BunkPoint MOCK TEST

RRB Paramedical (Dialysis Technician) CBT 1 2026 Mock Test 1

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Anatomy

Q.1–10 | 10 questions

Q.1 Which statement correctly describes blood flow through the glomerular capillary bed?

(A) Blood enters by the afferent arteriole and leaves by the efferent arteriole

(B) Blood enters by the efferent arteriole and leaves by the afferent arteriole

(C) Blood enters by the afferent arteriole and drains directly into a venule

(D) Blood enters by the interlobular vein and leaves by the arcuate artery

Q.2 Tenderness elicited in the angle between the 12th rib and the vertebral column suggests renal inflammation. What is this angle called?

(A) Infrasternal angle

(B) Lumbosacral angle

(C) Costovertebral angle

(D) Sternal angle

Q.3 The trigone of the urinary bladder is marked by the openings of which structures?

(A) Two ureteric orifices and the opening of the urachus

(B) Two ureteric orifices and the opening of the vas deferens

(C) Two ureteric orifices and the openings of both seminal vesicles

(D) Two ureteric orifices and the internal urethral orifice

Q.4 Which statement about arteries used to create an arteriovenous fistula in the arm is correct?

(A) The axillary artery is the usual inflow vessel for a wrist fistula

(B) The brachial artery is the usual inflow vessel for an elbow fistula

(C) The radial artery is the usual inflow vessel for an upper arm fistula

(D) The subclavian artery is the usual inflow vessel for an elbow fistula

Q.5 Which statement about the juxtaglomerular apparatus is correct?

(A) Granular cells sense sodium chloride delivery in distal tubular fluid

(B) Podocytes sense sodium chloride delivery in distal tubular fluid

(C) Principal cells sense sodium chloride delivery in distal tubular fluid

(D) Macula densa cells sense sodium chloride delivery in distal tubular fluid

Q.6 At which vertebral level do the renal arteries arise from the abdominal aorta?

(A) T10 to T11 **(B)** L1 to L2 **(C)** L3 to L4 **(D)** L5 to S1

Q.7 Which statement about the peritoneum is correct in the context of peritoneal dialysis?

(A) The parietal layer covers the bowel and the visceral layer lines the abdominal wall

(B) The cavity encloses the kidneys and ureters within its parietal layer on both sides

(C) The cavity lies between parietal and visceral layers, which are lined by mesothelium

(D) The lining is a keratinised squamous epithelium that has no capillary blood supply

Q.8 Lymph from the kidney drains first to which group of nodes?

(A) Lateral aortic (para-aortic) nodes **(B)** Superficial inguinal nodes

(C) External iliac nodes **(D)** Coeliac nodes

Q.9 Which statement about the position of the kidneys in an adult is correct?

(A) The right kidney lies slightly lower than the left owing to the liver above it

(B) The left kidney lies slightly lower than the right owing to the spleen above it

(C) Both kidneys lie inside the peritoneal cavity from the T10 to the L1 vertebra

(D) Both kidneys extend from the L3 to the S1 vertebral level behind the peritoneum

Q.10 An elderly man has hesitancy and a weak urinary stream. Which anatomical relation best explains this?

(A) The prostate lies above the bladder neck, so enlargement compresses both ureters

(B) The prostate surrounds the proximal urethra, so enlargement narrows the lumen

(C) The prostate surrounds the membranous urethra, so enlargement narrows the lumen

(D) The prostate lies behind the rectum, so enlargement narrows the external meatus

Biochemistry and Pharmacology

Q.11–22 | 12 questions

Q.11 Which drug is used to reverse the anticoagulant effect of heparin?

(A) Phytomenadione (vitamin K) **(B)** Tranexamic acid

(C) Desmopressin **(D)** Protamine sulfate

Q.12 Which adverse effect is most characteristic of erythropoiesis-stimulating agents in dialysis patients?

(A) Fall in blood pressure with a slow pulse and fainting

(B) Fall in white cell count with recurrent infections

(C) Rise in blood pressure and worsening of hypertension

(D) Rise in serum calcium with recurrent kidney stones

Q.13 A dialysis patient on calcitriol develops nausea, thirst and confusion. Which laboratory change should be suspected?

(A) Hypocalcaemia **(B)** Hyponatraemia **(C)** Hypercalcaemia **(D)** Hypoglycaemia

Q.14 First-pass metabolism of most orally taken drugs occurs mainly in which organ?

(A) Kidney **(B)** Lung **(C)** Spleen **(D)** Liver

Q.15 Which statement about aminoglycoside nephrotoxicity is correct?

(A) Injury to proximal tubular cells, reduced by monitoring drug levels closely

(B) Afferent arteriolar constriction, reduced by stopping prostaglandin inhibitors

(C) Crystal blockage of the collecting ducts, reduced by acidifying the urine

(D) Immune complex deposits in the glomeruli, reduced by corticosteroids

Q.16 A patient with advanced CKD is started on spironolactone. Which electrolyte disturbance is of greatest concern?

(A) Hypokalaemia
(B) Hyperkalaemia
(C) Hypercalcaemia
(D) Hypophosphataemia

Q.17 Which phosphate binder contains no calcium?

(A) Calcium acetate
(B) Calcium carbonate
(C) Sevelamer
(D) Calcium citrate

Q.18 A drug is excreted mainly unchanged by the kidney. What adjustment is appropriate in a patient with a GFR below 15 mL/min?

(A) Give the usual dose because the liver offsets the loss of renal clearance
(B) Increase the dose so that the plasma level stays in the usual range
(C) Give the usual dose and review the drug level after one month
(D) Reduce the dose or lengthen the dosing interval, guided by drug levels

Q.19 Which statement about heparin-induced thrombocytopenia (HIT) in a dialysis patient is correct?

(A) Platelet count falls 5 to 10 days after starting heparin, and heparin is stopped
(B) Platelet count rises 5 to 10 days after starting heparin, so the dose is doubled
(C) Platelet count falls within minutes of the first dose, so protamine is given with it
(D) Platelet count falls with standard heparin, so a low molecular weight heparin is safe

Q.20 A man with CKD takes ibuprofen for knee pain and his creatinine rises. What is the main mechanism?

(A) Crystal deposition in the collecting ducts, blocking urine flow through the tubules
(B) Loss of prostaglandin-mediated afferent arteriolar dilatation, lowering glomerular filtration
(C) Immune complex deposition in the glomerular basement membrane, causing nephritic injury
(D) Dilatation of the efferent arteriole, lowering glomerular capillary hydrostatic pressure

Q.21 Which statement about urea is correct?

(A) It is the main end product of protein nitrogen metabolism and is formed in the liver

(B) It is formed in the kidney from creatine and is excreted unchanged in the urine

(C) It is the end product of purine breakdown and causes gout when its blood level is raised

(D) It is formed in muscle from creatine phosphate at a nearly constant daily rate

Q.22 Serum creatinine is a useful marker of renal function because creatinine is

(A) produced mainly in the liver in proportion to the dietary protein intake of the day

(B) produced by renal cells in proportion to the glomerular filtration rate of the person

(C) reabsorbed in the proximal tubule so that its level mainly reflects tubular function

(D) produced from muscle creatine at a fairly constant rate and cleared mainly by filtration

Physiology

Q.23–34 | 12 questions

Q.23 Which pair of normal haemoglobin ranges for adult males and females is correct?

(A) Males 8 to 10 g/dL; females 7 to 9 g/dL

(B) Males 12 to 15 g/dL; females 13 to 17 g/dL

(C) Males 13 to 17 g/dL; females 12 to 15 g/dL

(D) Males 18 to 22 g/dL; females 16 to 20 g/dL

Q.24 Which feature of the descending limb of the loop of Henle helps create the medullary osmotic gradient?

(A) It is impermeable to water and actively pumps sodium into the medullary interstitium

(B) It is permeable to water but has few sodium transporters, so tubular fluid becomes concentrated

(C) It is permeable to water and actively pumps sodium into the medullary interstitium

(D) It is impermeable to water and permeable to urea, so tubular fluid becomes dilute

Q.25 A resting patient has a heart rate of 80 beats/min and a stroke volume of 70 mL. What is the cardiac output?

(A) 5.6 L/min **(B)** 56 L/min **(C)** 0.56 L/min **(D)** 1.1 L/min

Q.26 How does the body compensate through breathing for metabolic acidosis?

(A) Shallow slow breathing raises $PaCO_2$ and lowers pH

(B) Deep rapid breathing lowers $PaCO_2$ and raises pH

(C) Deep rapid breathing raises $PaCO_2$ and lowers pH

(D) Shallow slow breathing lowers $PaCO_2$ and raises pH

Q.27 Para-aminohippuric acid (PAH) clearance estimates renal plasma flow because PAH is

(A) filtered and completely reabsorbed, so nothing is left to appear in the final urine

(B) filtered but neither reabsorbed nor secreted, so it measures the filtration rate

(C) filtered and almost completely secreted, so little remains in renal venous blood

(D) bound to plasma proteins and not filtered, so it measures the total plasma volume

Q.28 Antidiuretic hormone (ADH) is released from which structure?

(A) Anterior pituitary **(B)** Adrenal cortex

(C) Juxtaglomerular cells **(D)** Posterior pituitary

Q.29 During micturition, which structure is under voluntary control?

(A) External urethral sphincter, through the pudendal nerve

(B) Detrusor muscle, through the pelvic splanchnic nerves

(C) Internal urethral sphincter, through the hypogastric nerve

(D) Trigone muscle, through the lumbar splanchnic nerves

Q.30 A patient with advanced uraemia has prolonged bleeding after needle removal despite a normal platelet count. What is the most likely cause?

(A) Deficiency of factor VIII caused by reduced renal synthesis of the factor

(B) Fall in platelet count caused by marrow suppression during dialysis

(C) Raised serum calcium that inhibits the coagulation cascade in the plasma

(D) Impaired platelet adhesion and aggregation caused by uraemic toxins

Q.31 Approximately how much blood flows through both kidneys per minute in a resting adult?

(A) 300 mL/min **(B)** 600 mL/min **(C)** 1200 mL/min **(D)** 2500 mL/min

Q.32 Diffusion of a solute across a semipermeable membrane occurs from a region of

(A) low solute concentration to high solute concentration

(B) high solute concentration to low solute concentration

(C) high hydrostatic pressure to low hydrostatic pressure

(D) low osmolality to high osmolality across the membrane

Q.33 Which hormone lowers serum calcium by inhibiting osteoclastic bone resorption?

(A) Parathyroid hormone **(B)** Calcitriol

(C) Calcitonin **(D)** Aldosterone

Q.34 A patient with primary hyperaldosteronism is most likely to show which combination of findings?

(A) Sodium loss with hypotension and high serum potassium

(B) Sodium retention with hypertension and low serum potassium

(C) Sodium retention with hypotension and high serum potassium

(D) Sodium loss with hypertension and low serum potassium

Introduction to Kidney Diseases

Q.35–48 | 14 questions

Q.35 A 50-year-old dialysis patient has fatigue and a haemoglobin of 8.5 g/dL with a normal MCV. Which cause is the most important?

(A) Dietary deficiency of vitamin B12 over several years

(B) Autoimmune destruction of red cells in the spleen

(C) Chronic bleeding from a peptic ulcer into the gut

(D) Reduced erythropoietin production by the diseased kidneys

Q.36 Which statement about dietary protein recommendations for metabolically stable adults is correct?

(A) Intake of 1.0 to 1.2 g/kg/day is advised on maintenance haemodialysis, above predialysis targets

(B) Intake of 1.0 to 1.2 g/kg/day is advised in non-dialysis CKD stages 3 to 5 before dialysis

(C) Intake below 0.3 g/kg/day is advised for patients on maintenance haemodialysis therapy

(D) Protein intake is kept at the same level both before and after maintenance dialysis starts

Q.37 Which statement about urinary tract infection is correct?

(A) Staphylococcus aureus is the commonest cause; fever with flank pain points to cystitis

(B) Escherichia coli is the commonest cause; fever with flank pain points to pyelonephritis

(C) Proteus species are the commonest cause; fever with flank pain points to cystitis

(D) Escherichia coli is the commonest cause; dysuria without fever points to pyelonephritis

Q.38 Which symptom is typical of the uraemic syndrome in advanced kidney failure?

(A) Profuse sweating with tremor

(B) Heat intolerance with weight loss

(C) Photophobia with double vision

(D) Persistent itching of the skin

Q.39 Long-standing uncontrolled hypertension typically produces which finding on renal ultrasound?

(A) Small, shrunken kidneys with increased echogenicity

(B) Enlarged kidneys containing many cysts of varying size

(C) Unilateral hydronephrosis with markedly dilated calyces

(D) Enlarged kidneys with normal cortical echogenicity

Q.40 An 8-year-old boy develops cola-coloured urine, a puffy face and hypertension two weeks after a sore throat. Which laboratory finding is most expected?

(A) Normal C3 with strongly positive anti-dsDNA antibodies

(B) Raised serum C3 with a negative antistreptolysin O titre

(C) Low serum C3 with a raised antistreptolysin O titre

(D) Urine protein above 3.5 g/day with low serum albumin

Q.41 Acute kidney injury caused by bilateral ureteric obstruction from stones is classified as

(A) Prerenal AKI

(B) Postrenal AKI

(C) Intrinsic renal AKI

(D) Chronic kidney disease

Q.42 Which sequence correctly explains the development of secondary hyperparathyroidism in CKD?

(A) Phosphate loss and high calcitriol raise serum calcium, which stimulates PTH release

(B) Phosphate retention and low calcitriol raise serum calcium, which suppresses PTH release

(C) Phosphate retention and low calcitriol lower serum calcium, which stimulates PTH release

(D) Phosphate loss and low calcitriol lower serum calcium, which suppresses PTH release

Q.43 Which condition is the leading cause of chronic kidney disease worldwide?

(A) Chronic pyelonephritis

(B) Polycystic kidney disease

(C) Renal stone disease

(D) Diabetes mellitus

Q.44 Which investigation first confirms obstruction in suspected postrenal acute kidney injury?

(A) Renal ultrasound showing hydronephrosis

(B) Urine culture showing heavy bacterial growth

(C) Serum creatinine trend over two days

(D) Twenty-four hour urine protein estimation

Q.45 Which combination defines nephrotic syndrome in an adult?

(A) Haematuria with hypertension, oliguria and red cell casts

(B) Proteinuria below 1 g/day with raised serum albumin and oedema

(C) Pyuria with dysuria, fever and flank pain on palpation

(D) Proteinuria above 3.5 g/day with hypoalbuminaemia and oedema

Q.46 Which glomerular disease is the commonest cause of nephrotic syndrome in children and responds well to corticosteroids?

(A) IgA nephropathy

(B) Minimal change disease

(C) Membranous nephropathy

(D) Post-streptococcal glomerulonephritis

Q.47 Which statement about hydronephrosis is correct?

(A) Dilatation of the renal pelvis and calyces caused by obstruction of urine outflow

(B) Dilatation of the glomerular capillaries caused by raised renal venous pressure

(C) Shrinkage of the renal pelvis and calyces caused by chronic bacterial infection

(D) Cystic expansion of the renal cortex and medulla caused by inherited tubular defects

Q.48 Why can an ACE inhibitor precipitate acute kidney injury in bilateral renal artery stenosis?

(A) It constricts the afferent arteriole, so renal blood flow falls sharply

(B) It blocks distal tubular sodium reabsorption, so volume depletion develops

(C) It dilates the efferent arteriole, so glomerular filtration pressure falls

(D) It raises aldosterone release, so sodium and water are retained excessively

Principles and Practice of Dialysis

Q.49–70 | 22 questions

Q.49 A patient with CKD stage 5 has an eGFR of 9 mL/min. According to KDOQI guidance, how should the decision to start dialysis be made?

(A) Start immediately at an eGFR below 15 mL/min, whatever the clinical symptoms

(B) Delay until the eGFR has fallen to below 2 mL/min, whatever the symptoms

(C) Start when uraemic symptoms or fluid overload appear, not by eGFR alone

(D) Start after urine output has stopped completely, whatever the eGFR value

Q.50 During heparinised haemodialysis, the activated clotting time (ACT) is usually kept at about what level?

(A) Kept equal to the starting baseline value

(B) 1.5 to 2 times the baseline value

(C) 4 to 5 times the baseline value

(D) 8 to 10 times the baseline value

Q.51 On arrival for dialysis, a patient's forearm fistula has no thrill or bruit, and the arm is painful and swollen. What is the correct action?

(A) Do not cannulate, and refer urgently to the nephrology or vascular access team

(B) Cannulate with a larger-bore needle to try to restore flow through the fistula

(C) Apply a warm compress and cannulate after thirty minutes if the arm improves

(D) Massage the fistula firmly for several minutes and then cannulate the vein

Q.52 Which finding at the bedside indicates a functioning arteriovenous fistula?

(A) A hard pulseless vein with no sound on auscultation

(B) A cold pale hand with an absent thrill at the anastomosis

(C) A warm red tender vein with discharge at the needle site

(D) A palpable thrill with a continuous bruit on auscultation

Q.53 A newly started patient with a very high urea level develops headache, nausea and seizures near the end of dialysis. What is the most likely cause?

(A) Air entering the venous line and travelling to the cerebral circulation

(B) Hyperkalaemia caused by too little potassium removal during dialysis

(C) Rapid fall in plasma urea, causing an osmotic shift of water into brain cells

(D) Haemolysis caused by overheated dialysate and release of potassium

Q.54 Fluid removal during haemodialysis is achieved mainly by which process?

(A) Diffusion driven by a sodium concentration gradient across the membrane

(B) Osmosis driven by a glucose concentration gradient across the membrane

(C) Adsorption driven by binding of plasma water to the membrane surface

(D) Ultrafiltration driven by a hydrostatic pressure gradient across the membrane

Q.55 How is exhaustion of the activated carbon filter in a dialysis water treatment plant detected?

(A) By measuring total chlorine in the water leaving the carbon bed

(B) By measuring the hardness of the water leaving the carbon bed

(C) By measuring conductivity of the water leaving the carbon bed

(D) By measuring the pressure drop across the sediment filter ahead of the pump

Q.56 In peritoneal dialysis, which structure acts as the dialysing membrane?

(A) Visceral pleura

(B) Peritoneum

(C) Greater omentum

(D) Renal fascia

Q.57 After removing the fistula needles, which action is correct to stop bleeding from the puncture sites?

(A) Tie a tight bandage around the whole arm and leave it in place for one hour

(B) Apply gentle direct pressure over the site until bleeding stops, keeping the thrill

(C) Apply firm pressure strong enough to abolish the thrill until bleeding stops

(D) Bend the elbow and leave a pad on the site without applying pressure

Q.58 Dialysis encephalopathy has been linked to contamination of dialysis water with which element?

(A) Chloramine **(B)** Copper **(C)** Aluminium **(D)** Fluoride

Q.59 In a dialyzer the blood inlet pressure is 150 mmHg and the blood outlet pressure is 250 mmHg, while the dialysate compartment pressure is −50 mmHg. What is the transmembrane pressure?

(A) 250 mmHg **(B)** 200 mmHg **(C)** 150 mmHg **(D)** 350 mmHg

Q.60 Which statement about the reverse osmosis (RO) unit in a dialysis water plant is correct?

(A) It removes chlorine and chloramine from the water by adsorption onto activated carbon granules

(B) It exchanges calcium and magnesium for sodium so that scale does not form inside the machine

(C) It filters particles above five microns so that the downstream pumps are protected from damage

(D) It forces water through a semipermeable membrane under pressure and rejects most ions, bacteria and endotoxin

Q.61 What is the usual dialysate temperature in routine haemodialysis?

(A) 32 to 33°C **(B)** 34 to 35°C **(C)** 36 to 37°C **(D)** 40 to 41°C

Q.62 Which vascular access is suitable for emergency use over a few days to two weeks?

(A) Non-tunnelled central venous catheter

(B) Tunnelled cuffed central venous catheter

(C) Native radiocephalic arteriovenous fistula

(D) Synthetic forearm arteriovenous graft

Q.63 A patient with active gastrointestinal bleeding needs haemodialysis. Which approach reduces clotting in the circuit without heparin?

(A) A larger heparin bolus given immediately before starting the session

(B) Periodic saline flushes of the circuit with a high blood flow rate

(C) A low blood flow rate chosen to reduce shear stress on the blood

(D) A high ultrafiltration rate to concentrate the blood in the circuit

Q.64 For patients on thrice-weekly haemodialysis, what is the minimum delivered single-pool Kt/V per session recommended by KDOQI?

(A) 0.8 **(B)** 1.0 **(C)** 1.4 **(D)** 1.2

Q.65 Which statement about the buttonhole cannulation technique is correct?

(A) Needles are inserted at a different site each session, rotating along the length of the fistula

(B) Needles are inserted directly into the arterial anastomosis to improve blood flow

(C) Needles are inserted at a steep ninety degree angle to the skin over the fistula vein

(D) Needles are inserted at the same site, angle and depth each session to form a track

Q.66 What is the main purpose of priming the extracorporeal circuit before dialysis?

(A) To warm the blood to body temperature before the patient is connected

(B) To remove air and fill the dialyzer and blood lines with saline

(C) To test the blood leak detector using dialysate from the machine

(D) To sterilise the dialyzer using heated dialysate before each session

Q.67 A patient has a predialysis serum potassium of 7.0 mmol/L. Which dialysate potassium concentration is generally chosen?

(A) A low concentration, such as 1 to 2 mmol/L, to create a removal gradient

(B) A high concentration, such as 5 to 6 mmol/L, to protect the heart rhythm

(C) A potassium-free bath so that the potassium is removed as quickly as possible

(D) A concentration equal to the plasma level of 7 mmol/L, to prevent sudden shifts

Q.68 Which modality is most suitable for a haemodynamically unstable patient with acute kidney injury in intensive care?

(A) Standard four hour intermittent haemodialysis at a high blood flow

(B) Rapid high volume intermittent ultrafiltration without dialysis

(C) Continuous renal replacement therapy, such as CVVH or CVVHD

(D) Haemoperfusion over a charcoal cartridge for several hours

Q.69 Which statement about locking a tunnelled haemodialysis catheter between sessions is correct?

(A) Each lumen is left empty and capped so that no solution can enter the circulation

(B) Each lumen is flushed with 20 mL of saline and then left unclamped between sessions

(C) Each lumen is filled to the marked volume with an anticoagulant or antimicrobial lock

(D) Each lumen is filled with several times the marked volume to ensure complete coverage

Q.70 In a haemodialyzer, how do blood and dialysate usually flow relative to each other?

(A) Opposite directions, which maintains the concentration gradient along the whole membrane

(B) The same direction, which keeps the concentration gradient constant along the membrane

(C) Perpendicular directions, which reduces the risk of clotting inside the fibres

(D) Alternating directions each minute, which prevents protein build-up on the membrane

Get the Answers with Explanations

RRB Paramedical (Dialysis Technician) CBT 1 2026 Mock Test 1

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