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

Test Date	30/04/2025
Test Time	12:45 PM - 2:15 PM
Subject	DIALYSIS TECHNICIAN

*** 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 **Which of the following is required for the thermal decomposition of calcium carbonate ($CaCO_3$)?**

Ans
✔ 1. Heat
✘ 2. Water
✘ 3. Light
✘ 4. Electricity

Q.2 **The Northern Plains of India are primarily formed by the deposition of sediments brought by three river systems. Which of the following river systems is NOT a major contributor to the formation of the Northern Plains?**

Ans
✔ 1. Narmada
✘ 2. Brahmaputra
✘ 3. Ganga
✘ 4. Indus

Q.3 **Which of the following organisations publishes the Human Development Report that includes the Human Development Index (HDI)?**

Ans
✘ 1. World Bank (WB)
✔ 2. United Nations Development Programme (UNDP)
✘ 3. Organisation for Economic Co-operation and Development (OECD)
✘ 4. International Monetary Fund (IMF)

Q.4 **Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.**

HSE : KOJ
BKW : EGB

Ans
✘ 1. JWS : MSY
✘ 2. IOL : LLQ
✘ 3. TCQ : XZV
✔ 4. UAN : XWS

Q.5 **The administrative and military reforms reflected the broader British strategy in India after the Revolt of 1857. Which of the following statements best captures the underlying rationale?**

Ans
✘ 1. The reforms sought to completely eliminate native influence by imposing direct European control in every sphere of life.
✘ 2. The reforms were solely aimed at boosting British military strength without any administrative changes.
✘ 3. The reforms focused exclusively on creating a participatory democratic system in India.
✔ 4. The reforms integrated local traditions with a strong centralised British administrative and military structure, thus minimising the risk of future uprisings.

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Q.6 Which Article of the Indian Constitution directs the state 'to secure and protect a social order in which justice—social, economic, and political—shall inform all the institutions of national life'?

Ans
- ✗ 1. Article 41
- ✓ 2. Article 38
- ✗ 3. Article 37
- ✗ 4. Article 39

Q.7 A concave mirror has a focal length of 20 cm. An object is placed at 30 cm in front of it. What is the image distance?

Ans
- ✓ 1. −60 cm
- ✗ 2. 30 cm
- ✗ 3. −30 cm
- ✗ 4. 60 cm

Q.8 What will come in the place of the question mark '(?)' in the following equation, if '+' and '–' are interchanged and '×' and '÷' are interchanged?

56 + 8 ÷ 36 × 6 − 13 = ?

Ans
- ✗ 1. 16
- ✗ 2. 48
- ✓ 3. 21
- ✗ 4. 25

Q.9 The volume of a solid cylinder is 54054 cm^3 and its height is 39 cm. What is the total surface area of the solid cylinder? (Nearest to an integer).

Ans
- ✗ 1. 7915 cm^2
- ✓ 2. 7920 cm^2
- ✗ 3. 7917 cm^2
- ✗ 4. 7933 cm^2

Q.10 Which of the following statements is INCORRECT regarding Harappan architecture?

Ans
- ✗ 1. Some large buildings, like warehouses for storage, were used for collective purposes.
- ✗ 2. Most Harappan cities seem to have been protected by fortifications.
- ✗ 3. Harappan cities had underground sewage system to take the waste water away.
- ✓ 4. All the Harappan houses were constructed without any use of bricks.

Q.11 Which of the following is CORRECTLY matched regarding the asexual reproduction?

Ans
- ✗ 1. Budding - Amoeba
- ✗ 2. Binary Fission - *Hydra*
- ✓ 3. Vegetative Propagation - Sugarcane
- ✗ 4. Spore Formation - Bryophyllum

Q.12 An element has an atomic number of 11. Based on this information, which of the following is correct?

Ans
- ✗ 1. It is a non-metal that gains electrons to form an anion.
- ✗ 2. It belongs to Group 17 and forms diatomic molecules.
- ✗ 3. It is a noble gas with a full outer shell.
- ✓ 4. It readily loses one electron to form a positive ion.

Q.13 Which category of workers is the primary focus of the Union Budget 2025's initiative to expand e-Shram registration?

Ans
- ✗ 1. Government employees
- ✓ 2. Gig and platform workers
- ✗ 3. Corporate professionals
- ✗ 4. Retired pensioners

Q.14 Based on the English alphabetical order, three of the following four letter clusters are alike in a certain way and thus form a group. Which pair DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster.)

Ans
- ✗ 1. PNL
- ✗ 2. KIG
- ✓ 3. OML
- ✗ 4. VTR

Q.15 15 bags and 15 pens together cost ₹1650, whereas 18 bags and 14 pens together cost ₹1680. The cost of 9 bags exceeds the cost of 2 pens by:

Ans
- ✓ 1. ₹165
- ✗ 2. ₹163
- ✗ 3. ₹166
- ✗ 4. ₹164

Q.16 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
All tips are nips.
No tip is a spike.

Conclusions:
(I): Some spikes are nips.
(II): All nips are spikes.

Ans
- ✗ 1. Only conclusion (II) follows
- ✗ 2. Only conclusion (I) follows
- ✗ 3. Both conclusions (I) and (II) follow
- ✓ 4. Neither conclusion (I) nor (II) follows

Q.17 A man sold an article for ₹293 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹1172, then what is the value of d?

Ans
- ✗ 1. 36.5
- ✓ 2. 37.5
- ✗ 3. 34.5
- ✗ 4. 40.5

Q.18 A refrigerator rated at 800 W operates for 24 hours/day. What is the cost of the energy required to operate it for 30 days at a rate of ₹8.00 per kW h?

Ans
- ✗ 1. ₹800
- ✗ 2. ₹3,200
- ✗ 3. ₹5,202
- ✓ 4. ₹4,608

Q.19 Which of the following Union Territories in India has a Legislative Assembly?

Ans
- ✗ 1. Lakshadweep Islands
- ✗ 2. Andaman and Nicobar Islands
- ✓ 3. Puducherry
- ✗ 4. Chandigarh

Q.20 Which sanctuary, located in the Indian state of Rajasthan, is known for ducks and herons?

Ans
- ✗ 1. Kelameru Bird Sanctuary
- ✓ 2. Keoladeo National Park
- ✗ 3. Periyar Sanctuary
- ✗ 4. Manas Sanctuary

Q.21 Which Indian cricketer was appointed as the Captain of the Delhi Capitals for the 2025 Indian Premier League (IPL) season?

Ans
- ✓ 1. Axar Patel
- ✗ 2. Rishabh Pant
- ✗ 3. Prithvi Shaw
- ✗ 4. Shreyas Iyer

Q.22 The magnification (m) of a spherical mirror is given by $m = -v/u$, where v and u are the image and object distances, respectively. Which of the following statements is correct?

Ans
- ✓ 1. If $|m|<1$, the image is diminished.
- ✗ 2. A negative magnification means that the image is virtual and erect.
- ✗ 3. The magnification is always positive for concave mirrors.
- ✗ 4. A positive magnification means that the image is real and inverted.

Q.23 In a conference meeting of professors from all over the country, eight members named Dr. L, Dr. M, Dr. N, Dr. O, Dr. P, Dr. Q, Dr. R and Dr. S were seated in a circular table facing centre. Dr. P was seated second to the left of Dr. S. Only two persons were seated between Dr. M and Dr. P. Dr. O and Dr. S were immediate neighbours. Dr. N was seated third to the left of Dr. S. Dr. Q was seated to the immediate right of Dr. S. Dr. M was seated second to the right of Dr. Q. Neither Dr. Q nor Dr. S was an immediate neighbour of Dr. L. What is the position of Dr. S with respect to Dr. R?

Ans
- ✗ 1. Fourth to the right
- ✓ 2. Second to the left
- ✗ 3. Third to the right
- ✗ 4. Third to the left

Q.24 During the electrolytic refining of copper, what happens to impurities like gold and silver present in the impure copper anode?

Ans
- ✗ 1. They get deposited as pure metal on the cathode.
- ✓ 2. They settle down as anode mud at the bottom of the cell.
- ✗ 3. They dissolve in the electrolyte and later react with copper ions.
- ✗ 4. They form a separate layer on the electrolyte surface.

Q.25 Which of the following is NOT correct regarding the cytoplasm?

Ans
- ✗ 1. The cell's organelles are enclosed by membrane
- ✗ 2. The cytoplasm contains all the cell's organelles
- ✓ 3. Cytoplasm is the fluid content inside the nuclear membrane
- ✗ 4. Cytoplasm is composed of water, salts, and various organic molecules

Q.26 When did the 4th edition of the Pan-India Coastal Defence Exercise, Sea Vigil-24, conclude?

Ans
- ✗ 1. 5 December 2024
- ✗ 2. 15 November 2024
- ✗ 3. 21 October 2024
- ✓ 4. 21 November 2024

Q.27 Komal and Bibha together can complete a work in 120 days. Bibha and Rita can complete the same work together in 160 days, and Rita and Komal can complete the same work together in 96 days. In how much time will all three of them complete that work together?

Ans
- ✗ 1. 90 days
- ✓ 2. 80 days
- ✗ 3. 70 days
- ✗ 4. 60 days

Q.28 Which of the following is NOT a simple permanent tissue?

Ans
- ✗ 1. Collenchyma
- ✗ 2. Sclerenchyma.
- ✗ 3. Parenchyma
- ✓ 4. Phloem

Q.29 What is the maximum value that must be assigned to A so that the 8-digit number 733A4101 is divisible by 3?

Ans
- ✗ 1. 3
- ✗ 2. 7
- ✗ 3. 5
- ✓ 4. 8

Q.30 Which of the following is CORRECT regarding voluntary muscle?

Ans
- ✗ 1. The cells of this tissue are spindle, unbranched and multinucleate
- ✓ 2. The cells of this tissue are cylindrical, unbranched and multinucleate
- ✗ 3. The cells of this tissue are cylindrical, unbranched and uninucleate
- ✗ 4. The cells of this tissue are cylindrical, branched and multinucleate

Section : **Professional Ability**

Q.1 Which of the following dialysate flow rate is appropriate for SLED?

Ans
- ✗ 1. 100-500mL/min
- ✓ 2. 100-300mL/min
- ✗ 3. 750 mL/min
- ✗ 4. 500 mL/min

Q.2 Which of the following indicates a possible complication at the vascular access site after dialysis?

Ans
- ✗ 1. Slight oozing that stops within 5 minutes
- ✗ 2. Soft, non-painful access site with steady bruit
- ✓ 3. Swelling, pain, and absence of thrill
- ✗ 4. Slight bruising around needle insertion

Q.3 Which component of a hemodialysis machine ensures that the dialysate composition remains within prescribed limits by measuring solute concentration?

Ans
- ✔ 1. Dialysate Conductivity Monitor
- ✘ 2. Ultrafiltration Control System
- ✘ 3. Blood Leak Detector
- ✘ 4. Air Detector

Q.4 The kidneys are located in which of the following regions of the abdomen?

Ans
- ✔ 1. Retroperitoneal region
- ✘ 2. Hypogastric region
- ✘ 3. Umbilical region
- ✘ 4. Epigastric region

Q.5 How is the dialysate mixture created in a hemodialysis machine?

Ans
- ✘ 1. By mixing water with sodium bicarbonate only
- ✔ 2. By using an automatic system that blends purified water with dialysate concentrate in the correct ratio
- ✘ 3. By manually mixing purified water with dialysate concentrate
- ✘ 4. By adding concentrated electrolytes directly to the blood

Q.6 Which of the following is a common feature of reversible cell injury?

Ans
- ✘ 1. Mitochondrial rupture
- ✔ 2. Cellular swelling
- ✘ 3. Irreversible membrane damage
- ✘ 4. Nuclear fragmentation

Q.7 Which drug is not eliminated during Haemodialysis ?

Ans
- ✔ 1. Amlodipine
- ✘ 2. Minoxidil
- ✘ 3. Atenolol
- ✘ 4. Captopril

Q.8 Which of the following is the most commonly prescribed anticoagulant for continuous renal replacement therapy (CRRT)?

Ans
- ✘ 1. Warfarin
- ✔ 2. Unfractionated heparin (UFH)
- ✘ 3. Low-molecular-weight heparin (LMWH)
- ✘ 4. Citrate

Q.9 What is the most appropriate management for a pseudoaneurysm in an AV fistula that is not rapidly expanding or causing symptoms?

Ans
- ✔ 1. Observation and avoidance of cannulation at the aneurysm site
- ✘ 2. Placement of a stent graft
- ✘ 3. Immediate surgical resection
- ✘ 4. Ligation of the AV fistula

Q.10 Which of the following is TRUE regarding Type B (nonspecific) dialyzer reactions?

Ans
- ✘ 1. They usually occur within the first 5 minutes of initiating dialysis.
- ✘ 2. They are most commonly caused by ethylene oxide residues in reused dialyzers.
- ✔ 3. They typically present with chest or back pain and are less severe than Type A reactions.
- ✘ 4. Complement activation has been definitively proven as the underlying cause.

Q.11 **In dialysis patients who are receiving mechanical ventilation, which of the following is a primary concern when managing their respiratory and renal functions?**

Ans

✔ 1. Mechanical ventilation can cause fluid overload, affecting dialysis treatment.

✘ 2. Mechanical ventilation has no effect on dialysis adequacy.

✘ 3. Increasing positive end-expiratory pressure (PEEP) is recommended to improve dialysis efficiency.

✘ 4. Ventilator settings are unrelated to acid-base balance in dialysis patients.

Q.12 **What is the recommended daily protein intake for a CAPD patients?**

Ans

✘ 1. 0.9g/kg of body weight

✘ 2. 1.8-2.5g/kg of body weight

✘ 3. 0.5g/kg of body weight

✔ 4. 1.2-1.3g/kg of body weight

Q.13 **Sustained Low Efficiency Dialysis is mainly used in**

Ans

✘ 1. Nephrolithiasis

✔ 2. Acute kidney failure in critically ill patients

✘ 3. Pediatric patients

✘ 4. Chronic renal failure

Q.14 **Which of the following is the basic building block of proteins?**

Ans

✘ 1. Nucleotides

✘ 2. Monosaccharides

✘ 3. Fatty acids

✔ 4. Amino acids

Q.15 **Which component of dialysate is responsible for regulating blood PH during dialysis?**

Ans

✘ 1. Chloride

✘ 2. Magnesium

✘ 3. Sodium

✔ 4. Bicarbonate

Q.16 **When locking dialysis catheters with heparin, how is the amount of locking solution determined for uncuffed and cuffed catheters?**

Ans

✘ 1. A standard dose based on patient weight is used in catheter

✘ 2. A fixed volume of 2 mL in each lumen is used in each catheter

✘ 3. A 1000iu units of dose is infused in each lumen of catheter

✔ 4. The volume is based on the prescribed volume marked on the catheter

Q.17 **Which kidney condition occurs in smokers, resembles diabetic nephropathy in biopsy, but is seen in patients without glucose intolerance?**

Ans

✘ 1. Focal segmental glomerulosclerosis (FSGS)

✔ 2. Smoking-associated nodular glomerulosclerosis

✘ 3. Hypertensive nephrosclerosis

✘ 4. Membranous nephropathy

Q.18 **What is the primary purpose of continuous biosignal monitoring during haemodialysis?**

Ans

✘ 1. To enhance dialysis purification rate

✘ 2. To monitor dialysis effectiveness

✔ 3. To predict and prevent haemodynamic complications like hypotension and arrhythmias

✘ 4. To reduce the frequency of dialysis sessions

Q.19 Horseshoe kidney is most commonly fused at which pole?

Ans
- ✗ 1. Upper pole
- ✓ 2. Lower pole
- ✗ 3. Middle pole
- ✗ 4. Pelvis

Q.20 Which opportunistic infection is most common in HIV- Positive patients undergoing dialysis?

Ans
- ✓ 1. Pneumocystis Jirovecii pneumonia
- ✗ 2. Escherichia coli
- ✗ 3. Bacterial infection
- ✗ 4. Streptococcal pharyngitis

Q.21 Which of the following factors can significantly influence Blood Urea Nitrogen (BUN) levels in dialysis patients?

Ans
- ✗ 1. Ambient room temperature during testing
- ✗ 2. Patient's age
- ✗ 3. Time of day the test is performed
- ✓ 4. Recent high protein intake and hydration status

Q.22 Management of anaemia in patients undergoing dialysis?

Ans
- ✗ 1. Increase the duration of dialysis
- ✗ 2. Vitamin B12
- ✗ 3. Start corticosteroids for red blood cell production
- ✓ 4. Administer erythropoiesis-stimulating agents (ESAs) and iron supplementation

Q.23 What is the primary purpose of a blood leak detector in a haemodialysis machine?

Ans
- ✗ 1. To regulate dialysate temperature
- ✓ 2. To detect small amounts of blood in the dialysate outflow line
- ✗ 3. To ensure adequate ultrafiltration
- ✗ 4. To monitor blood pressure during dialysis

Q.24 Why might patients on peritoneal dialysis require increased doses of insulin or blood glucose–lowering therapy?

Ans
- ✗ 1. Because dialysis removes insulin from the blood
- ✗ 2. Because peritoneal dialysate decreases blood glucose levels
- ✓ 3. Due to insulin resistance and glucose absorption from hypertonic dialysate
- ✗ 4. Due to decreased appetite and weight loss

Q.25 Which of the following is the preferred first-line site for creating an arteriovenous fistula (AVF) for hemodialysis access?

Ans
- ✗ 1. Brachiobasilic transposition
- ✓ 2. Radiocephalic at the wrist
- ✗ 3. Forearm prosthetic graft
- ✗ 4. Axillo-axillary graft

Q.26 Why is the Blood Urea Nitrogen (BUN) test commonly performed in patients undergoing dialysis?

Ans
- ✗ 1. To assess liver function
- ✓ 2. To evaluate kidney function and dialysis effectiveness
- ✗ 3. To monitor glucose levels
- ✗ 4. To measure electrolyte balance

Q.27 **Which of the following is a key feature of contemporary cycler machines used in Automated Peritoneal Dialysis (APD)?**

Ans
- ✗ 1. Only one preset exchange time
- ✗ 2. Manual control of flow rates during dialysis
- ✓ 3. Use of hydraulic pumps to deliver solution
- ✗ 4. Gravity-dependent solution delivery

Q.28 **What is the primary consequence of access recirculation during hemodialysis?**

Ans
- ✗ 1. Decreased dialysis time
- ✓ 2. Overestimation of Urea Reduction Ratio (URR) and spKt/V
- ✗ 3. Increased urea removal
- ✗ 4. Improved dialysis adequacy

Q.29 **A 36 year patient with lupus on dialysis has AV graft failure. Biopsy shows thrombosis. Lab investigations should show suspected _____.**

Ans
- ✓ 1. Antiphospholipid syndrome
- ✗ 2. Uraemia
- ✗ 3. Lupus nephritis
- ✗ 4. Nephrotic syndrome

Q.30 **Which of the following is the drug of choice for ventricular fibrillation in a cardiac arrest situation**

Ans
- ✓ 1. Amiodarone
- ✗ 2. Atropine
- ✗ 3. Verapamil
- ✗ 4. Lidocaine

Q.31 **Which of the following is a key requirement for the power system in hemodialysis machines due to the long duration of the dialysis process and the variety of components requiring power?**

Ans
- ✓ 1. AC-line powered with multiple-output switching regulators
- ✗ 2. Power supply that does not require cooling
- ✗ 3. No self-monitoring features
- ✗ 4. A single-output power supply

Q.32 **Which blood vessels are responsible for carrying oxygen-rich blood from the lungs to the heart?**

Ans
- ✗ 1. Vena cava
- ✓ 2. Pulmonary veins
- ✗ 3. Coronary arteries
- ✗ 4. Pulmonary arteries

Q.33 **An essential part of infection control practices and a key measure in preventing nosocomial infections is:**

Ans
- ✗ 1. Wearing surgical caps
- ✗ 2. Administering antibiotics to all patients
- ✗ 3. Using air fresheners in wards
- ✓ 4. Using Antiseptics and disinfectants

Q.34 Which condition is characterised by the progressive degeneration of arterial walls, often associated with ageing and hypertension?

Ans
- ✔ 1. Arteriosclerosis
- ✘ 2. Atherosclerosis
- ✘ 3. Aneurysm
- ✘ 4. Thrombosis

Q.35 In a dialysis unit, the dialyzer and tubing used for haemodialysis are disposed of in which color-coded bag?

Ans
- ✘ 1. Yellow
- ✔ 2. Red
- ✘ 3. White (translucent)
- ✘ 4. Blue

Q.36 Proteins are formed by the polymerization of amino acids through peptide bonds. What is formed when only a few amino acids are linked together?

Ans
- ✔ 1. Oligopeptide
- ✘ 2. Proteins
- ✘ 3. Peptides
- ✘ 4. Polypeptides

Q.37 If the pre dialysis Blood Urea is 60 mg/dL and the same post dialysis 18 mg/dL, what is the URR?

Ans
- ✘ 1. 80%
- ✘ 2. 62%
- ✘ 3. 52%
- ✔ 4. 70%

Q.38 Which peritoneal dialysis modality is used in urgent situations involving uremia or fluid overload, commonly referred to as 'urgent-start PD'?"

Ans
- ✘ 1. NIPD
- ✘ 2. Automated PD
- ✔ 3. Acute PD
- ✘ 4. CAPD

Q.39 What indicates the presence of residual formalin when using Schiff's reagent?

Ans
- ✘ 1. Blue colour
- ✘ 2. Yellow colour
- ✘ 3. No colour change
- ✔ 4. Red or violet colour

Q.40 Which of the following best defines osmosis in the context of renal dialysis?

Ans
- ✔ 1. The movement of solvent (water) from an area of low solute concentration to an area of high solute concentration across a semi-permeable membrane.
- ✘ 2. The movement of solutes from an area of low concentration to an area of high concentration across a semi-permeable membrane.
- ✘ 3. The active transport of solutes across the dialysis membrane using ATP.
- ✘ 4. The passive movement of solutes from the blood into the dialysate due to a pressure gradient.

Q.41 What is the primary principle behind the blood path integrity test in dialyzer safety checks in automated reuse?

Ans
- ✗ 1. To know fiber bundle volume
- ✓ 2. To avoid blood leaks
- ✗ 3. To avoid air-embolism
- ✗ 4. To find Kt/V

Q.42 Why is lowering β2-microglobulin levels important in dialysis patients?

Ans
- ✗ 1. To prevent clotting
- ✓ 2. To lower morbidity and mortality
- ✗ 3. To improve fluid balance
- ✗ 4. To reduce infection risk

Q.43 What is the primary renal lesion found in both chronic analgesic nephropathy and heavy metal nephropathy?

Ans
- ✓ 1. Chronic interstitial nephritis
- ✗ 2. Glomerulonephritis
- ✗ 3. Acute tubular necrosis
- ✗ 4. Renal artery stenosis

Q.44 Which medication is used to treat hypotension during dialysis?

Ans
- ✗ 1. Furosemide
- ✗ 2. Spironolactone
- ✓ 3. Midodrine
- ✗ 4. Metoprolol

Q.45 According to the Association for the Advancement of Medical Instrumentation (AAMI) standards, what is the maximum allowable total viable bacterial count in water used for hemodialysis?

Ans
- ✗ 1. <100 CFU/mL
- ✓ 2. <200 CFU/mL
- ✗ 3. <50 CFU/mL
- ✗ 4. <500 CFU/mL

Q.46 During Plasmapheresis, calcium monitoring is essential due to the risk of:

Ans
- ✓ 1. Citrate induced hypocalcemia
- ✗ 2. Hyponatremia
- ✗ 3. Hypokalemia
- ✗ 4. Hypophosphatemia

Q.47 How often should the cleaning in a surface cleaning machine be replaced?

Ans
- ✓ 1. After every shift
- ✗ 2. once a month
- ✗ 3. Every day
- ✗ 4. Once a week

Q.48 Which of the following methods helps avoid the impact of access recirculation on URR or spKt/V during dialysis?

Ans
- ✗ 1. Increasing the dialysate flow
- ✓ 2. Slowing the blood pump to below the access flow rate for 10–20 seconds
- ✗ 3. Drawing blood from the venous line
- ✗ 4. Stopping the blood pump immediately before blood sampling

Q.49 What is the primary purpose of disinfecting dialysis machines according to the manufacturer's recommendations?

Ans
- ✗ 1. To reduce the cost of dialysis treatments
- ✗ 2. To maintain the temperature of the dialysis fluid
- ✗ 3. To improve the efficiency of the dialyzer during treatment
- ✓ 4. To prevent the growth of bacteria and endotoxins in the Hydraulic system

Q.50 What is another term for the brand name of a drug?

Ans
- ✓ 1. Trade name
- ✗ 2. Scientific name
- ✗ 3. Chemical name
- ✗ 4. Generic name

Q.51 A gradual rise in venous pressure with normal arterial pressure during HD is most commonly due to:

Ans
- ✗ 1. Air in the dialyzer
- ✓ 2. Clotting in the dialyzer or venous chamber
- ✗ 3. Dialysate flow error
- ✗ 4. Hemolysis

Q.52 Which endocrine gland is responsible for regulating metabolism?

Ans
- ✗ 1. Pituitary gland
- ✓ 2. Thyroid gland
- ✗ 3. Adrenal gland
- ✗ 4. Pancreas

Q.53 Leukocytes move along chemical gradients toward sites of inflammation in a process known as:

Ans
- ✗ 1. Chemomigration
- ✓ 2. Chemotaxis
- ✗ 3. Chemotrophy
- ✗ 4. Phagocytosis

Q.54 According to AAMI dialysis water quality standards, what are the maximum allowable limits for bacterial count and endotoxin levels in water used for dialysis?

Ans
- ✗ 1. <200 cfu/mL and <0.5 eu/mL
- ✗ 2. <50 cfu/mL and <0.125 eu/mL
- ✗ 3. <200 cfu/mL and <0.05 eu/mL
- ✓ 4. <100 cfu/mL and <0.25 eu/mL

Q.55 The formula for ultrafiltration (UF) rate in dialysis is:

Ans
- ✗ 1. UF rate =QD × KF/V
- ✗ 2. UF rate = QD × Blood flow rate
- ✓ 3. UF rate= Kf × TMP
- ✗ 4. UF rate =TMP × Dialyzer surface area

Q.56 Which of the following factors enhances solute removal by diffusion during dialysis?

Ans
- ✓ 1. Increasing dialysate solute concentration gradient
- ✗ 2. Decreasing dialysate flow rate
- ✗ 3. Decreasing dialyzer membrane thickness
- ✗ 4. Using high molecular weight solutes

Q.57 Who in the dialysis team is mainly responsible for the patient's nutritional assessment and guidance?

Ans
- ✔ 1. Renal Dietitian
- ✘ 2. Nephrologist
- ✘ 3. Social Worker
- ✘ 4. Dialysis Technician

Q.58 Which of the following is the most common cause for initiating emergency hemodialysis in patients with acute kidney injury?

Ans
- ✘ 1. Pulmonary edema
- ✘ 2. Severe metabolic acidosis (pH < 7.0)
- ✘ 3. Uremic encephalopathy
- ✔ 4. Hyperkalemia (K^+ > 7.0 mmol/L)

Q.59 Which fluid is commonly used for priming the dialyzer circuit before initiating dialysis?

Ans
- ✘ 1. Dextrose solution
- ✘ 2. Normal saline 0.45%
- ✔ 3. Normal saline 0.9%
- ✘ 4. Distilled water

Q.60 What is the recommended serological test to assess dialysis hepatitis B vaccine active in dialysis patients?

Ans
- ✔ 1. Anti – HBs
- ✘ 2. Anti-HBc
- ✘ 3. HBe- Ag
- ✘ 4. HBsAg

Q.61 Which of the following monitoring parameters on a hemodialysis (HD) machine is most critical to assess and prevent hemolysis during dialysis treatment?

Ans
- ✘ 1. Transmembrane pressure
- ✔ 2. Dialysate temperature
- ✘ 3. Ultrafiltration rate
- ✘ 4. Blood flow rate

Q.62 What type of vascular has the highest risk of infection?

Ans
- ✔ 1. Non-Tunneled catheter
- ✘ 2. AV graft
- ✘ 3. AV fistula
- ✘ 4. Tunneled catheter

Q.63 Which of the following is not the type of synthetic membrane?

Ans
- ✔ 1. Cellulosic
- ✘ 2. Polyacrylonitrile
- ✘ 3. Polysulfone
- ✘ 4. Polyethersulfone

Q.64 What is the preferred approach to anticoagulation in CRRT for patients with thrombocytopenia?

Ans
- ✔ 1. Citrate anticoagulation
- ✘ 2. Anticoagulation-free
- ✘ 3. Normal heparin anticoagulation
- ✘ 4. Low-dose heparin anticoagulation

Q.65 Heparin free dialysis is commonly used in:

Ans
- ✗ 1. Patients on anticoagulation therapy
- ✗ 2. Outpatient dialysis
- ✗ 3. Patients with high clotting tendency
- ✓ 4. Patients with recent surgery or active bleeding

Q.66 Why is it important to test for residual formalin in dialyzers before reuse?

Ans
- ✗ 1. To prevent clotting in the dialyzer
- ✗ 2. To ensure correct blood flow rate
- ✓ 3. To avoid patient exposure to toxic levels of formaldehyde
- ✗ 4. To improve dialysate conductivity

Q.67 Which of the following is the most common type of kidney stone found in patients with urolithiasis?

Ans
- ✗ 1. Struvite stone
- ✓ 2. Calcium oxalate stone
- ✗ 3. Cystine stone
- ✗ 4. Uric acid stone

Q.68 Which of the following is most commonly associated with peritonitis in peritoneal dialysis (PD) patients?

Ans
- ✗ 1. Headache
- ✗ 2. Back pain
- ✗ 3. Chest pain
- ✓ 4. Abdominal pain

Q.69 What is the basic functional unit of the nervous system?

Ans
- ✗ 1. Dendrite
- ✗ 2. Axon
- ✗ 3. Synapse
- ✓ 4. Neuron

Q.70 Which of the following is a recognized genetic cause of tubulointerstitial nephritis with autosomal dominant inheritance?

Ans
- ✗ 1. WT1 gene mutation
- ✓ 2. MUC1 gene mutation
- ✗ 3. Alport syndrome
- ✗ 4. Fabry disease