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रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सी ई एन नं. - 04/2024 - CEN No. - 04/2024

Test Date	28/04/2025
Test Time	4:30 PM - 6:00 PM
Subject	PERFUSIONIST

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **General Ability**

Q.1 **Under which scheme will the registered gig workers on the e-Shram portal receive healthcare benefits in 2025?**

Ans
✔ 1. Ayushman Bharat PM Jan Arogya Yojana (AB-PM-JAY)
✘ 2. Atal Pension Yojana (APY)
✘ 3. Pradhan Mantri Awas Yojana (PMAY)
✘ 4. Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

Q.2 **Why do the hydrophobic tails of soap molecules stay inside the micelles?**

Ans
✔ 1. They are repelled by water.
✘ 2. They form chemical bonds with water.
✘ 3. They dissolve completely in water.
✘ 4. They are strongly attracted to water.

Q.3 4 men and 6 women can complete a piece of work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 16 women complete it?

Ans
✘ 1. 36
✘ 2. 40
✔ 3. 25
✘ 4. 16

Q.4 **Which of the following options describes the enforceability of the Directive Principles of State Policy in India?**

Ans
✘ 1. They are enforceable like Fundamental Rights and can be directly challenged in the courts.
✘ 2. They are binding on the legislature and the executive, with penalties for non-compliance.
✘ 3. They are enforceable only by the Supreme Court when Fundamental Rights are violated.
✔ 4. They are non-justiciable guidelines and cannot be enforced by courts.

Q.5 **Why is a coordinated effort from all the levels of government essential for sustainable development?**

Ans
✔ 1. It helps integrate socio-economic development with environmental sustainability.
✘ 2. It ensures that only economic issues are addressed.
✘ 3. It allows for the privatisation of environmental resources.
✘ 4. It delays the implementation of sustainable practices.

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Q.6 Each of L, M, N, O, W, X and Y has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. Only Y has exam before X. Only three people have exam between M and X. Only three people have exam between L and O. W has exam on some day before O and on some day after N.
How many people have exam after L?

Ans
✗ 1. Two
✓ 2. Four
✗ 3. Three
✗ 4. One

Q.7 Who among the following was the intended target of the bomb thrown at a carriage by Khudiram Bose and Prafulla Chaki in 1908?

Ans
✗ 1. Viceroy Lord Hardinge
✓ 2. Magistrate Douglas Kingsford
✗ 3. Governor-General Lord Curzon
✗ 4. Lord Ripon

Q.8 What is the increased credit limit under the Modified Interest Subvention Scheme for Kisan Credit Cards (KCC) as announced in the Union Budget 2025?

Ans
✗ 1. ₹1 lakh
✗ 2. ₹2 lakh
✗ 3. ₹3 lakh
✓ 4. ₹5 lakh

Q.9 Consider the following statements regarding the reactivity series of metals. Which of these statements is/are correct?
Statement I: A piece of iron placed in a solution of copper sulfate gradually develops a reddish layer.
Statement II: Copper is more reactive than iron and replaces it in the solution.

Ans
✓ 1. Only Statement 1 is true
✗ 2. Both statements are true
✗ 3. Both statements are false
✗ 4. Only Statement 2 is true

Q.10 Which ruler is associated with the construction of the famous Alahi Darwaja also called Alai Darwaja?

Ans
✓ 1. Ala-ud-din Khalji
✗ 2. Jalal-ud-din Khalji
✗ 3. Mohammad Bin Tughlaq
✗ 4. Firoz Shah Tughlaq

Q.11 Which of the following statements is correct about the nucleus?

Ans
✗ 1. Nucleus has a single layer covering
✓ 2. Nuclear membrane has pores
✗ 3. The nucleus contains chloroplast
✗ 4. The nucleus contains mitochondria

Q.12 $The\ value\ of\ \left(\frac{5}{8}\right) \times \left(\frac{24}{25}\right) + \left(\frac{9}{5} - 4\right) is$

Ans
✔ 1. $-\frac{8}{5}$
✘ 2. $-\frac{2}{3}$
✘ 3. $-\frac{6}{7}$
✘ 4. $\frac{1}{4}$

Q.13 **Which key feature of Thomson's Atomic Model helped explain the electrical neutrality of an atom?**

Ans
✘ 1. Electrons revolved around the nucleus in fixed orbits.
✘ 2. The nucleus contained both, protons and neutrons.
✘ 3. The positive charge was concentrated in the centre.
✔ 4. The positive and negative charges are equal in magnitude.

Q.14 **Which Indian film won the Best Film Award at the Asian Film Awards 2025?**

Ans
✘ 1. Gully Boy
✘ 2. The White Tiger
✔ 3. All We Imagine As Light
✘ 4. The Disciple

Q.15 **Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?**

ACT123, IKB110, QSJ97, YAR84, ?

Ans
✘ 1. GIM71
✘ 2. GOZ71
✘ 3. LIZ71
✔ 4. GIZ71

Q.16 **If the lateral surface area of a cylinder is 336.4 cm^2 and its height is 23 cm, then find its volume.**
(Use π = 3.14 and round off to two decimal place)

Ans
✘ 1. 384.33 cm^3
✘ 2. 372.99 cm^3
✘ 3. 370.76 cm^3
✔ 4. 391.74 cm^3

Q.17 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the pair in which the numbers are related in the same way as are the numbers of the following pairs.

(Note: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g., 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

59, 71.6
86, 98.6

Ans
✗ 1. 41, 63.6
✗ 2. 92, 106.6
✓ 3. 65, 77.6
✗ 4. 77, 91.6

Q.18 Rohan starts from Point A and drives 4 km towards East. He then takes a right turn, drives 3 km, turns left and drives 6 km. He then takes a left turn and drives 3 km. He takes a final right turn, drives 3 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

Ans
✗ 1. 13 km towards East
✗ 2. 7 km towards South
✓ 3. 13 km towards West
✗ 4. 3 km towards North

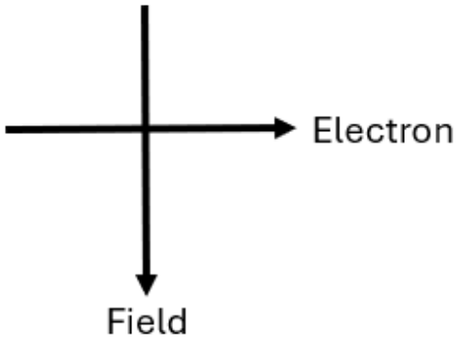
Q.19 The image formed by a convex mirror is always _____.

Ans
✗ 1. erect and of same size as the object
✗ 2. inverted and diminished
✓ 3. erect and diminished
✗ 4. inverted and of same size as the object

Q.20 Under which Article of the Indian Constitution does the Supreme Court of India have original jurisdiction to adjudicate disputes between the Government of India and one or more States, or between different States?

Ans
✗ 1. Article 132
✗ 2. Article 136
✓ 3. Article 131
✗ 4. Article 226

Q.21 What will be the direction of the force based on the direction of current and magnetic field as shown in the figure?



Ans
✗ 1. Into the page
✗ 2. To the right
✗ 3. To the left
✓ 4. Out of the page

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Q.22 The focus of a spherical mirror lies 18 cm from the pole of the mirror. What is the position of the centre of curvature in cm from the pole of the mirror?

Ans
- ✗ 1. 40 cm
- ✗ 2. 27 cm
- ✗ 3. 9 cm
- ✓ 4. 36 cm

Q.23 Tarun and Varun move towards town B starting from town A, at a speed of 57 km/h and 60 km/h respectively. If Varun reaches town B 33 minutes earlier than Tarun, what is the distance between towns A and B?

Ans
- ✗ 1. 633 km
- ✓ 2. 627 km
- ✗ 3. 625 km
- ✗ 4. 619 km

Q.24 A man receives ₹8680 per month as salary. He saves 65% of his salary every month. His expenditure per month is:

Ans
- ✗ 1. ₹2995
- ✓ 2. ₹3038
- ✗ 3. ₹2959
- ✗ 4. ₹3043

Q.25 Select the correct pairing between a Himalayan division and a notable geographical feature associated with it:

Ans
- ✗ 1. Lesser Himalayas – Bara Lacha-La
- ✗ 2. Valleys located between the Greater Himalayas and the Lesser Himalayas – Duns
- ✓ 3. Valleys located between the Lesser Himalayas and the Outer Himalayas – Duns
- ✗ 4. Lesser Himalayas – Mount Everest

Q.26 Which of the following is NOT correct regarding connective tissue?

Ans
- ✗ 1. Ligaments connect bone to bone
- ✓ 2. Fat storing adipose tissue is found above the skin
- ✗ 3. Tendons connect muscle to bone
- ✗ 4. Areolar connective tissue is found between the skin and muscle

Q.27 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

WIB UFX SCT QZP ?

Ans
- ✗ 1. MUM
- ✗ 2. NVJ
- ✓ 3. OWL
- ✗ 4. NYK

Q.28 Which of the following glands secretes growth hormone?

Ans
- ✗ 1. Ovaries
- ✓ 2. Pituitary gland
- ✗ 3. Thyroid gland
- ✗ 4. Testes

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Q.29 Which committee's recommendations have long been influential in defining the poverty line in India using a consumption expenditure approach?

Ans
- ✗ 1. Balakrishnan Committee
- ✗ 2. Rangarajan Committee
- ✗ 3. Sachar Committee
- ✓ 4. Tendulkar Committee

Q.30 Which of the following factor is NOT responsible for the survival of species over time?

Ans
- ✗ 1. Habitat availability
- ✓ 2. Astrological Signs
- ✗ 3. Reproduction
- ✗ 4. Variation

Section : **Professional Ability**

Q.1 Pancreas is an endocrine organ, consist of Islets of Langerhans. Which of the following hormone is made from beta cells of Langerhans?

Ans
- ✗ 1. Somatostation
- ✓ 2. Insulin
- ✗ 3. Pancreatic juices
- ✗ 4. Glucagon

Q.2 What should be a mandatory additive in the priming solution of a 6 years of TOF patient with Hb 21%g?

Ans
- ✓ 1. Albumin
- ✗ 2. Whole blood
- ✗ 3. Fresh Frozen Plasma
- ✗ 4. Mannitol

Q.3 According to WHO guidelines, what solution should be used for a blood spillage?

Ans
- ✗ 1. Chlorhexidine
- ✗ 2. Povidone iodine
- ✗ 3. Cocamidopropyl betaine
- ✓ 4. Sodium hypochlorite 0.5%

Q.4 What is the principle of centrifugation?

Ans
- ✗ 1. Size reduction principle
- ✓ 2. Sedimentation principle
- ✗ 3. Evaporation principle
- ✗ 4. Filtration principle

Q.5 The most appropriate definition of Vital Signs is:

Ans
- ✗ 1. physiology and anatomy
- ✗ 2. sign and symptoms of a disease
- ✓ 3. an indication of basic body functioning
- ✗ 4. a part of human composition

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Q.6 Surgeon has divided the line and connected arterial line to aortic cannula. The venous cannulation is getting delay, meanwhile there is retrograde flow from the aorta. What is the suspected error?

Ans
- ✗ 1. Suctions are on
- ✗ 2. Bleeding from the cannulation site
- ✗ 3. Cannula is misplaced
- ✓ 4. Occlusion is not set well

Q.7 A 60-year-old patient arrives with severe AR and moderate AS. The underlying cause is morphology of the aortic valve. What is the normal morphology of the aortic valve?

Ans
- ✗ 1. Bicuspid Aortic Valve
- ✗ 2. Unicuspid Aortic Valve
- ✗ 3. Qudracuspid Aortic Valve
- ✓ 4. Tricuspid Aortic Valve

Q.8 Which of the following is NOT an advantage of counter pulsatile flow?

Ans
- ✓ 1. Increased systolic pressure
- ✗ 2. Improved myocardial flow
- ✗ 3. Augmented coronary flow
- ✗ 4. Increased diastolic pressure

Q.9 After the blood enters the venous reservoir, which next component of the CPB receives the blood?

Ans
- ✗ 1. Bubble filter
- ✓ 2. Heat exchanger
- ✗ 3. Arterial line
- ✗ 4. Oxygenator

Q.10 A patient with dyspnoea has HR of 120 beats/mins has a stroke volume of 30 ml/beat. What is the cardiac output and cause of the resulted cardiac output?

Ans
- ✗ 1. 5 L/min, decreased contractility
- ✗ 2. 3.6 L/min, decreased afterload
- ✗ 3. 5L/min decreased cardiac function
- ✓ 4. 3.6 L/min, decreased preload

Q.11 Which of the following is NOT a key feature of the dark field microscope?

Ans
- ✗ 1. No staining is required
- ✓ 2. Cleaning the slide is not necessary
- ✗ 3. The specimen appears illuminated while the background remains dark
- ✗ 4. A living microorganism can be studied

Q.12 A written statement of policies and principles that guides the behaviour of a Perfusionist is called:

Ans
- ✗ 1. word of ethics
- ✓ 2. code of ethics
- ✗ 3. work standards
- ✗ 4. ethical dilemma

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Q.13 If Tetralogy of Fallot is a disease, then the genetic disorder like 22q11.2 deletion can be termed as:

Ans
- ✗ 1. Pathogenesis
- ✓ 2. Etiology
- ✗ 3. Morphology
- ✗ 4. Lesion

Q.14 The point on the heart where the a-v groove, IAS & IVS meet is called:

Ans
- ✗ 1. Commissure
- ✓ 2. Crux
- ✗ 3. Node
- ✗ 4. Trigone

Q.15 Where is the location of thyroid gland in the body?

Ans
- ✗ 1. In the brain
- ✗ 2. In the abdomen
- ✗ 3. Behind the stomach
- ✓ 4. In the neck, near the trachea

Q.16 While supplying instruments on the table, what characteristic is considered unsterile?

Ans
- ✗ 1. Completely dried packing
- ✓ 2. Previously torn packing
- ✗ 3. No presence of any particles
- ✗ 4. Appropriate packing and expiry date

Q.17 A 3-year after VSD closure shows tachyarrhythmias. What would NOT be the likely cause for this?

Ans
- ✗ 1. Inadequate rewarming
- ✗ 2. Electrolyte imbalance
- ✗ 3. Suturing close to the conducting system
- ✓ 4. High dose of sedation post operatively

Q.18 An 18-year-old female complains of swelling in the armpits after using suspected rusted razor for hair removal. On examination, there was swelling in her axillary lymph nodes. She also experienced mild fever for two days. What would be the possible diagnosis?

Ans
- ✗ 1. Systemic Lupus Erythematosus
- ✓ 2. Infection
- ✗ 3. Lymphadenopathy
- ✗ 4. Mononucleosis

Q.19 During an MVR, there is continuous air entry in the venous line. Suddenly there is an air lock in the venous line. At what stage of surgery can this happen?

Ans
- ✓ 1. During longitudinal paraseptal left atriotomy
- ✗ 2. During suturing prosthetic valve
- ✗ 3. After excising calcific mitral valve
- ✗ 4. While suturing lower angle of atriotomy

Q.20 According to AHA guideline 2020, what is C-A-B in CPR?

Ans
- ✗ 1. Care-Aid-Breathing
- ✗ 2. Care-Aid-Body
- ✗ 3. Circulation-Airway-Body
- ✓ 4. Circulation-Airway-Breathing

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Q.21 **A patient is operated for Double Valve Replacement. As a perfusionist, what venous cannulae will be given from your end to a surgeon who wants easy cannulation?**

Ans

✗ 1. Dual staged venous cannula

✓ 2. Right Angled reinforced cannula

✗ 3. Straight tip Wire-reinforced cannulae

✗ 4. Femoral venous Cannula

Q.22 **Which anaesthetic agent should not be used before or after bypass due to its insolubility in blood as it can enlarge systemic air bubbles?**

Ans

✓ 1. Nitrous Oxide

✗ 2. Sevoflurane

✗ 3. Isoflurane

✗ 4. Desflurane

Q.23 **During assembling the pump, what should be the sequence of pre CPB checklist?**

Ans

✗ 1. Setting up oxygenator→Assembling vent →Assembling suction→ pump loop

✓ 2. Setting up oxygenator →connecting water lines →Pump loops→gas exhaust unobstruct

✗ 3. Setting up oxygenator→ connecting pump loops→ gas exhaust unobstruct → connecting water lines

✗ 4. Setting up oxygenator→ → assembling vent→ assembling suction→ start priming

Q.24 **Post CPB, the surgeon observes the patient has face puffiness. What likely caused it?**

Ans

✓ 1. Cerebral edema due to inadequate cerebral perfusion

✗ 2. Hyovolemia

✗ 3. Systemic Inflammation

✗ 4. Hypothermia

Q.25 **Post CABG, during sternal wires there is sudden hypotension episode. What is NOT a suspected cause?**

Ans

✗ 1. Undetected valvular issue

✗ 2. Graft issue

✗ 3. Conduction issue

✓ 4. Air embolism

Q.26 **Which of the following is a chemical method of sterilisation?**

Ans

✗ 1. Ultraviolet radiation

✗ 2. Autoclaving

✗ 3. Dry heating

✓ 4. Ethylene oxide gas

Q.27 **A CPB set up is done for a patient with BSA of 1.8 m2 . An arterial filter has to be introduced in the circuit. What is the main consideration while choosing the arterial filter?**

Ans

✗ 1. Priming amount

✓ 2. Maximum rated flow

✗ 3. Pressure drop up to 50mm of Hg

✗ 4. Easy to assemble and deairing

Q.28 **How the X – Rays are produced in a normal X-Ray machine?**

Ans

✗ 1. super heating of an element

✗ 2. nuclear fusion

✓ 3. bombardment of cathode rays on a radioactive material

✗ 4. nuclear fission

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Q.29 To confirm sterility or fertility how many sperm analyses are needed?

Ans
- ✗ 1. 1
- ✗ 2. 4
- ✓ 3. 2
- ✗ 4. 3

Q.30 Which anticoagulant is commonly used for viral cultures but may inhibit the growth of gram-positive bacteria and yeast?

Ans
- ✗ 1. Sodium polyanethol sulphonate (SPS)
- ✗ 2. Ethylenediaminetetraacetic acid (EDTA)
- ✓ 3. Heparin
- ✗ 4. Citrate

Q.31 What is molarity of a solution?

Ans
- ✓ 1. Amount of solute (moles) divided by total volume of solution (litre)
- ✗ 2. Amount of solvent (atoms) divided by half volume of solution (kg)
- ✗ 3. Amount of solute (moles) divided by partial volume of solute (ml)
- ✗ 4. Amount of solute (moles) divided by total volume of solution (kilogram)

Q.32 _____ comes under Non-Invasive Ventilation.

Ans
- ✗ 1. Nasopharyngeal Ventilation
- ✗ 2. Tracheostomy Ventilation
- ✓ 3. BiPAP Ventilation
- ✗ 4. Endotracheal Ventilation

Q.33 Which of the following perioperative CPB features does not interfere with the recovery of the patient post-surgery?

Ans
- ✓ 1. Hemodilution
- ✗ 2. Elevated cross clamp time
- ✗ 3. Failure to arrest the heart completely
- ✗ 4. Early recovery of heart from cardioplegia

Q.34 A 3-year-old due to excessive crying goes in a syncope as a result of 'blue spell'. On examination the SpO2 is 75% with clubbed fingernails and the lips appear bluish. What is the likely diagnosis of this patient?

Ans
- ✗ 1. Patent Ductus Arteriosum
- ✗ 2. Ventricular Septal Defect
- ✗ 3. Atrial Septal Defect
- ✓ 4. Tetralogy of Fallot

Q.35 During CPB, in which sites is temperature monitoring recommended?

Ans
- ✗ 1. Nasala and Tympanic
- ✓ 2. Nasal and Rectal
- ✗ 3. Nasal
- ✗ 4. Rectal and Axillary

Q.36 A patient is brought to the OT with angina and hypotensive episode. What is the choice of opioid in the following case?

Ans
- ✗ 1. Codeine
- ✗ 2. Morphine
- ✓ 3. Fentanyl
- ✗ 4. Oxycodone

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Q.37 What happens to stroke volume and cardiac output if venous return is decreased?

Ans
- ✗ 1. They both increase.
- ✗ 2. Stroke volume decreases, cardiac output increases.
- ✗ 3. Stroke volume increases, cardiac output decreases.
- ✓ 4. They both decrease.

Q.38 A multiple level of left heart obstruction is found in the patient. The most important anomaly is the Supravalvar ring of left atrium along with other 3 anomalies. What is the suspected defect?

Ans
- ✗ 1. HLHS
- ✓ 2. Shone's anomaly
- ✗ 3. Hypoplastic Aorta
- ✗ 4. DOVR

Q.39 What is the function of liver in digestion?

Ans
- ✗ 1. Secretion of hydrochloric acid
- ✗ 2. Storage of vitamins
- ✓ 3. Production of bile
- ✗ 4. Secretion of digestive enzymes

Q.40 Which of the following does not affect urine output on bypass?

Ans
- ✗ 1. perfusion pressure
- ✗ 2. pulsatile flow
- ✓ 3. use of centrifugal pump
- ✗ 4. hemodilution

Q.41 A patient with Mitral regurgitation with BSA of 1.5 m2 is cannulated with 22Fr for SVC and 24Fr for IVC. However, there is very low venous return , no presence of air lock and the surgeon complains that is the heart is not emptying. What can be the explanation?

Ans
- ✗ 1. Needs vacuum assisted venous drainage
- ✗ 2. Malpositioning of the cannula
- ✗ 3. Due to MR leading to regurgitation
- ✓ 4. Due to cannulae size

Q.42 Which method is useful for sterilization of antisera?

Ans
- ✗ 1. Hot air oven
- ✗ 2. Autoclaving
- ✓ 3. Filtration
- ✗ 4. Tyndallization

Q.43 Which of the following perioperative CPB features does not interfere with the recovery of the patient post-surgery?

Ans
- ✗ 1. Failure to arrest the heart completely
- ✗ 2. Elevated cross clamp time
- ✓ 3. Hemodilution
- ✗ 4. Early recovery of heart from cardioplegia

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Q.44 A 3-month-old patient underwent Norwood-Santo procedure, the patient wasn't weaned off from CPB. After 8 hours on pump, surgeons suspect a dark arterial line. What is the cause of dark arterial line?

Ans
- ✗ 1. Poor anticoagulation
- ✗ 2. The procedure
- ✗ 3. Low flows
- ✓ 4. Plasma leak

Q.45 Which of the following is a simple method to prevent healthcare-associated infections?

Ans
- ✗ 1. Wearing masks
- ✓ 2. Hand hygiene
- ✗ 3. Wearing gloves
- ✗ 4. Wearing caps

Q.46 When a centrifugal pump is used, arterial outflow line must have:

Ans
- ✗ 1. Arterial filter
- ✗ 2. Bypass line
- ✗ 3. Bubble trap
- ✓ 4. Flow meter

Q.47 A 60-year-old was on an Intra-Aortic Blood Pump in the OT; however the augmentation changed due to changes in haemodynamic. Which factor lead to this change?

Ans
- ✗ 1. Preload
- ✗ 2. Hypovolemia
- ✗ 3. Afterload
- ✓ 4. Tachycardia

Q.48 During surgery, the surgeon requires an extra sump suction on table, but you spot small particles inside the covering which are residues of ETO and cause toxicity to the patient. What would be the likely cause of this?

Ans
- ✗ 1. Excessive heat in ETO
- ✓ 2. No Aeration post ETO
- ✗ 3. Excessive hours in ETO
- ✗ 4. Defective ETO Sterilizer

Q.49 According to Tayama and colleagues, what features should an ideal blood pump have for extracorporeal circulation?

Ans
- ✗ 1. Should not damage the cellular or acellular components of the blood, Should have smooth surfaces, Should require less priming, 7L/min against a pressure of 500 mmHg,Should require less priming
- ✗ 2. 7L/min against a pressure of 500 mmHg, Should deliver desired flows even after electric failure, Should have smooth surfaces, Shouls require minimal priming
- ✗ 3. Should deliver desired flows even after electric failure, Should have smooth surfaces, Should require less priming
- ✓ 4. 7L/min against a pressure of 500 mmHg, Should not damage the cellular or acellular components of the blood, Should have smooth surfaces

Q.50 Which of the following defects does NOT cause LVOT obstruction?

Ans
- ✗ 1. Aortic valve stenosis
- ✓ 2. Mitral Valve Stenosis
- ✗ 3. Coarctation of the aorta
- ✗ 4. Subaortic valve stenosis

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Q.51 In pedatric circuit which ultrafiltration technique is carried out for a patient under 15 kgs?

Ans
- ✗ 1. Prebypass Ultrafiltration
- ✗ 2. Conventional Ultrafiltration
- ✓ 3. Modified Ultrafiltration
- ✗ 4. Zero Ultrafiltration

Q.52 What is the primary cause of Volutrauma during mechanical ventilation?

Ans
- ✗ 1. Inadequate oxygenation
- ✗ 2. Excessive pressure
- ✓ 3. Excessive tidal volume
- ✗ 4. Increased respiratory rate

Q.53 The medical term 'atretic' pulmonary valve, denotes which of the following medical terminologies?

Ans
- ✗ 1. Transposition
- ✓ 2. Atresia
- ✗ 3. Regurgitation
- ✗ 4. Stenosis

Q.54 During peadatric complex surgeries, DHCA is performed. During Retrograde Cerebral Perfusion (RCP) which of the following steps is NOT correct?

Ans
- ✗ 1. Perfusion through isolated SVC cannula
- ✓ 2. IVC snugged
- ✗ 3. SVC pressure
- ✗ 4. Head low with head wrapped with ice

Q.55 The senior perfusionist insists on limited priming of the circuit. The reservoir is expected to be 'full' after going on pump. What is the suspected diagnosis?

Ans
- ✗ 1. Severe AS with mild AR, mild MR, normal LV function for AVR
- ✗ 2. TOF with severe PS
- ✗ 3. IHD with triple vessel disease
- ✓ 4. Moderate MS. Gross MR, severe TR, normal LV function for MVR

Q.56 As a perfusionist, what is the sequence of the set before on pump?

Ans
- ✗ 1. ACT>300 →Suction on → tap lines on high flow → switch off the pump → clamp venous line
- ✗ 2. Divide lines→tap lines on high flows→ switch off the pump →clamp venous line → suction on →ACT > 300
- ✗ 3. Suction on → tap lines on high flow → switch off the pump → clamp venous line→ ACT> 300
- ✓ 4. Tap lines on high flow→switchoff the pump→clamp venous line→ACT> 300 → divide lines → suction on

Q.57 Which of the following is a risk of keeping high PEEP in mechanical ventilation?

Ans
- ✗ 1. Hypothermia
- ✗ 2. Hypertension
- ✓ 3. Hypotension
- ✗ 4. Hyperthermia

Q.58 After chest closure, the pacing wires caused acute pericarditis. Which of the following is NOT a sign seen on ECG?

Ans
- ✗ 1. Inversion of T wave
- ✓ 2. ST segment showing concavity
- ✗ 3. ST elevation showing convexity
- ✗ 4. PR segment depression

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Q.59 What is the appropriate action if a specimen container is accidentally contaminated before collection?

Ans
- ✔ 1. Discard the container and use a new sterile one
- ✘ 2. Clean the container with alcohol and use it
- ✘ 3. Label the container as contaminated and process
- ✘ 4. Proceed with collection using the same container

Q.60 What is the primary goal when collecting a blood culture in the ICU?

Ans
- ✘ 1. To access electrolyte balances
- ✔ 2. To detect blood stream infections
- ✘ 3. To monitor glucose levels
- ✘ 4. To measure haemoglobin concentrations

Q.61 Pulsatile flow is associated with all of the following, EXCEPT,

Ans
- ✔ 1. Increased peripheral vascular resistance
- ✘ 2. Decreased metabolic acidosis
- ✘ 3. Increased delivery in nutrients
- ✘ 4. Increased cerebral and renal capillary perfusion

Q.62 Digital subtraction angiography (DSA) is primarily used for:

Ans
- ✘ 1. removing artifacts from imaging
- ✔ 2. detecting arterial blockages
- ✘ 3. visualising bone structures
- ✘ 4. enhancing soft tissue visibility

Q.63 The low-level alarm is a critical safety feature in CPB. Which feature is NOT true about the low-level alarm?

Ans
- ✘ 1. Will only resume after desired level is achieved
- ✔ 2. It is placed on the pump loop.
- ✘ 3. It is placed on the venous reservoir
- ✘ 4. Automatic Cessation of the pump if the low levels are detected

Q.64 If the innominate vein is absent or small, the perfusionist should be prepared for cannulation of the:

Ans
- ✘ 1. PA
- ✘ 2. RSPV
- ✔ 3. LSVC
- ✘ 4. Right Internal Jugular Vein

Q.65 The anaesthetic drug injected for paravertebral block is least likely to diffuse to the:

Ans
- ✘ 1. superior and inferior paravertebral space
- ✘ 2. epidural space
- ✘ 3. intercostals space
- ✔ 4. subarachnoid space

Q.66 During CPB, what is the best way to identify whether the pulsatile perfusion has been initiated?

Ans
- ✘ 1. Urine output
- ✔ 2. Pulse oximeter
- ✘ 3. Flow meter
- ✘ 4. Exchange of gases

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Q.67 Which cells are responsible for the production of antibodies?

Ans
- ✔ 1. B cells
- ✘ 2. Natural killer (NK) cells
- ✘ 3. Macrophages
- ✘ 4. T cells

Q.68 What is the normal glomerular filtration rate (GFR) in healthy adults?

Ans
- ✔ 1. 90-120 mL/min
- ✘ 2. 150-200 mL/min
- ✘ 3. 30 mL/min
- ✘ 4. 60 mL/min

Q.69 Hypothermia causes all of the following except:

Ans
- ✔ 1. Increased Urinary volume
- ✘ 2. Decreased pH of blood
- ✘ 3. Increased viscosity of blood
- ✘ 4. Decreased tissue Perfusion

Q.70 Which type of dryer is used for the drying of substances that are hygroscopic?

Ans
- ✔ 1. Vacuum dryer
- ✘ 2. Drum dryer
- ✘ 3. Fluidised bed dryer
- ✘ 4. Cabinet tray dryer

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