

Test Bank for Leading and Managing in Nursing 8th Yoder-Wise

1. (1.0 point)

The point where the QRS complex and ST segment meet is called the *ST-junction* or *J-point*.

- *a. True
- b. False

Correct Answer Reply:

The point where the QRS complex and the ST segment meet is called the *ST-junction* or *J-point*.

Incorrect Answer Reply:

The point where the QRS complex and the ST segment meet is called the *ST-junction* or *J-point*.

2. (1.0 point)

If the wave of depolarization (electrical impulse) moves toward the positive electrode, the waveform recorded on ECG graph paper will be upright (positive deflection).

- *a. True
- b. False

Correct Answer Reply:

If the wave of depolarization (electrical impulse) moves toward the positive electrode, the waveform recorded on ECG graph paper will be upright (positive deflection).

Incorrect Answer Reply:

If the wave of depolarization (electrical impulse) moves toward the positive electrode, the waveform recorded on ECG graph paper will be upright (positive deflection).

3. (1.0 point)

When electrical activity is not detected on the ECG, a straight line is recorded called the "baseline" or "isoelectric line."

- *a. True
- b. False

Correct Answer Reply:

When electrical activity is not detected, a straight line is recorded. This line is called the baseline or isoelectric line.

Incorrect Answer Reply:

When electrical activity is not detected, a straight line is recorded. This line is called the baseline or isoelectric line.

4. (1.0 point)

The ECG does not provide information about:

- a. conduction disturbances.
- b. the presence of ischemic damage.

- c. electrical effects of medications and electrolytes.
- *d. the mechanical (contractile) condition of the myocardium.

Correct Answer Reply:

The ECG does not provide information about the mechanical (contractile) condition of the myocardium. To evaluate the effectiveness of the heart's mechanical activity, the patient's pulse and blood pressure are assessed.

Incorrect Answer Reply:

The ECG does not provide information about the mechanical (contractile) condition of the myocardium. To evaluate the effectiveness of the heart's mechanical activity, the patient's pulse and blood pressure are assessed.

5. (1.0 point)

Where is the negative electrode placed in lead II?

- a. Left arm
- *b. Right arm
- c. Left leg
- d. Right leg

Correct Answer Reply:

Lead II records the difference in electrical potential between the left leg (+) and right arm (-) electrodes. The positive electrode is placed on the left leg and the negative electrode is placed on the right arm.

Incorrect Answer Reply:

Lead II records the difference in electrical potential between the left leg (+) and right arm (-) electrodes. The positive electrode is placed on the left leg and the negative electrode is placed on the right arm.

6. (1.0 point)

On an ECG, what is the first negative deflection seen after the P wave?

- *a. Q wave
- b. R wave
- c. S wave
- d. T wave

Correct Answer Reply:

A QRS complex normally follows each P wave. The QRS complex begins as a downward deflection, the Q wave. A Q wave is always a negative waveform.

Incorrect Answer Reply:

A QRS complex normally follows each P wave. The QRS complex begins as a downward deflection, the Q wave. A Q wave is always a negative waveform.

7. (1.0 point)

Leads II, III, and aVF view the _____ surface of the left ventricle.

- a. anterior
- *b. inferior
- c. septal
- d. lateral

Correct Answer Reply:

Leads II, III, and aVF view the inferior surface of the left ventricle.

Incorrect Answer Reply:

Leads II, III, and aVF view the inferior surface of the left ventricle.

8. (1.0 point)

In an adult, the normal duration of the QRS complex is:

- a. 0.12 to 0.20 second.
- *b. 0.11 second or less.
- c. 0.04 to 0.14 second.
- d. 0.20 second or less.

Correct Answer Reply:

The normal duration of the QRS complex in adult males is 110 ms (0.11 second) or less.

Incorrect Answer Reply:

The normal duration of the QRS complex in adult males is 110 ms (0.11 second) or less.

9. (1.0 point)

What does the QRS complex represent?

- a. Atrial depolarization
- b. Ventricular contraction
- c. Ventricular repolarization
- *d. Ventricular depolarization

Correct Answer Reply:

When the ventricles are stimulated, a QRS complex is recorded on the ECG. Thus the QRS complex represents ventricular depolarization.

Incorrect Answer Reply:

When the ventricles are stimulated, a QRS complex is recorded on the ECG. Thus the QRS complex represents ventricular depolarization.

10. (1.0 point)

Leads I, aVL, V₅, and V₆ view the _____ surface of the left ventricle.

- a. anterior

- b. septal
- c. inferior
- *d. lateral

Correct Answer Reply:

Leads I, aVL, V₅, and V₆ view the lateral surface of the left ventricle.

Incorrect Answer Reply:

Leads I, aVL, V₅, and V₆ view the lateral surface of the left ventricle.

11. (1.0 point)

The PR interval is considered prolonged if it is more than ____ in duration.

- a. 0.06 second
- b. 0.12 second
- c. 0.18 second
- *d. 0.20 second

Correct Answer Reply:

A long PR interval (greater than 0.20 second) indicates the impulse was delayed as it passed through the atria or AV node.

Incorrect Answer Reply:

A long PR interval (greater than 0.20 second) indicates the impulse was delayed as it passed through the atria or AV node.

12. (1.0 point)

On the ECG, the T wave represents:

- a. atrial contraction.
- b. atrial repolarization.
- c. ventricular contraction.
- *d. ventricular repolarization.

Correct Answer Reply:

Ventricular repolarization is represented on the ECG by the T wave.

Incorrect Answer Reply:

Ventricular repolarization is represented on the ECG by the T wave.

13. (1.0 point)

Select the *incorrect* statement regarding the PR interval.

- a. A normal PR interval measures 0.12 to 0.20 second.
- *b. The PR interval normally lengthens as the heart rate increases.

- c. The PR interval is measured from the point where the P wave leaves the baseline to the beginning of the QRS complex.
- d. A normal PR interval indicates the electrical impulse was conducted normally through the heart's conduction system.

Correct Answer Reply:

The PRI changes with heart rate but normally measures 0.12 to 0.20 second in adults. As the heart rate increases, the duration of the PR interval shortens.

Incorrect Answer Reply:

The PRI changes with heart rate but normally measures 0.12 to 0.20 second in adults. As the heart rate increases, the duration of the PR interval shortens.

14. (1.0 point)

The portion of the ECG tracing between the QRS complex and the T wave is called the:

- a. PR segment.
- *b. ST segment.
- c. TP segment.
- d. QT interval.

Correct Answer Reply:

The portion of the ECG tracing between the QRS complex and the T wave is the ST segment.

Incorrect Answer Reply:

The portion of the ECG tracing between the QRS complex and the T wave is the ST segment.

15. (1.0 point)

Where is the positive electrode placed in lead III?

- a. Left arm
- b. Right arm
- *c. Left leg/foot
- d. Right leg/foot

Correct Answer Reply:

Lead III records the difference in electrical potential between the left leg (+) and left arm (-) electrodes. In lead III the positive electrode is placed on the left leg and the negative electrode is placed on the left arm.

Incorrect Answer Reply:

Lead III records the difference in electrical potential between the left leg (+) and left arm (-) electrodes. In lead III the positive electrode is placed on the left leg and the negative electrode is placed on the left arm.

16. (1.0 point)

On the ECG, the P wave represents atrial _____ and the QRS complex represents ventricular _____.

- *a. depolarization; depolarization
- b. repolarization; repolarization
- c. repolarization; depolarization
- d. depolarization; repolarization

Correct Answer Reply:

On the ECG, the P wave represents atrial depolarization and the QRS complex represents ventricular depolarization.

Incorrect Answer Reply:

On the ECG, the P wave represents atrial depolarization and the QRS complex represents ventricular depolarization.

17. (1.0 point)

Lead V₃ views the _____ of the left ventricle.

- a. lateral wall
- *b. anterior wall
- c. posterior wall
- d. inferior wall

Correct Answer Reply:

Lead V₃ views the anterior wall of the left ventricle.

Incorrect Answer Reply:

Lead V₃ views the anterior wall of the left ventricle.

18. (1.0 point)

Which of the following are chest leads?

- a. Leads I and aVL
- b. Leads I, II, and III
- *c. Leads V₁, V₂, V₃, V₄, V₅, and V₆
- d. Leads I, II, III, aVR, aVL, and aVF

Correct Answer Reply:

Six chest (precordial or "V") leads view the heart in the horizontal plane. The chest leads are identified as V₁, V₂, V₃, V₄, V₅, and V₆.

Incorrect Answer Reply:

Six chest (precordial or "V") leads view the heart in the horizontal plane. The chest leads are identified as V₁, V₂, V₃, V₄, V₅, and V₆.

19. (1.0 point)

"Poor R-wave progression" is a phrase used to describe R waves that

decrease in size from V_1 to V_4 . This is often seen in a(n) _____ infarction.

- *a. anteroseptal
- b. anterolateral
- c. inferolateral
- d. inferoposterior

Correct Answer Reply:

Poor R-wave progression is a phrase used to describe R waves that decrease in size from V_1 to V_4 . This is often seen in an anteroseptal infarction but may be a normal variant in young persons, particularly in young women. Many conditions can affect R-wave progression, infarction being only one of them. Although the presence of changes in R-wave progression alone is not strong enough evidence to diagnose infarction, patterns of altered R-wave progression may be seen in association with many infarctions.

Incorrect Answer Reply:

Poor R-wave progression is a phrase used to describe R waves that decrease in size from V_1 to V_4 . This is often seen in an anteroseptal infarction but may be a normal variant in young persons, particularly in young women. Many conditions can affect R-wave progression, infarction being only one of them. Although the presence of changes in R-wave progression alone is not strong enough evidence to diagnose infarction, patterns of altered R-wave progression may be seen in association with many infarctions.

20. (1.0 point)

Where should the positive electrode for lead V_5 be positioned?

- a. Right side of sternum, fourth intercostal space
- b. Left midaxillary line at same level as V_4
- c. Left side of sternum, fourth intercostal space
- *d. Left anterior axillary line at same level as V_4

Correct Answer Reply:

Lead V_4 is recorded with the positive electrode in the left midclavicular line in the fifth intercostal space. Lead V_5 is recorded with the positive electrode in the left anterior axillary line at the same level as V_4 .

Incorrect Answer Reply:

Lead V_4 is recorded with the positive electrode in the left midclavicular line in the fifth intercostal space. Lead V_5 is recorded with the positive electrode in the left anterior axillary line at the same level as V_4 .

21. (1.0 point)

Lead V_5 views the _____ of the left ventricle.

- *a. lateral wall
- b. anterior wall
- c. posterior wall
- d. inferior wall

Correct Answer Reply:

Lead V₅ views the lateral wall of the left ventricle.

Incorrect Answer Reply:

Lead V₅ views the lateral wall of the left ventricle.

22. (1.0 point)

Which leads look at adjoining tissue in the inferior region of the left ventricle?

- a. I, aVL
- b. V₁, V₂
- c. V₃, V₄, V₅
- *d. II, III, aVF

Correct Answer Reply:

Leads II, III, and aVF look at adjoining tissue in the inferior region of the left ventricle.

Incorrect Answer Reply:

Leads II, III, and aVF look at adjoining tissue in the inferior region of the left ventricle.

23. (1.0 point)

Where should the positive electrode for lead V₁ be positioned?

- *a. Right side of sternum, fourth intercostal space
- b. Left midaxillary line at same level as V₄
- c. Left side of sternum, fourth intercostal space
- d. Left anterior axillary line at same level as V₄

Correct Answer Reply:

Lead V₁ is recorded with the positive electrode in the fourth intercostal space, just to the right of the sternum.

Incorrect Answer Reply:

Lead V₁ is recorded with the positive electrode in the fourth intercostal space, just to the right of the sternum.

24. (1.0 point)

Lead I is perpendicular to lead:

- a. II.
- b. III.
- *c. aVF.
- d. aVL.

Correct Answer Reply:

In the hexaxial reference system, the axes of some leads are perpendicular to each other. Lead I is perpendicular to lead aVF. Lead II is perpendicular to aVL, and lead III is perpendicular to lead aVR.

Incorrect Answer Reply:

In the hexaxial reference system, the axes of some leads are perpendicular to each other. Lead I is perpendicular to lead aVF. Lead II is perpendicular to aVL, and lead III is perpendicular to lead aVR.

25. (1.0 point)

Lead aVL views the:

- a. interatrial septum.
- b. anterior wall of the right ventricle.
- c. inferior wall of the left ventricle.
- *d. lateral wall of the left ventricle.

Correct Answer Reply:

Lead aVL combines views from the right arm and left leg, with the "view" being from the left shoulder and oriented to the lateral wall of the left ventricle.

Incorrect Answer Reply:

Lead aVL combines views from the right arm and left leg, with the "view" being from the left shoulder and oriented to the lateral wall of the left ventricle.

26. (1.0 point)

Which of the following leads should be used to view the right ventricle?

- a. V₃
- b. V₇
- *c. V₄R
- d. V₆

Correct Answer Reply:

Lead V₄ is recorded with the positive electrode in the left midclavicular line in the fifth intercostal space. To evaluate the right ventricle, lead V₄ may be moved to the same anatomic location but on the right side of the chest. The lead is then called V₄R and is viewed for ECG changes consistent with acute MI.

Incorrect Answer Reply:

Lead V₄ is recorded with the positive electrode in the left midclavicular line in the fifth intercostal space. To evaluate the right ventricle, lead V₄ may be moved to the same anatomic location but on the right side of the chest. The lead is then called V₄R and is viewed for ECG changes consistent with acute MI.

27. (1.0 point)

Lead V₁ views the:

- a. anterior wall.
- *b. septum.
- c. inferior wall.
- d. posterior wall.

Correct Answer Reply:

Lead V₁ is recorded with the positive electrode in the fourth intercostal space, just to the right of the sternum. Lead V₁ views the septum.

Incorrect Answer Reply:

Lead V₁ is recorded with the positive electrode in the fourth intercostal space, just to the right of the sternum. Lead V₁ views the septum.

28. (1.0 point)

Which leads look at adjoining tissue in the anterior region of the left ventricle?

- a. II, III, aVF
- *b. V₂, V₃, V₄
- c. I, aVL, V₅
- d. aVR, aVL, aVF

Correct Answer Reply:

Leads V₂, V₃, and V₄ are next to each other on the patient's chest. Leads V₁ and V₂ view the septum. Leads V₃ and V₄ look at the anterior wall of the left ventricle. Therefore, leads V₂, V₃, and V₄ look at adjoining tissue in the anterior region of the left ventricle.

Incorrect Answer Reply:

Leads V₂, V₃, and V₄ are next to each other on the patient's chest. Leads V₁ and V₂ view the septum. Leads V₃ and V₄ look at the anterior wall of the left ventricle. Therefore, leads V₂, V₃, and V₄ look at adjoining tissue in the anterior region of the left ventricle.

29. (1.0 point)

The portion of the ECG tracing between the T wave and P wave is called the:

- a. PR segment.
- *b. TP segment.
- c. QT interval.
- d. PT interval.

Correct Answer Reply:

The TP segment is the portion of the ECG tracing between the end of the T wave and the beginning of the following P wave. When the heart rate is within normal limits, the TP-segment is usually isoelectric. With rapid heart rates, the TP segment is often unrecognizable because the P wave encroaches on the preceding T wave.

Incorrect Answer Reply:

The TP segment is the portion of the ECG tracing between the end of the T wave and the beginning of the following P wave. When the heart rate is within normal limits, the TP-segment is usually isoelectric. With rapid heart rates, the TP segment is often unrecognizable because the P wave encroaches on the preceding T wave.

30. (1.0 point)

When leads I and aVF are used to determine electrical axis, left axis deviation is present if the QRS is:

- a. positive in lead I and positive in lead aVF.
- *b. positive in lead I and negative in lead aVF.
- c. negative in lead I and negative in lead aVF.
- d. negative in lead I and positive in lead aVF.

Correct Answer Reply:

Leads I and aVF divide the heart into four quadrants. These two leads can be used to quickly estimate electrical axis. In leads I and aVF, the QRS complex is normally positive. If the QRS complex in either or both of these leads is negative, axis deviation is present.

Another popular shortcut using leads I and aVF to determine axis deviation is called the "thumbs method." Hold up your left and right hands and make a thumbs up/thumbs down position in the direction of the QRS in leads I and aVF, respectively. Two thumbs up reflects normal axis. Left thumb up, right thumb down = left axis deviation. Left thumb down, right thumb up = right axis deviation. Both left and right down = extreme right axis deviation.

Incorrect Answer Reply:

Leads I and aVF divide the heart into four quadrants. These two leads can be used to quickly estimate electrical axis. In leads I and aVF, the QRS complex is normally positive. If the QRS complex in either or both of these leads is negative, axis deviation is present.

Another popular shortcut using leads I and aVF to determine axis deviation is called the "thumbs method." Hold up your left and right hands and make a thumbs up/thumbs down position in the direction of the QRS in leads I and aVF, respectively. Two thumbs up reflects normal axis. Left thumb up, right thumb down = left axis deviation. Left thumb down, right thumb up = right axis deviation. Both left and right down = extreme right axis deviation.

31. (1.0 point)

Normal electrical axis lies between:

- *a. -30 and +90 degrees.

- b. +90 and ± 180 degrees.
- c. -90 and ± 180 degrees.
- d. -30 and -90 degrees.

Correct Answer Reply:

In adults, the normal QRS axis is considered to be between -30 and +90 degrees in the frontal plane. Current flow to the right of normal is called right axis deviation (between +90 and ± 180 degrees). Current flow in the direction opposite of normal is called indeterminate, "no man's land," northwest or extreme right axis deviation (-90 and ± 180 degrees). Current flow to the left of normal is called left axis deviation (between -30 and -90 degrees).

Incorrect Answer Reply:

In adults, the normal QRS axis is considered to be between -30 and +90 degrees in the frontal plane. Current flow to the right of normal is called right axis deviation (between +90 and ± 180 degrees). Current flow in the direction opposite of normal is called indeterminate, "no man's land," northwest or extreme right axis deviation (-90 and ± 180 degrees). Current flow to the left of normal is called left axis deviation (between -30 and -90 degrees).

32. (1.0 point)

When reviewing a 12-lead ECG, intervals and duration are usually expressed in _____.

Correct Answer(s):

- a. milliseconds

Correct Answer Reply:

When reviewing a 12-lead ECG, intervals and duration are usually expressed in milliseconds.

Incorrect Answer Reply:

When reviewing a 12-lead ECG, intervals and duration are usually expressed in milliseconds.

33. (1.0 point)

Name the first positive deflection seen after the P wave on the ECG.

Correct Answer:

R wave

34. (1.0 point)

Complete the following chart:

Lead	Positive Electrode	Negative Electrode	Heart Surface Viewed
Lead I	_____	_____	_____
Lead II	_____	_____	_____
Lead III	_____	_____	_____

III

Correct Answer:

<u>Lead</u>	<u>Positive Electrode</u>	<u>Negative Electrode</u>	<u>Heart Surface Viewed</u>
Lead I	Left arm	Right arm	Lateral
Lead II	Left leg	Right arm	Inferior
Lead III	Left leg	Left arm	Inferior

35. (1.0 point)

List six leads that view the heart in the frontal plane.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Correct Answer:

Leads I, II, and III and leads aVR, aVL, and aVF view the heart in the frontal plane.

36. (1.0 point)

Complete the following chart:

<u>Lead</u>	<u>Positive Electrode</u>	<u>Heart Surface Viewed</u>
aVR	_____	_____
aVL	_____	_____
aVF	_____	_____

Correct Answer:

<u>Lead</u>	<u>Positive Electrode</u>	<u>Heart Surface Viewed</u>
aVR	Right arm	None
aVL	Left arm	Lateral
aVF	Left leg	Inferior

37. (1.0 point)

What is a biphasic waveform?

Correct Answer:

A biphasic waveform is partly positive and partly negative and is recorded when the wave of depolarization moves perpendicularly to the positive electrode.

38. (1.0 point)

Indicate the heart surface viewed by each of the following.

Leads _____

II, III,

aVF:

Leads _____

V₁, V₂:

Leads _____

V₃, V₄:

Leads I, _____

aVL, V₅,

V₆:

Correct Answer:

Leads	Heart Surface Viewed
II, III, aVF	Inferior
V ₁ , V ₂	Septal
V ₃ , V ₄	Anterior
I, aVL, V ₅ , V ₆	Lateral