerebellum.  
   d- Medulla oblongata.

23. Pain in the distribution of a nerve or group of nerves is called:
   a- Analgesia.  
   b- Neuralgia.  
   c- Anesthesia.  
   d- Proprioception.

24. Which of the following nerve fibers is responsible for pain conduction:
   a- (A-α).  
   b- (A-β).  
   c- (A-γ).  
   d- (A-δ).

25. One of the following is a chemical mediator for pain:
   a- Endorphin.  
   b- Glutamate.  
   c- Morphine.  
   d- Enkephalin.

26. Insertion of needles into anatomically defined points to treat pain is called:
   a- Electrical stimulation.  
   b- Acupuncture.  
   c- Cryotherapy.  
   d- Intrathecal injection.

27. One of the following changes in the eye is related to morphine administration:
   a- Blindness.  
   b- Mydriasis.  
   c- Miosis.  
   d- Diplopia.

28. Continuous intra-venous infusion of opioids is suitable for:
   a- Postoperative pain.  
   b- Patients with dysphagia.  
   c- Labor pain.  
   d- ICU patients on artificial ventilation.

29. Which one of the following group of drugs is not used in the treatment of pain:
   a- Antibiotics.  
   b- Opioids.  
   c- Anticonvulsants.  
   d- Antidepressants.

30. Applying an intense sub-zero temperatures for treatment of pain is called:
   a- Acupuncture.  
   b- Electrical stimulation.  
   c- Hypnosis.  
   d- Cryotherapy.

31. Which of the following organs causes a deep somatic acute pain:
   a- Skin.  
   b- Muscle.  
   c- Peritoneum.  
   d- Pericardium.

32. Which is not true concerning acute pain:
   a- The cause is usually known.  
   b- Usually temporary.  
   c- Resolves spontaneously with healing.  
   d- The duration is usually > 6 weeks.

33. Pain occurring without the presence of an obvious physical cause is called:
   a- Neuropathic pain.  
   b- Vascular pain.  
   c- Psychogenic pain.  
   d- Oncologic pain.
34. One of the following is a neuropathic pain:
   a- Trigeminal neuralgia.  
   b- Claudication.  
   c- Arthritic pain.  
   d- Psychogenic pain.

35. Pain of the first stage of labor involves:
   a- T_{10} - S_{4} dermatomes.  
   b- T_{10} - T_{12} dermatomes.  
   c- C_{1} - C_{7} dermatomes.  
   d- T_{10} - L_{1} dermatomes.

36. Labor pain is considered as:
   a- Acute pain  
   b- Chronic pain.  
   c- Psychogenic pain.  
   d- Vascular pain.

37. Brachial plexus block is useful in treating pain of:
   a- Upper limbs.  
   b- Low back pain.  
   c- Lower limbs.  
   d- Abdomen.

38. Carbamazepine is used in the treatment of Pain.
   This drug is an:
   a- Antidepressant.  
   b- Anticonvulsant.  
   c- Antiarrhythmic.  
   d- a-2 agonist.

39. One of the following tests measures pain intensity:
   a- Beck Depression Inventory.  
   b- Electromyography.  
   c- Visual Analog Scale.  
   d- Minnesota Multiphasic Personality Inventory.

40. Compression of the ulnar nerve will cause pain in:
   a- Leg.  
   b- 4^{th} and 5^{th} digits.  
   c- Neck.  
   d- Abdomen.

41. Which is used most often for one lung anesthesia:
   a- Single lumen endotracheal tube.  
   b- Single lumen endobronchial tube.  
   c- Double lumen endobronchial tube.  
   d- Laryngeal mask airway.

42. During Cardio Pulmonary Bypass, myocardial electrical activity is arrested by:
   a- Pacemakers.  
   b- Potassium cardioplegic solution.  
   c- Heat exchanger.  
   d- Muscle relaxants.

43. Cardio Pulmonary Bypass is used during:
   a- Ophthalmic surgery.  
   b- Orthopedic surgery.  
   c- Neurosurgery.  
   d- Open heart surgery.

44. Which of the following is a risk during LASER surgery:
   a- Ignition of combustible materials  
   b- Air embolism.  
   c- Hypertension.  
   d- Pneumothorax.

45. Nitrous oxide should be avoided in:
   a- Myringotomy.  
   b- Myringoplasty.  
   c- Tonsillectomy.  
   d- Microlaryngoscopy.
46. Sitting position is suitable for:
   a- Posterior fossa surgery.  b- Thyroid surgery.

47. Which drug increases intraocular pressure:
   a- Pentothal.  b- Acetazolamide.
   c- Scoline.  d- Mannitol.

48. Neuroleptanalgeisa is the combined use of:
   a- Neuroleptic agent & inhalational agent.
   b- Neuroleptic agent & analgesic.
   c- Induction agent & analgesic.
   d- Induction agent & muscle relaxant.

49. Which is an indication for emergency cesarean section:
   a- Umbilical cord prolapse.  b- Twin pregnancy.
   c- Obese lady.  d- Feto-pelvic disproportion.

50. Pre-eclampsia toxemia patients have:
   a- Hyperthyroidism.  b- Hypotension.
   c- Hypertension.  d- Renal stones.

51. Which is a contraindication for limb tourniquets:
   a- Sickle cell anemia.  b- Hypertension.
   c- Low back pain.  d- Renal failure.

52. Anesthesia for full stomach patients should be:
   a- Spontaneous ventilation.  b- Rapid sequence induction.
   c- Laryngeal mask airway.  d- Inhalational induction.

53. Aspiration of gastric contents results in:
   a- Liver abscess.  b- Allergic rhinitis.
   c- Chemical pneumonia.  d- Pneumothorax.

54. Cuffed endotracheal tubes in children may result in:
   a- Croup.  b- Pneumonia.
   c- Inguinal hernia.  d- Meningitis.

55. All of the following are increased in geriatrics except:
   a- Closing capacity of the lungs.  b- MAC for inhalational agents.
   c- Systolic blood pressure.  d- Residual volume.

56. Most hemoglobin present at birth is:
   a- HbA  b- HbF
   c- HbS  d- HbA1c.

57. As a prophylaxis against withdrawal, chronic alcoholics are premedicated with:
   a- Atropine.  b- H2-blockers.
   c- Antiemetic.  d- Benzodiazepine.
58. The level of B.P in hypotensive anesthesia is a mean arterial pressure of:
   a- 30 mmHg.  
   b- 60 mmHg.  
   c- 40 mmHg.  
   d- 90 mmHg.

59. An adult patient had a burn involving his both upper limbs. This burn represents:
   a- 9%.  
   b- 27%.  
   c- 18%.  
   d- 36%.

60. A body mass index of 20 kg/m$^2$ is considered:
   a- Normal.  
   b- Underweight.  
   c- Overweight.  
   d- Obesity.

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61. The most efficient of Mapelson circuits in terms of spontaneous ventilation is:
   a- Mapelson B  
   b- Mapelson A  
   c- Mapelson D  
   d- Mapelson C

62. Soda lime consists of all except:
   a- Calcium hydroxide  
   b- Pottasium hydroxide  
   c- Barium hydroxide  
   d- Water

63. Which of the following rotameters indicators is read in the middle of the dial:
   a- Bobbin  
   b- Ball float  
   c- Non-rotating float  
   d- H float

64. Medical grade oxygen is manufactured by fractional distillation of:
   a- Liquefied air  
   b- Liquefied CO$_2$  
   c- Liquefied nitrogen  
   d- N$_2$0

65. The device on anesthesia machines that most reliably detects delivery of hypoxic gas mixture is the:
   a- Fail-safe valve  
   b- Diameter-index safity system  
   c- O$_2$ analyzer  
   d- Proportion-limiting control system

66. All the following regarding Oxygen are true except:
   a- Liquid oxygen storage system is more economical for large hospitals  
   b- Liquid oxygen must be stored well below its critical temperature of −119°C  
   c- Gases can be liquefied by pressure only if stored above their critical temperature  
   d- Most anesthesia machines accommodate one or two E-cylinders of oxygen

67. The critical temperature of nitrous oxide is:
   a- 119 °C  
   b- 36.5 °C  
   c- 140 °C  
   d- 50 °C
68. Nitrous oxide is manufactured by:
   a- Cooling ammonium b- Heating ammonium nitrate
c- Heating nitrogen d- Decomposition of N₂O

69. Oxygen E-Cylinders capacity in Liters is:
   a- 1590 b- 6000-7000
c- 625-700 d- 1800-2000

70. The maximum FiO₂ that can be delivered by Nasal cannula is:
   a- 20% b- 25%
c- 35% d- 45%

71. The minimum macroshock current required to elicit ventricular fibrillation is:
   a- 1 mA b- 5 mA
c- 10 mA d- 100 mA

72. Boiling Point of Halothane is:
   a- 50,2 b- 25,4
c- 48,5 d- 22,8

73. The LEAST reliable site for central temperature monitoring is the:
   a- Pulmonary artery b- Lower 1/3 of esophagus
c- Skin on forehead d- Nasopharynx

74. An incompetent ventilator pressure – relief valve can result in:
   a- Hypoxia b- Barotrauma
c- Hyperventilation d- Hypoventilation

75. Predictors of difficult mask ventilation include all except:
   a- Female gender b- Lack of teeth
c- Morbid obesity d- Macroglossia

76. Pressure regulator valve functions are of all the following except:
   a- Reduce the high pressure of gases in cylinder to safe levels
   b- Prevent anesthesia machine damage
   c- Minimize fluctuations in pressure in anesthesia machine
d- Reduce pollution

77. Means to improve mask ventilation include all except:
   a- Leaving the patient's dentures in place
   b- Inserting an oral airway
   c- Packing the cheeks with gauze or sponges
d- Using a large face mask

78. The pipeline gases are supplied at pressures between:
   a- 75-100 psig b- 50-90 psig
c- 45-50 psig d- 20-40 psig

79. Which of the following materials will not ignite during laser surgery?
   a- Rubber b- Silicone
c- Polyvinyl chloride d- Metal

80. All of the following are single lumen tubes except:
   a- Robert-shaw tube b- Spiral-wound tube
c- R.A.E tube d- Armoured tube
81. Bioavailability of a drug refers to the amount of drug that:
   a- Is administered intramusculary
   b- Is administered orally
   c- Reaches the liver
   d- Reaches its site of action

82. Regarding sublingual drug administration which of the following statement is true:
   a- Leads to lower levels compared to oral administration
   b- Leads to rapid breakdown of the drug
   c- Circumvents the first-pass effect
   d- Require a much larger dose for effectiveness

83. How a drug affects the body is:
   a- Pharmacokinetics
   b- Pharmacodynamics
   c- Pharmacotherapy
   d- Pharmacogenomics

84. The action of pentothal is terminated by:
   a- Elimination unchanged by the kidneys
   b- Biotransformation by the liver
   c- Being bound to protein
   d- Redistribution

85. A Vial of pentothal containing (1.0g). To prepare a concentration of 2.5% the amount of fluid added should be:
   a- 40 ml
   b- 60 ml
   c- 80 ml
   d- 100ml

86. Which of the following intravenous agents is avoided for long term use in ICU?
   a- Etomidate
   b- Propofol
   c- Pentothal
   d- Midazolam

87. In hypovolemic shock the best induction agent is:
   a- Pentothal
   b- Ketamine
   c- Etomidate
   d- Propofol

88. The most rhythmogenic inhalational agent is:
   a- Isoflurane
   b- Enflurane
   c- Halothane
   d- Desflurane

89. Which of the following inhalational agents is the most potent?
   a- Halothane
   b- Isoflurane
   c- Enflurane
   d- Sevoflurane

90. Which of the following inhalational agents is avoided in epileptic patients?
   a- Isoflurane
   b- Desflurane
   c- Sevoflurane
   d- Enflurane

91. Which of the following is an opioid antagonist?
   a- Morphine
   b- Naloxone
   c- Naluphine
   d- Pentazocine
92. Which of the following muscle relaxants is a good choice to increase blood pressure and heart rate?
   a- Vecuronium   b- Pancuronium
   c- Atracurium   d- Suxamethonium

93. Stimulation of sympathetic nervous system produces all of the following except:
   a- Tachycardia   b- Miosis
   c- Sweating     d- Bronchodilation

94. Which of the following is an alpha-2 agonist?
   a- Clonidine    b- Esmolol
   c- Atenolol    d- Terbutaline

95. All of the following drugs can be used to treat heart failure except:
   a- Digoxin    b- Vasodilators
   c- Beta-blockers   d- Diuretics

96. All of the following are ACE (Angiotensin Converting Enzyme) inhibitors except:
   a- Captopril  b- Enalapril
   c- Verapamil    d- Ramipril

97. All of the following are loop diuretics except:
   a- Furosemide   b- Bumetanide
   c- Tosemide    d- Glibenclamide

98. All of the following antibiotics possess neuro-muscular blocking properties except:
   a- Erythromycin b- Neomycin
   c- Gentamicin  d- Amikacin

99. Arterial O₂ pressure (PaO₂) is:
   a- 150 mmHg  b- 97%
   c- 100%       d- 100 mmHg

100. N₂O cylinder containing 3 kg’s. How many liters can be provided?
     (N₂O M.Wt = 44)
   a- 1357 L  b- 1225 L
   c- 1527 L  d- 1457 L