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SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL
SCIENCES & TECHNOLOGY,
THIRUVANANTHAPURAM—695 011

ENTRANCE EXAMINATION : ACADEMIC SESSION JANUARY 2018

PROGRAMME: DIPLOMA IN CARDIOVASCULAR AND THORACIC / NEURO NURSING

Time: 90 min

Max.Marks: 100

(Select the most appropriate answer)

(Each question carries one mark)

1. A patient with diabetes mellitus may experience hypoglycemia as well as hyperglycemia. Which one of the following clinical manifestations is commonly seen in hypoglycemia?
 - A. Weight loss
 - B. Nausea, vomiting
 - C. Polyuria
 - D. Diaphoresis
2. While giving Cardiopulmonary resuscitation (CPR) to an adult, the recommended ratio of external chest compression to ventilation in two rescuer CPR as per 2015 American Heart Association guidelines is
 - A. 5:1
 - B. 30:2
 - C. 15:2
 - D. 15:1
3. Which one of the following is a **wrong** statement regarding intravenous(IV) fluids/therapy?
 - A. The nurse is ultimately accountable for the drug administered
 - B. Normal saline and 5% dextrose normal saline are isotonic fluids
 - C. Use lower extremity as a last resort for giving IV fluids
 - D. Replace peripheral intravenous catheters only when clinically indicated
4. Which one of the following is a normal reflex in infants?
 - A. Romberg's
 - B. Kernig's
 - C. Babinski's
 - D. Homan's

5. Cardioversion is a treatment modality in which one of the following arrhythmias?
- Ventricular Asystole
 - Atrial fibrillation
 - Pulseless Electrical Activity
 - Pulseless Ventricular Tachycardia
6. What will happen to sugar content of CSF during bacterial meningitis?
- normal
 - increase
 - decrease
 - no sugar
7. Which one of the following is a **wrong** statement regarding blood pressure (BP)?
- Normal adult BP is <120/80 mm of Hg
 - A difference of 5-10 mm of Hg between arms is common
 - Systolic pressure in lower extremities is usually 10 mm of Hg higher than that of upper extremities
 - Going from a recumbent to a standing position can cause the systolic pressure to rise 10 -15 mm of Hg
8. Which one of the following is a **wrong** statement in a patient with diabetes mellitus?
- Elevated glucose in the blood leads to excess urination
 - Excess water loss leads to thirst
 - Cellular breakdown causes loss of sodium ions from cells to urine
 - Excess water loss carries electrolytes leading to hyponatremia
9. The dosage of heparin is regularized by measuring
- Activated partial thromboplastin time
 - Prothrombin time
 - Bleeding time
 - Clotting time
10. Which one of the following is **wrong** regarding Furosemide (Lasix)?
- The onset of action after oral administration is within one hour
 - Furosemide is a potassium sparing diuretic
 - The diuresis lasts about 6-8 hours after oral administration
 - Injection Furosemide is available as 20 mg/ml
11. The nerve involved in Carpal- Tunnel Syndrome is
- radial
 - median
 - ulnar
 - femoral
12. Obtaining a written informed consent, before a surgery is the responsibility of the
- patient
 - duty nurse
 - supervising nurse
 - doctor

13. The point where the frontal bone meets the parietal bone is called
- A. Bregma
 - B. Lambda
 - C. Glabella
 - D. Asterion
14. Uveitis is inflammation involving the
- A. ear
 - B. ligament
 - C. eye
 - D. cartilage
15. What instruction is most appropriate in patient with trigeminal neuralgia to prevent triggering the pain?
- A. Drink iced foods
 - B. Avoid oral hygiene
 - C. Apply warm compresses
 - D. Chew on the unaffected side
16. Which one of the following is an early indication of increased intracranial pressure?
- A. Widening pulse pressure
 - B. Decrease in pulse rate
 - C. Altered sensorium
 - D. Dilated and fixed pupil
17. Which of the following statements is **wrong** in bacterial meningitis?
- A. Serum Procalcitonin (PCT) level is elevated
 - B. CSF sugar is elevated
 - C. CSF opening pressure is elevated
 - D. CSF protein is elevated
18. The best way to help patients handle anxiety is to
- A. reassure them that they will receive the best possible care
 - B. assist them to talk about their fears and concerns
 - C. be direct and honest with them
 - D. limit visitor's time with them
19. Design of the intensive care unit should consider which one of the following?
- A. Bright overhead lighting
 - B. Waiting rooms to keep family members out of the patient's room
 - C. Thick carpet to muffle sound
 - D. Soft, calm colors
20. The electrolyte that plays an important role in the coagulation cascade is
- A. Vitamin K
 - B. Calcium
 - C. Potassium
 - D. Magnesium

21. Intermittent claudication is the typical feature of
- A. Peripheral Vascular Disease
 - B. Coronary Artery Disease
 - C. Interstitial Lung Disease
 - D. Renal Parenchymal Disease
22. A patient who has increased intracranial pressure (ICP) has been prescribed intravenous Mannitol. Adverse reactions more commonly reported during or after the infusion of mannitol include all the following except
- A. Pulmonary congestion
 - B. Electrolyte imbalance
 - C. Oliguria
 - D. Urinary retention
23. Sleep deprivation in patients who are critically ill is most often attributed to
- A. Untreated pain and anxiety
 - B. Family visiting during the evening shift
 - C. Sponge bath during the evening shift
 - D. Altered melatonin levels
24. An early sign of shock in a child is
- A. Decreased heart rate
 - B. Decreased blood pressure
 - C. Increased capillary refill time
 - D. Decreased pulse pressure
25. Which one of the following neurological assessment tests cranial nerve function?
- A. Assessing Hand grip
 - B. Testing Gag reflex
 - C. Testing orientation
 - D. Checking arm drift
26. Which of the following is a side effect of Nitroglycerin?
- A. Head ache
 - B. Dyspnea
 - C. Bradycardia
 - D. Hypertension
27. You are caring for an eight-year-old child who require intubation. The child weighs 25 Kg. What size endotracheal tube would you select?
- A. 5.0 mm B. 5.5 mm C. 6.0 mm D. 6.5 mm
28. The 'T' wave in the ECG represents
- A. Contraction of ventricles
 - B. Repolarisation of Atria
 - C. Depolarisation of ventricles
 - D. Repolarisation of ventricles

29. A nurse is caring for a patient soon after the evacuation of a subdural hematoma. Which of the following is the priority assessment?
- Acid base balance
 - Cranial nerve function
 - Oxygen saturation level
 - Pupillary response
30. Which one of the following intravenous fluids (IV) exerts the same osmotic pressure as that of plasma?
- Ringer lactate
 - 0.45% Sodium Chloride
 - 5% Dextrose Saline
 - 10% Dextrose
31. A patient has dyspnea. The nurse positioned him by raising the head of the bed to an upright position at a 90° angle. She also supported the patient's feet with a foot board/used a knee gatch for a short period. This position is known as
- High Fowler's position
 - Orthopneic position
 - Fowler's position
 - Semi Fowler's position
32. Number of pairs of cranial nerves in man is
- 33
 - 31
 - 10
 - 12
33. Which one of the following is **not** an indication for urinary catheterisation?
- To relieve acute or chronic urinary retention
 - To drain urine pre- operatively or post-operatively
 - To determine the amount of residual urine after voiding
 - To obtain an uncontaminated urine specimen for culture
34. A nurse is providing discharge instructions about digoxin. Which response should a nurse include as a reason for the client to withhold the digoxin?
- Chest pain
 - Seeing Halos
 - Persistent hiccups
 - Increased urinary output
35. Which of the following statement about angina pectoris is **wrong**?
- It is chest pain or discomfort caused by myocardial ischemia
 - Occurs when myocardial oxygen demand exceeds the supply
 - Occurs because of coronary atherosclerotic heart disease
 - Will not occur in patients with normal coronary arteries
36. How does Infection in the older adult most commonly present?
- As altered sleep pattern
 - As leukocytosis
 - As a change in cognition, function, or behavior
 - With fever and chills

37. What should be the drip rate per minute of an IV fluid to finish 540 ml in 5 hours (1 ml = 15drops)
- A. 12.5
 - B. 25
 - C. 27
 - D. 50
38. Bone loss in hospitalized older adults may be further exacerbated by which one of the following?
- A. Bed rest
 - B. Dehydration
 - C. Infection
 - D. Delirium
39. Physical changes that are not part of the normal aging process include which of the following?
- A. Reduced sensory perception
 - B. Reduced glomerular filtration rate
 - C. Decreased amounts of connective and collagen tissue
 - D. Decreased hemoglobin and hematocrit
40. The components of Braden scale for pressure ulcer include all **except**
- A. Sensory perception
 - B. Body mass index
 - C. Mobility
 - D. Nutrition
41. The maximum volume of air that can be released from the lungs by forceful expiration after deepest inspiration is called
- A. Vital Capacity
 - B. Total Lung Capacity
 - C. Tidal Volume
 - D. Expiratory reserve volume
42. All the following neurological diseases has a surgical treatment option **except**
- A. Epilepsy
 - B. Multiple sclerosis
 - C. Hydrocephalus
 - D. Parkinson's disease
43. When caring for a patient with Methicillin Resistant Staphylococcus Aureus (MRSA), the nurse should wear
- A. surgical goggles
 - B. rebreather mask
 - C. gown and gloves
 - D. sterile isolation suit
44. Serial sputum cultures are typically required for which of the following?
- A. To test for acid-fast bacilli (AFB) and mycobacteria
 - B. Postoperative productive cough
 - C. Preoperative productive cough
 - D. To test for Methicillin Resistant Staphylococcus Aureus (MRSA)

45. Tracheobronchial secretions are present in excessive amounts in post thoracotomy patients because of all the following **except**
- A. Trauma to the tracheobronchial tree during operation
 - B. Diminished lung ventilation
 - C. Diminished cough reflex
 - D. Diminished air entry / hypoxia
46. When a post-operative thoracotomy patient shows anxiety, restlessness and agitation of new onset, the nurse should do all the following **except**
- A. Administer SOS sedatives
 - B. Position for comfort and optimal ventilation
 - C. Provide appropriate pain relief
 - D. Encourage splinting of incision
47. Which of the following should be the first monitoring device attached to a patient on arrival in the post anesthesia care area?
- A. Cardiac monitor
 - B. Pulse oximeter
 - C. Noninvasive blood pressure
 - D. Temperature monitoring device
48. The nurse is preparing to administer sustained release tablet to a patient. Which statement about sustained release tablet is true?
- A. They should never be split or crushed or chewed
 - B. They should never be split or crushed, but they may be chewed
 - C. They should never be chewed, but they may be split or crushed
 - D. They may be split, crushed, or chewed
49. The coronary arteries get blood supply during
- A. Ventricular contraction
 - B. Atrial contraction
 - C. Ventricular diastole
 - D. Ventricular systole
50. Which of the following is not an effect of Aspirin?
- A. Stimulates platelet aggregation
 - B. Prophylaxis in patients with coronary artery disease
 - C. Anti-inflammatory
 - D. Anti-pyretic
51. Which of the following is **wrong** regarding Oxygen administration?
- A. Nasal Cannula cannot deliver Oxygen concentration much higher than 40%
 - B. Simple face mask delivers Oxygen concentration of 40% to 60%
 - C. Nasal cannula is a low-flow system
 - D. Use Petroleum jelly to lubricate nostrils prior to nasal cannula insertion

52. To decrease bronchospasm, Salbutamol acts primarily on the
- A. Alpha receptors
 - B. Beta₁ receptors
 - C. Beta₂ receptors
 - D. Delta receptors
53. All the following are part of cerebral circulation except
- A. Vertebral artery
 - B. Internal carotid artery
 - C. Cavernous sinus
 - D. External carotid artery
54. The most common cause of a pleural effusion in critically ill patients is
- A. congestive heart failure
 - B. cirrhosis
 - C. pneumonia
 - D. hemothorax
55. Which one of the following pair is wrongly matched?
- A. Pneumothorax - Air
 - B. Pleural effusion - Fluid
 - C. Chylothorax - Pus
 - D. Hemothorax - Blood
56. Which of the following statement is **wrong** regarding 'IV push'?
- A. Refers to the administration of a medication from a syringe directly into an ongoing IV infusion
 - B. It is given directly into a vein by way of an intermittent access device
 - C. It should be diluted as indicated
 - D. It should be given fast
57. Which of the following points should the nurse include about sublingual nitroglycerin when instructing the patient with angina?
- A. The drug will cause increased urine output.
 - B. Store the tablets in a tight light resistant container.
 - C. Use the tablets only when the pain is very severe.
 - D. The shelf life of NTG is up to 2 years.
58. Which one of the following foods can be tried for patients with dysphagia?
- A. Thin liquids
 - B. Sticky foods
 - C. Thickened juice
 - D. Dry foods
59. Which one of the following laboratory value is abnormal?
- A. Serum creatinine - 1.8 mg/dL
 - B. Fasting blood sugar - 100 mg/dL
 - C. HDL Cholesterol - 52 mg/dL
 - D. Total count - 8000/cmm

60. The initial blood pressure of a patient with a head injury is 124/80 mm of Hg. As his condition worsens, pulse pressure increases. Which of the following blood pressure readings indicates a pulse pressure greater than the initial pulse pressure?
- A. 102/60 mm of Hg
 - B. 134/90 mm of Hg
 - C. 140/100 mm of Hg
 - D. 152/90 mm of Hg
61. Which of the following phrases best defines heart failure?
- A. Decreased ejection fraction secondary to myocardial infarction
 - B. Shortness of breath and decreased activity tolerance related to impaired filling and or emptying of the heart
 - C. Shortness of breath and liver congestion associated with high pulmonary pressure
 - D. Dilated cardiomyopathy
62. Which laboratory value is most useful in assessing renal function?
- A. Potassium
 - B. Blood urea nitrogen
 - C. Creatinine
 - D. Uric acid
63. Which one of the following is a **wrong** statement regarding assessment of vital signs in older adults?
- A. The depth of respiration tends to increase with ageing
 - B. The arteries of older adults may feel stiff and knotty
 - C. A properly sized BP cuff is 20% wider than the diameter at the midpoint of the arm
 - D. The accepted norm for oral temperature is $98.6^{\circ}\text{F} \pm 1^{\circ}\text{F}$
64. Which one of the following statements regarding insulin is **WRONG**?
- A. There are three main groups of insulins: Fast-acting, Intermediate-acting and Long-acting
 - B. It can be injected subcutaneously or given intravenously
 - C. Onset of action of NPH human insulin is faster than regular human insulin
 - D. It can be extracted from beef and pork pancreases, but human insulin can be produced synthetically
65. Which one of the following statements regarding the mechanics of breathing is **wrong**?
- A. Expiration is an active process
 - B. The diaphragm is the chief muscle of inspiration
 - C. The diaphragm descends toward abdominal cavity during inspiration
 - D. The intrathoracic pressure is below atmospheric pressure during respiration
66. Hypokalemia can be caused by all the following except
- A. Severe vomiting
 - B. Loop diuretics
 - C. Acidosis
 - D. Diarrhea

67. Which of the following areas of referred pain is not matching with the corresponding organ?
- A. Heart: left arm
 - B. Diaphragm: shoulder
 - C. Stomach: epigastrium
 - D. Appendix: left lower abdominal quadrant
68. The drug of choice for pain relief for a patient with acute myocardial infarction is
- A. Aspirin
 - B. Morphine sulphate
 - C. Tramadol
 - D. Diclofenac sodium
69. During the removal of a nasogastric tube, the nurse instructs the patient to
- A. Inhale slowly
 - B. Exhale slowly
 - C. Take in a deep breath and hold
 - D. Exhale deeply
70. The **least** important cause for pressure ulcer is
- A. Direct pressure
 - B. Obesity
 - C. Shear
 - D. friction
71. Which one of the following risk factors is considered a major controllable risk factor after a myocardial infarction?
- A. Age
 - B. Obesity
 - C. Excessive alcohol intake
 - D. Stress
72. Which of the following is an **incorrect** technique while administering eyedrops?
- A. Wipe and clean the eyes from outer to inner canthus
 - B. Hold eye dropper in dominant hand approximately 1-2 cm above conjunctival sac
 - C. Ask client to lie supine or sit back in chair with head slightly hyperextended
 - D. Ask client to look up toward ceiling
73. All the following medicines should be taken before food **except**
- A. Thyroxine
 - B. Rifampicin
 - C. Omeprazole
 - D. Diclofenac Sodium

74. The standard dose of Epinephrine (Adrenaline) 1:1000 to treat asthma is 0.01 ml per Kilogram of body weight. Which amount of Adrenaline should the nurse administer to a child weighing 10 Kg having asthmatic attack?
- 0.10 ml
 - 0.20 ml
 - 1 ml
 - 2 ml
75. Spironolactone (Aldactone) is a/an --- diuretic.
- Osmotic
 - Potassium sparing
 - Loop
 - Thiazide
76. Which of the following correctly describes the pain that occurs with pericarditis?
- Pain that worsens with leaning or sitting forward
 - Pain that decreases with swallowing
 - Abrupt onset of pain that resolves within a few days
 - Pain that intensifies with a deep breath
77. Normal breath sounds that are heard over the periphery of the lungs are called?
- bronchial
 - bronchovesicular
 - Vesicular
 - rales
78. Which of the following statements regarding chronic obstructive pulmonary disease (COPD) is **wrong**?
- Inhaled bronchodilators are the gold standard of COPD management
 - COPD include Chronic bronchitis, emphysema, and bronchial asthma
 - In some patients with COPD low O₂ levels in the blood act as a stimulus for respiration
 - Giving a high concentration of supplemental O₂ to people who retain CO₂ may suppress the hypoxic drive
79. Which one of the following statements is **correct** regarding child cardiopulmonary resuscitation(CPR) according to 2015 guidelines?
- Compress the chest at a rate of 100/min
 - The compression depth is 1.5 to 2 cm.
 - One rescuer compression ventilation ratio is 30:2
 - Airway, breathing, circulation is the sequence of CPR
80. Which sensation is not a function of cranial nerves?
- Touch
 - Hearing
 - Sight
 - Smell
81. Which clinical manifestation does the nurse assess as a typical reaction to long – term phenytoin sodium (Dilantin) therapy?
- Weight gain
 - Trouble sleeping
 - Swelling gums
 - Suicidal tendency

82. First aid instructions for a seizure include all the following **except**
- A. Stay calm
 - B. Time the seizure with a watch or clock
 - C. Restrain the person during the seizure
 - D. Do not put anything in the person's mouth
83. Which is not a function of oculomotor nerve?
- A. sight
 - B. extraocular movements
 - C. upper eyelid elevation
 - D. pupillary response
84. Transfusion of 300 ml of blood if given at a rate of 15 drops/min will get over by (drop factor = 15gtts/mL)
- A. 4 hours
 - B. 5 hours
 - C. 6 hours
 - D. 8 hours
85. Which one of the following is the antidote of heparin?
- A. Warfarin Sodium
 - B. Protamine sulphate
 - C. Acetylsalicylic acid
 - D. Atropine sulphate
86. Which of the following is a **wrong** statement?
- A. Battle's sign is medically known as Periorbital ecchymosis
 - B. Raccoon eyes are seen in basal skull fracture
 - C. Periorbital ecchymosis is a sign of basal skull fracture
 - D. Trauma is the most common cause of Raccoon eyes
87. The condition of recurrent abnormal and excessive discharges of cerebral neurons is
- A. Epilepsy
 - B. seizure
 - C. Electroencephalogram
 - D. Status epilepticus
88. Which one of the following is the most common primary brain tumor?
- A. Meningioma
 - B. Astrocytoma
 - C. Acoustic neuroma
 - D. Pituitary tumor
89. Which one of the following term is **not** associated with pain?
- A. Lumbago
 - B. Sciatica
 - C. Lanugo
 - D. Erythema Nodosum

90. Which one of the following is a **wrong** statement regarding thermoregulation in infants and young children?
- A. have a large body surface area in proportion to their body mass
 - B. may lose heat very rapidly by conduction, convection, and radiation
 - C. core body temperature is the most accepted form of temperature measurement
 - D. core body temperature can be derived from rectum and tympanic membrane
91. Which one of the following is a **wrong** statement regarding tracheostomy care?
- A. Normal saline should not be instilled into the tracheostomy
 - B. Maintain cuff pressure between 20 and 25 mm of Hg
 - C. Tracheostomy tapes should be loose enough to permit one finger to fit between the tapes and the neck
 - D. Make only a single wipe with each gauze pad before discarding it
92. The nurse is reviewing a patient's arterial blood gas (ABG) report. Which ABG value reflects the base concentration in blood?
- A. pH
 - B. PaO₂
 - C. PaCO₂
 - D. HCO₃⁻
93. To calculate body mass index (BMI) divide
- A. Height in inches by weight in kilogram
 - B. Height in meters squared by weight in kilogram
 - C. Weight in pounds by height in meters squared
 - D. Weight in kilogram by height in meters squared
94. Which organ secretes enzymes capable of digesting food in the absence of all other digestive enzymes?
- A. Salivary gland
 - B. Stomach
 - C. Pancreas
 - D. Liver
95. Which one of the following is the best measure to determine long term control of blood sugar in a patient with diabetes mellitus?
- A. Glucose tolerance test (GTT)
 - B. Fasting blood sugar (FBS)
 - C. Post prandial blood sugar (PPBS)
 - D. Glycosylated hemoglobin (HbA_{1C})
96. Reflux of gastric contents back into the esophagus is prevented by the
- A. Effect of gravity
 - B. Lower esophageal sphincter
 - C. Epiglottis
 - D. Pyloric sphincter

97. Which one of the following assessment would the nurse perform when assessing an ataxic patient's ability to walk?
- A. Kernig's test
 - B. Romberg's test
 - C. Mini mental status examination
 - D. Hoffmann's test
98. At what rate (microdrop/min) should the nurse start an intravenous infusion if the order is for 1gm of vancomycin to be given in 100 ml of 5% dextrose over an hour? The tubing delivers 60 microdrops/ml.
- A. 30/min
 - B. 50/min
 - C. 60/min
 - D. 100/min
99. The electrocardiographic finding consistent with an acute injury process is the presence of a/an
- A. 'Q' wave
 - B. inverted 'T' wave
 - C. elevated 'ST' segment
 - D. depressed 'ST' segment
100. The nurse is preparing to administer 0.05 mg of Digoxin intravenously. The available concentration is 0.5mg in 2ml. How many milliliters should the nurse administer?
- A. 0.5 ml
 - B. 0.4 ml
 - C. 0.3 ml
 - D. 0.2 ml