

BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

Echo Technician

(under Baba Farid University of Health Sciences, Faridkot)

QUESTION BOOKLET NO

IMPRESSION OF THE CANDIDATE

OMR ANSWER SHEET NO

ROLL NO:

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 TELECOMMUNICATION 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.**

1. Echocardiography is essentially
 - a. Ultrasound of the heart.
 - b. Echoing sound of the heart .
 - c. Another name for a treadmill test.
 - d. Recording of heart sounds.

2. The property by which crystals transform electrical current of changing voltage into mechanical vibrations or ultrasound waves is called
 - A. Bernoulli effect .
 - B. Doppler shift.
 - C. Acoustic effect.
 - D. Piezoelectric effect .

3. The distance travelled by sound in one cycle of rise and fall is called as
 - A. frequency
 - B. Velocity
 - C. Wavelength
 - D. Speed

4. The probe used for imaging the heart during echocardiography is
 - A. Linear probe
 - B. Phase Array probe
 - C. Curvilinear probe .
 - D. Endocavitary probe

5. Doppler imaging utilizes ultrasound waves reflected back from moving
 - A. Ions
 - B. Platelets
 - C. WBC
 - D. RBC

6. The relationship between propagation speed ,frequency and wavelength is given by the formula:
 - A. Propagation speed=frequency x wavelength
 - B. Propagation speed= wavelength/ frequency
 - C. Propagation speed= frequency /wavelength
 - D. Propagation speed wavelength x period

7. Determination of regurgitant orifice area by the proximal isovelocity surface area (PISA) method is based on
 - A. Law of conservation of mass .
 - B. Law of conservation of energy.
 - C. Law of conservation of momentum.
 - D. Jet momentum analysis.

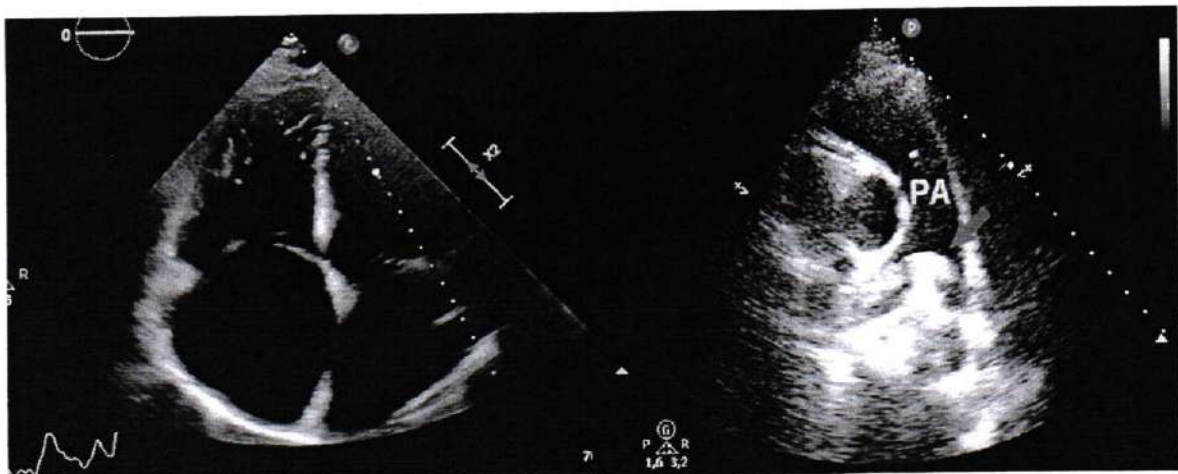
8. Type of sound used in medical imaging is
 - A. Audible sound
 - B. Infrasound
 - C. Ultrasound.
 - D. High pitch sound.

9. Contraindications of Transesophageal echo are ?
- A. Esophageal perforation
 - B. Active upper GI bleed
 - C. Coagulopathy
 - D. All of the above
10. PRF stands for
- A. Pulse reinforcement Factor .
 - B. Periodic Repetition factor.
 - C. Pulse Repetition Frequency
 - D. Periodic reinforcement factor.
11. Echo features of Pulmonary HTN are all except ?
- A. Dilated RA and RV
 - B. Pulmonary regurgitation
 - C. D shaped ventricle
 - D. Dilated LV
12. Aliasing occurs in which type of imaging ?
- A. Pulsed wave Doppler .
 - B. Continuous wave Doppler.
 - C. None of the above .
 - D. Both of the above.
13. KIRKLIN Classification is used to classify
- A. ASD on basis of location
 - B. VSD on basis of location
 - C. ASD on basis of size
 - D. VSD on basis of size
14. The Nyquist limit can be increased by
- A. Increasing transducer frequency .
 - B. Reducing transducer frequency .
 - C. Reducing filter.
 - D. None of the above.
15. Sound travels faster in a medium with which of the following characters?
- A. High density, low stiffness.
 - B. Low density, high stiffness.
 - C. High density , high stiffness .
 - D. Low density, low stiffness.
16. All of the following structures are seen in parasternal long axis view except
- A. Left ventricle
 - B. Aorta
 - C. Right atrium
 - D. Left atrium

17. The apical 4 Chamber view visualizes all except
- A. Right ventricle
 - B. Right atrium
 - C. Left ventricle
 - D. Pulmonary artery
18. Pulmonary artery hypertension is defined as when mean pulmonary artery pressure is greater than
- A. 15mmHg
 - B. 10 mmHg
 - C. 25 mm Hg
 - D. 40 mmHg
19. Following are the potential complications of aortic valve endocarditis?
- A. Aortic root abscess
 - B. Pyogenic pericarditis
 - C. Anterior mitral leaflet perforation
 - D. All of the above .
20. All of the following are standard views for echocardiography except ;
- A. Parasternal
 - B. Apical
 - C. Substernal
 - D. Subcoastal
21. In Apical 4 chamber view ,the marker points towards?
- A. Chin of the patient
 - B. left shoulder
 - C. Right shoulder
 - D. Horizontal
22. In Doppler study ,the blood flow towards the probe is depicted by which colour?
- A. Red
 - B. Blue
 - C. Green
 - D. Yellow
23. Which of the following are applications of colour Doppler?
- A. Stenotic lesions
 - B. Regurgitant lesions
 - C. Intracardiac shunts
 - D. All of the above
24. Which additional structure is seen in Apical 5 chamber view with respect to Apical 4 chamber view?
- A. Pulmonary artery
 - B. LV outflow tract
 - C. IVC
 - D. RV outflow tract

25. Subcoastal view is preferred over transthoracic view in which of the following?
- A. Pulmonary emphysema
 - B. Chronic Kidney disease
 - C. Coronary artery disease
 - D. Right sided pleural effusion
26. Which structure is better visualized in TEE as compared to TTE?
- A. Left atrial appendage
 - B. Mitral valve
 - C. LV outflow tract
 - D. Tricuspid valve
27. Which of the following is not a feature of DCMP?
- A. Global hypokinesia
 - B. Rare involvement of right ventricle
 - C. Dilatation of all 4 chambers of heart.
 - D. Increased LV end systolic and end diastolic dimensions.
28. TAPSE is used to assess
- A. Mitral inflow
 - B. LV systolic function
 - C. RV systolic function
 - D. Regurgitant velocity
29. TEE stands for ?
- A. Total echoic echocardiography
 - B. Transesophageal echocardiography
 - C. Total energy emissions
 - D. None of the above
30. In Parasternal long axis view ,the marker points towards ?
- A. Right shoulder of the patient .
 - B. Left shoulder of the patient .
 - C. Vertical
 - D. Horizontal
31. Echo features of concentric LVH are all except ?
- A. Increased thickness of IVS and Posterior wall .
 - B. Increased LV mass
 - C. Decreased thickness of IVS and Posterior wall
 - D. Decreased LV cavity size.
32. The most common metastatic malignant tumour of heart is?
- A. Melanoma
 - B. Lung cancer
 - C. Breast cancer
 - D. Renal cancer

33. Features of Tetralogy of Fallot are all except?
 A. Overriding aorta
 B. Pulmonary stenosis
 C. RV hypertrophy
 D. ASD
34. Heart failure with normal ejection fraction can occur in the following except?
 A. Hypertrophic cardiomyopathy
 B. Cardiac amyloid
 C. DCMP
 D. Restrictive cardiomyopathy
35. Common cause of Aortic stenosis in 50 year old individual is?
 A. Calcific
 B. Bicuspid aortic valve
 C. Unicuspid aortic valve
 D. Rheumatic heart disease
36. Signs of acute aortic regurgitation includes
 A. Premature mitral valve closure .
 B. Hyperdynamic LV functions
 C. Normal LV size
 D. All of the above
37. Image quality on the ultrasound scan is dark throughout. What is the first step to take?
 A. Increase receiver gain
 B. Decrease receiver gain
 C. Change to high frequency transducer
 D. Change to low frequency transducer.
38. A patient known case of Carcinoma ovary diagnosed 2 years ago comes to emergency with complaint of breathlessness which is sudden in onset. ECG shows sinus tachycardia. Emergency 2D Echo shows the following images ,probable diagnosis?
 A. Infective Endocarditis
 B. Dilated cardiomyopathy
 C. Pericardial effusion
 D. Pulmonary thromboembolism



39. Most common congenital heart disease is

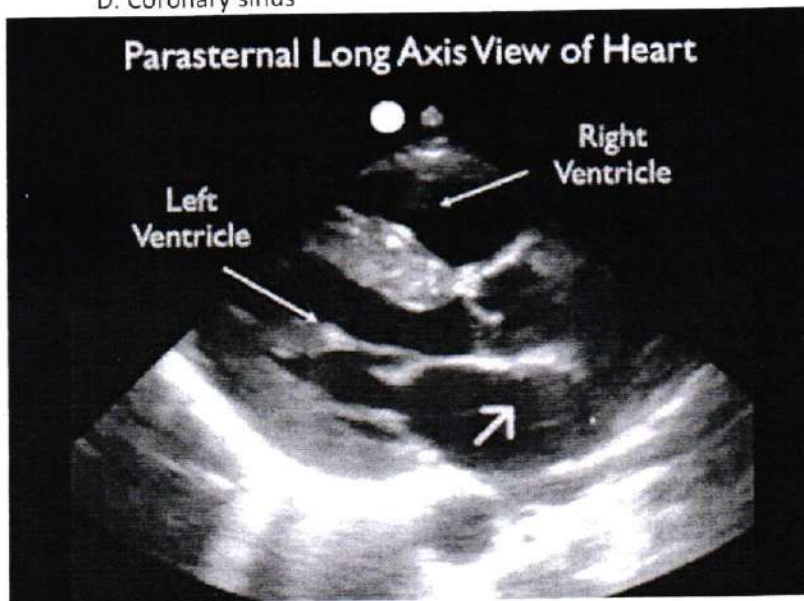
- A. ASD
- B. VSD
- C. PDA
- D. TOF

40. Which of the following are contraindication of Stress echocardiography ?

- A. Acute aortic dissection
- B. Acute myocardial infarction
- C. Unstable angina pectoralis
- D. All of the above.

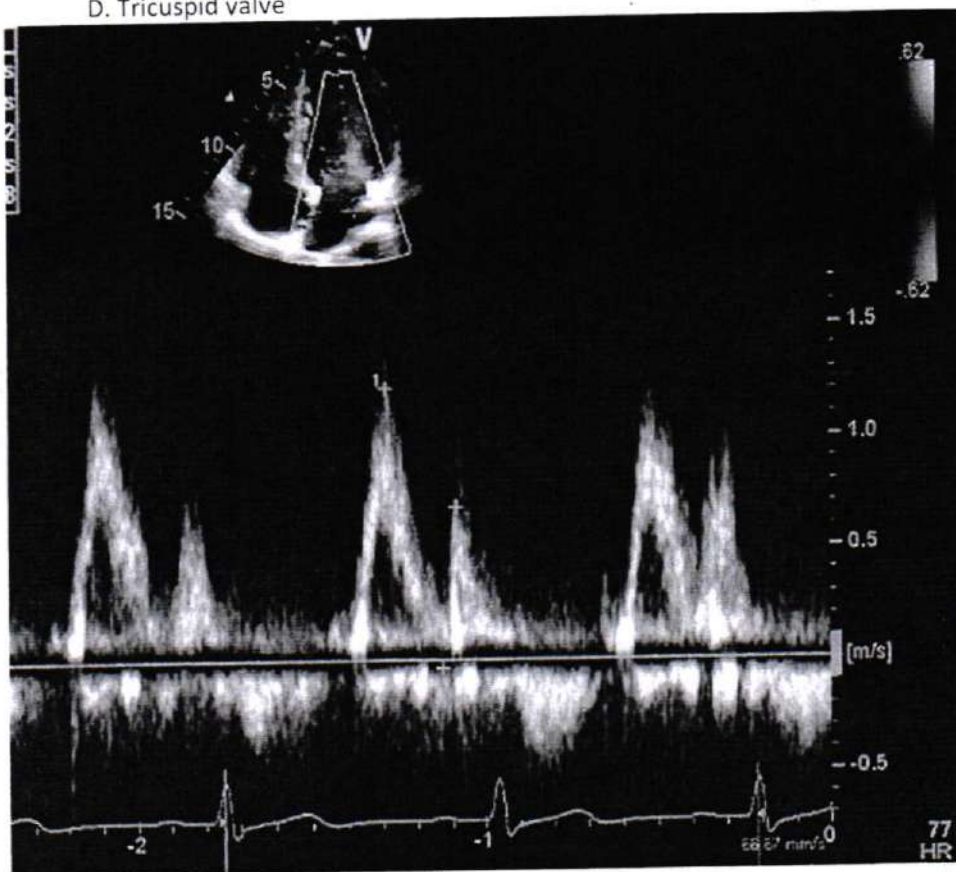
41. Name the marked structure in this view

- A. RA
- B. LA
- C. Aorta
- D. Coronary sinus



42. The following image shows the inflow pattern through which valve on colour Doppler study?

- A. Aortic valve
- B. Mitral valve
- C. Pulmonary valve
- D. Tricuspid valve

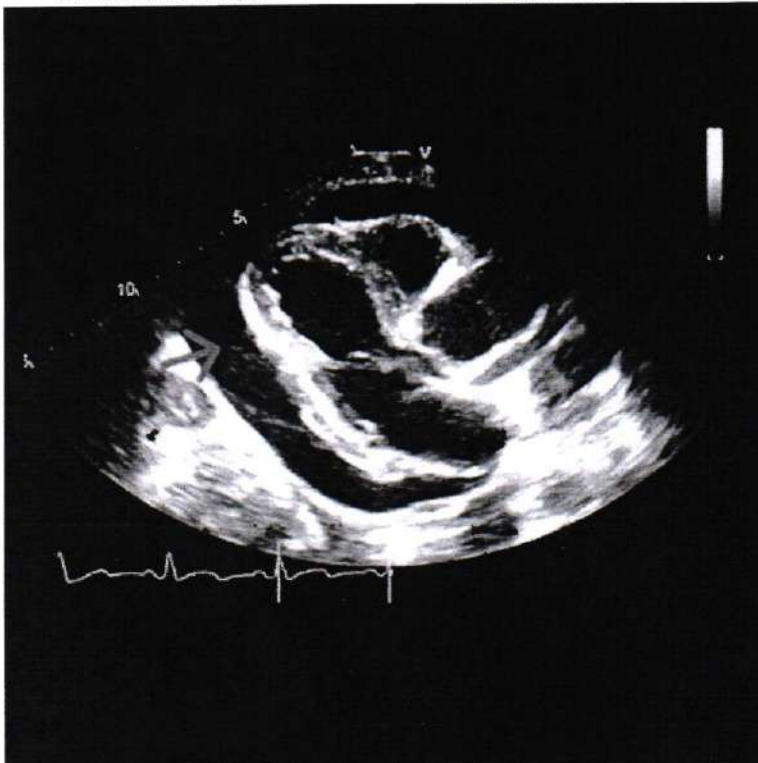


43. Which view is this?

- A. Apical 2 chamber view
- B. Parasternal long axis view
- C. Apical 4 chamber view
- D. Subcostal view



44. All of the following are Echocardiographic criteria for defining vegetation except
- | | |
|-----------------------------|---------------------------------------|
| A. It is attaches to valve. | B. Irregular in shape. |
| C. Non mobile | D. Associated valvular regurgitation. |
45. Severe MS is mitral valve area
- | | |
|------------------------|----------------------|
| A. $>1.5 \text{ cm}^2$ | B. $<1 \text{ cm}^2$ |
| C. 4 cm^2 | D. 6 cm^2 |
46. Dextrocardia is
- Rotation of heart around vertical axis.
 - Cardioac apex is located in right side of chest.
 - Left ventricle lies anterior to right ventricle
 - Same as dextroversion
47. All of the following are true about ASD except?
- Most common type of ASD is Ostium Primum type of ASD.
 - Os ASD is located at fossa ovalis and its surroundings.
 - Enlarged Right ventricle.
 - Tricuspid regurgitation is seen.
48. A 40 years old male complains of fever ,cough and breathlessness.He was diagnosed with Pulmonary Koch 2 months ago but was not compliant to treatment .2D Echo was done and showed the following finding;
- | | |
|-------------------------|----------------|
| A. Pericardial effusion | B. Vegetations |
| C. Pleural effusion | D. Normal scan |



49. 2D Echo features suggestive of Mitral stenosis are all except?

- A. Doming of anterior mitral valve leaflet
- B. Enlarged left atrium
- C. Enlarged left ventricle
- D. Diastolic bulging of anterior mitral leaflet.

50. Recognise the following view

- A. Apical 4 chamber view
- B. Parasternal short axis view
- C. Apical 2 chamber view
- D. Parasternal long axis view



ANSWER KEY**Recruitment test conducted on 23/01/2025 for post of Echo Technician
under BFUHS, Faridkot**

1	A		26	A
2	D		27	B
3	C		28	C
4	B		29	B
5	D		30	A
6	A		31	C
7	A		32	B
8	C		33	D
9	D		34	C
10	C		35	B
11	D		36	D
12	A		37	A
13	B		38	D
14	B		39	B
15	B		40	D
16	C		41	B
17	D		42	B
18	C		43	C
19	D		44	C
20	C		45	B
21	B		46	B
22	A		47	A
23	D		48	A
24	B		49	C
25	A		50	B