BABA FARID UNIVERSITY OF HEALTH SCIENCES,FARIDKOT

Cardiac Cath Lab Tech.
(under Baba Farid University of Health Sciences)

QUESTION BOOKLET NO

OMR ANSWER SHEET NO

ROLL NO:

ESSION OF THE CANDIDATE

FULL SIGNATURE OF THE CANDIDATE

Co-ordinator stamp

FULL SIGNATURE OF INVIGILATOR

Time Allowed: 1:00 Hour (12:00 Noon to 01:00 PM) Maximum Marks: 50

1. Use BLACK FINE TIP BALL PEN only. Use of pencil is not allowed.
2. Write your Roll number on the OMR answer-sheet and also on the question-booklet only in the space provided for the purpose and at no other place in the question booklets and Answer-sheet
3. Enter the Question Booklet Set and Number on the OMR Answer-sheet and also darken the corresponding bubbles with BLACK FINE TIP BALL PEN.
4. Do not put any marks anywhere in the Question booklet /on the OMR Answer-sheet.
5. **There are 50 objective type questions in all of 1 Mark each.** Before attempting the questions. check that the Question-booklet is complete. In case any question/part of question or page is missing, inform the Centre Superintendent within 5 minutes of the start of the examination. After that no claim will be entertained.
6. **Each question is followed by four alternative responses listed as A), B), C) and D) out of which only one is correct / most correct. In case, all the ovals are left blank, there will be deduction of marks @ 0.25 mark for each such unattempted question. Fifth oval 'E' (introduced for security purpose) is to be darkened in case you do not want to attempt the question to avoid negative marking.**
7. To open the question booklet. remove the seal gently when asked to do so. Handover the OMR Answer-sheet to the officer on duty on the completion of the time before you leave the examination hall.
8. **The candidates are permitted to carry his/her question booklet after completion of the examination but OMR Sheets are compulsory required to be deposited with the invigilator.**
9. A candidate who create disturbance of any kind or changes his/her seat or is found in possession of any paper possibility of any assistance to him/her or unfair means will be expelled from the examination by the Centre superintendent/Observer. whose decision shall be final. ("Expulsion" for this purpose would mean cancellation of the entire examination of the candidate).
10. THE CANDIDATES ARE NOT PERMITTED TO CARRY ANY TELECOMMUNICATIION EQUIPMENT SUCH AS WATCH. CELLULAR PHONE. WIRELESS SET. SCANNER ETC. INSIDE THE EXAMINATION HALL.
11. For rough work. use only the blank space of the Question booklet.
12. The candidates will not be allowed to leave the examination hall during the examination.
13. Borrowing any material is not allowed.
14. The answer-sheet is designed for Computer evaluation. If the instructions are not followed properly, the candidate alone shall be responsible for the resultant loss.
15. Smoking/Refreshment shall not be allowed in the Entrance Test Centre/Hall.
16. Male candidates shall affix their Left Thumb Impression (LTI) while Female candidates shall affix Right Thumb Impression (RTI) at the prescribed place on the OMR answer sheet, Question Booklet and attendance sheet. The Centre superintendent shall also obtain and retain it for record.
17. The candidate must fill both the question booklet number and OMR answer sheet number on the attendance sheet.
18. No candidate shall be allowed to leave the centre before **01:00 PM**.

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1. The definition of mean arterial pressure (MAP) may be written as:
    a. MAP = stroke volume × heart rate
    b. MAP = (diastolic pressure + systolic pressure) ÷ 2
    c. MAP = cardiac output × peripheral resistance
    d. MAP = diastolic pressure + pulse pressure

2. The heart can be made to beat faster by which of the following?
    a. Sympathetic stimulation of the SA node
    b. Sympathetic stimulation of the AV node
    c. Parasympathetic stimulation of the SA node
    d. Parasympathetic stimulation of the AV node

3. In haemostasis, which molecule polymerises to become the insoluble blood clot?
    a. Factor X
    b. Thrombin
    c. Fibrin
    d. Plasmin

4. Which of the following descriptions refers to the "pulmonary circulation"?
    a. From aorta arteries to arterioles to systemic capillaries to venules to veins
    b. From coronary arteries to arterioles to capillaries to anterior cardiac veins and coronary sinus
    c. From the right ventricle arteries to arterioles to alveolar capillaries to venules to veins
    d. From capillaries to interstitial fluid to cells and lymph and back again

5. Which are the two most common types of white blood cells?
    a. Neutrophils and lymphocytes
    b. Erythrocytes and neutrophils
    c. Neutrophils and eosinophils
    d. Monocytes and lymphocytes

6. Cardiac muscle cells differ from skeletal muscle cells in that:
    a. Skeletal muscle cells are voluntary but cardiac muscle cells are not.
    b. Skeletal muscle cells are branched but cardiac muscle cells are not.
    c. Cardiac muscle cells are multinucleate but skeletal muscle cells are not.
    d. Cardiac muscle cells are a syncytium, while skeletal muscle cells are not.

7. One of the following is not a inotropic drug. Which one?
    a. dobutamine
    b. nitroglycerin
    c. Epinephrine (adrenaline)
    d. Nor epinephrine

8. Which statement below about vitamin K is true?
    a. It is water soluble.
    b. It is essential for prothrombin production by the liver.
    c. It is part of the "extrinsic pathway" of formation of prothrombin activator.
    d. It destroys fibrin so allowing a clot to gradually dissolve.

9. What is the outermost layer of the heart wall known as?
    a. Epicardium
    b. Pericardium
    c. Parietal membrane
    d. Endocardium

10. A person's blood group is determined by:
    a. The agglutinogens circulating in their plasma
    b. The antigens on the surface of their red blood cells
    c. The antibodies on the surface of their red blood cells
    d. The agglutinins circulating in their plasma

11. This structure temporarily shunts blood from the pulmonary trunk into the aorta in a fetus.
    a. Fossa ovalis
    b. Foramen ovale
    c. Trabeculae carnae
    d. Ductus arteriosus

12. In an ECG paper each large square equals _____ in height.
    a. 0.04 mv
    b. 0.1 mv
    c. 0.5 mv
    d. 0.20 mv

13. The standard speed for recording ECG is _____ mm/sec.
    a. 60 mm/sec
    b. 25 mm/sec
    c. 50 mm/sec
    d. 75 mm/sec

14. Ventricular repolarization is represented by ?
    a. ST segment
    b. T wave
    c. U wave
    d. ST-T-U complex

15. PR interval is related to ?
    a. Atrial musculature conduction
    b. AV node
    c. AV junction area
    d. All of the above

16. ECG Lead V6 is placed at ?
    a. Anterior axillary line
    b. Midaxillary line
    c. Posterior axillary line
    d. Scapular line

17. ECG leads aVR, aVL, and aVF are called ?
    a. Unipolar leads
    b. Bipolar leads
    c. Tripolar leads
    d. Multipolar leads

18. Lead aVF records the actual potential in
    a. Right Arm
    b. Left Arm
    c. Right Foot
    d. Left Foot

19. How to calculate the target heart rate of a patient, to stop the Tread mill test ?
    a. 210-age
    b. 220-age
    c. 300-age
    d. 320-age

20. In an electrocardiograph flow of current perpendicular to lead shows _____deflection.
    a. Positive
    b. Biphasic
    c. Negative
    d. No change

21. The range of ultrasound frequency used for echocardiography is
    a. 20 to 20000 Hz
    b. Above 20 KHz
    c. Below 20 Hz
    d. 2.5 to 10 MHz

22. Which type of transducer is used in Echocardiography ?
    a. Inductive Transducer
    b. Piezoelectric Transducer
    c. Thermoelectric Transducer
    d. Photoelectric Transducer

23. In echocardiography which type of signals are used in paediatric cases ?
    a. Low frequency ultrasonic signals
    b. Medium frequency ultrasonic signals
    c. High frequency ultrasonic signals
    d. None of the above

24. Which test is performed before radial artery catheterisation, to assess patency of radial and ulnar arteries ?
    a. Allen Test
    b. Barbeau Test
    c. Both
    d. None

25. A patient with an acute coronary syndrome i s given a variety of cardiovascular drugs as he i s being readied for transport to the "cath lab" for possible placement of a One of the meds i s abciximab. What best describes the mechanism of action of this drug?
    a. Blocks thrombin receptors selectively
    b. Blocks ADP receptors
    c. Blocks glycoprotein IIb/IIIa_receptors
    d. Inhibits cyclooxygenase

26. Which among the following drug is not a coronary artery Dilator ?
    a. Adenosine
    b. Ergonovine
    c. Nitroprusside
    d. Verapamil

27. What is the limit for maximum patient weight for the X-ray table on which patient is positioned in cath lab ?
    a. 180 kg
    b. 250 kg
    c. 325 kg
    d. 450 kg

28. Approximately how long manual compression be applied after sheath removal for attaining hemostasis
    a. 2 minutes per sheath size in F
    b. 8 minutes per sheath size in F
    c. 10 minutes per sheath size in F
    d. 5 minutes per sheath size in F

29. The number of holes in a Multipurpose Catheter(MPA1)
    a. An end hole only
    b. An end hole and 2 side holes
    c. An end hole and 4 side holes
    d. An end hole and 5 side holes

30. Normal TIMI Frame Count for LAD artery is
    a. 36
    b. 28
    c. 15
    d. 18

31. Which LV wall is not seen in a 30 degree RAO view during standard left ventriculography ?
    a. High lateral
    b. Anterior
    c. Septal
    d. Inferior

32. Which angiographic projection is used to demonstrate shunt through ASD after injecting dye into pulmonary artery ?
    a. LAO cranial
    b. AP cranial
    c. RAO cranial
    d. RAO caudal

33. Which of the following contrast is iso-osmolar non-ionic dimer ?
    a. Lopamidol
    b. Iodixanol
    c. Ioxaglate
    d. Iohexol

34. Total pulmonary resistance is calculated as
    a. (Mean PA pressure – Mean LA pressure)/CO
    b. (PA systolic pressure – Mean LA pressure)/CO
    c. Mean PA pressure/CO
    d. PVR/Body surface area

35. What percentage of electrical energy provided to the tube is eventually converted to X-ray ?
    a. 0.2 to 0.6%
    b. 2 to 6%
    c. 20 to 60%
    d. 10 – 20%

36. The initial current used for defibrillation using biphasic defibrillator for treating VF is
    a. Unsynchronised 200 J
    b. Synchronised 200 J
    c. Unsynchronised 360 J
    d. Synchronised 360 J

37. During IABP, balloon inflation should occur at
    a. R wave of ECG
    b. Tidal wave of aortic tracing
    c. ST segment of ECG
    d. Dicrotic notch of aortic tracing

38. Which of the following patient benefit from IABP ?
    a. Acute aortic regurgitation with pulmonary oedema and hypotension
    b. Acute aortic dissection with coronary occlusion
    c. Acute MI with cardiogenic shock and VSR
    d. All the above

39. Considering its effect on augmenting circulation, which among the following give"complete support" ?
    a. IABP
    b. ECMO
    c. TandemHeart
    d. Impella

40. Optical Coherance Tomography (OCT) is a catheter based imaging system that uses_____ for imaging.
    a. Ultrasound
    b. X-ray
    c. Gamma radiation
    d. NIR light

41. Chronic Total Occlusion (CTO) is defined as known duration of coronary occlusionmore than
    a. One month
    b. Three months
    c. Six months
    d. One year

42. The tip stiffness in g of Cross-It 100 wire is
    a. 1.7 g
    b. 6 g
    c. 2 g
    d. 10 g

43. A minute of cine is essentially equivalent to _____ minutes of fluoroscopy.
    a. 5 minutes
    b. 10 minutes
    c. 2 minutes
    d. 6 minutes

44. Regarding retroperitoneal hematoma, which of the following is/are correct statements ?
    a. Occur when femoral artery is punctured below inguinal ligament
    b. Mortality rate is 25%
    c. Deformed urinary bladder in fluoroscopy
    d. All are correct

45. Hepatoclavicular view is
    a. 70 degree LAO, 30 degree cranial
    b. 45 degree LAO, 45 degree cranial
    c. 15 degree LAO, 30 degree cranial
    d. 15 degree LAO, 15 degree cranial

46. Cut off value for normal ankle brachial index is
    a. > 0.9
    b. > 0.7
    c. > 0.6
    d. > 0.4

47. The radiation exposure to cath lab technician is much less than that of the operator in a given case. The basis for the statement is
    a. Wein's law
    b. Planck radiation law
    c. Inverse square law
    d. Stefan-Boltzmann law

48. What is the maximum occupational radiation limit for an invasive cardiologist ?
    a. 10 rem per year
    b. 5 rem per year
    c. 15 rem per year
    d. 20 rem per year

49. Which angiographic view leads to greatest amount of radiation exposure to the operator ?
    a. RAO caudal
    b. RAO cranial
    c. LAO cranial
    d. LAO caudal

50. Resting coronary flow diminishes when the stenosis severity is
    a. ≥50%
    b. ≥ 60%
    c. ≥70%
    d. ≥90%

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ANSWER KEY				
Recruitment test conducted on 22/01/2025 for post of Cardiac Cath Lab Tech. under BFUHS, Faridkot				
1	C		26	B
2	A		27	B
3	C		28	D
4	C		29	A
5	A		30	A
6	A		31	C
7	B		32	A
8	B		33	B
9	B		34	C
10	B		35	A
11	D		36	A
12	C		37	D
13	B		38	C
14	D		39	B
15	C		40	D
16	B		41	B
17	A		42	A
18	D		43	B
19	B		44	C
20	B		45	C
21	D		46	A
22	B		47	C
23	C		48	B
24	C		49	C
25	C		50	D