

[LB 0212]

AUGUST 2012

Sub. Code: 1512

B.Sc. CARDIAC TECHNOLOGY

SECOND YEAR

PAPER – II – TREADMILL EXERCISE STRESS TESTING AND
24 HOURS AMBULATORY ECG RECORDING

Q.P. Code : 801512

Time : Three hours

Maximum : 100 marks

(180 Mins) Answer ALL questions in the same order

I. Elaborate on:

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|--|---|----|----|
| 1. What is the cardiovascular adaptation to exercise? | 7 | 20 | 10 |
| 2. Electrocardiographic and non Electrocardiographic features used in exercise testing for diagnosis of coronary artery disease. | 7 | 20 | 10 |
| 3. Usefulness of holter in acute coronary syndromes. | 7 | 20 | 10 |

II. Write Notes on:

- | | | | |
|--|---|----|---|
| 1. Post MI exercise testing Indication and usefulness. | 4 | 10 | 5 |
| 2. Usefulness in pre-operative risk stratification before non-cardiac surgery. | 4 | 10 | 5 |
| 3. Absolute contraindications for exercise testing. | 4 | 10 | 5 |
| 4. Reporting format of a treadmill test. | 4 | 10 | 5 |
| 5. Different scores used to risk stratify based on TMT. | 4 | 10 | 5 |
| 6. Different types of ST changes and their measurement. | 4 | 10 | 5 |
| 7. Usefulness of TMT in valvular heart disease. | 4 | 10 | 5 |
| 8. Anginal cascade and silent myocardial ischaemia. | 4 | 10 | 5 |

III. Short Answers on:

- | | | | |
|--|---|---|---|
| 1. Usefulness of TMT in assessment of ventricular arrhythmias. | 2 | 4 | 3 |
| 2. Safety and risk of treadmill test. | 2 | 4 | 3 |
| 3. Importance of maximal work capacity. | 2 | 4 | 3 |
| 4. Usual BP response during exercise. What does accelerated response indicate. | 2 | 4 | 3 |
| 5. Stratification of risk using exercise test in congestive cardiac failure. | 2 | 4 | 3 |
| 6. Non coronary causes of ST segment deviation. | 2 | 4 | 3 |
| 7. Indication for termination of exercise testing. | 2 | 4 | 3 |
| 8. Prediction of Age predicted maximum heart rate. | 2 | 4 | 3 |
| 9. Importance of ST elevation during exercise. | 2 | 4 | 3 |
| 10. MASON LIKAR Modification of 12 lead ECG. | 2 | 4 | 3 |

[LD 0212]

August 2013

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**B.Sc. CARDIAC TECHNOLOGY
SECOND YEAR
PAPER II – TREADMILL EXERCISES STRESS TESTING AND 24 HOUR
AMBULATORY ECG**

Q.P. Code : 801512

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Absolute and relative contraindications for exercise stress test
2. Discuss in detail about the preparation and explanation of exercise stress test
3. Supraventricular arrhythmias during exercise stress test

II. Write Notes on:

(8 x 5 = 40)

1. Types of ST segment depression
2. Ventricular ectopics during Stress test
3. Sensitivity and Specificity of Stress test
4. Thyroid abnormalities in relation to Stress test
5. Digital processing and measurement accuracy in Stress test
6. Types of Holter Monitoring
7. Rate Pressure Product
8. Systolic Time Intervals

III. Write Notes on:

(10 x 3 = 30)

1. False Negative Stress test
2. Analog to Digital conversion
3. Hollenbeg exercise score
4. METZ in Stress test
5. Relative contraindications in Exercise stress test
6. Exercise stress testing in Cardiac Rehabilitation
7. Hypotensive BP Response
8. Normalisation of T wave during exercise Stress test
9. Effort tolerance in relation to METZ
10. Poorman's exercise stress test

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PAPER II – TREADMILL EXERCISES STRESS TESTING AND 24 HOUR
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Q.P. Code : 801512

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Indications for holter.
2. Indications for exercise testing.
3. Electrocardiographic and non electrocardiographic features used in exercise testing for diagnosis of coronary artery disease.

II. Write Notes on:

(8 x 5 = 40)

1. Usefulness of holter in syncope.
2. Preparation and instruction to patient for a holter recording.
3. Absolute contraindications for exercise testing.
4. Exercise parameters associated with adverse prognosis.
5. Baseline ECG changes which makes interpretation of treadmill difficult.
6. Advantages and disadvantages of Bicycle Ergometer over treadmill.
7. Non electrocardiographic changes and importance.
8. Different types of ST changes and its their measurement.

III. Write short answers on:

(10 x 3 = 30)

1. Non coronary causes of ST segment deviation.
2. Usefulness of treadmill test in pre excitation.
3. Treadmill test in diabetics indications.
4. Implication of supraventricular tachycardia during exercise.
5. Indications for pharmacological stress test.
6. Usefulness of treadmill test in persons on high risk jobs.
7. Different lead systems used in holter.
8. Dietary advise before treadmill test.
9. Early post PCI treadmill. Does it indicate restenosis.
10. Usefulness of holter in palpitation.

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**PAPER II – TREADMILL EXERCISES STRESS TESTING AND 24 HOUR
AMBULATORY ECG RECORDING**

Q.P. Code : 801512

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Indications for exercise testing.
2. Limitation of exercise testing in women and methods of enhancing the utility.
3. Usefulness of Holter in acute coronary syndrome.

II. Write Notes on:

(8 x 5 = 40)

1. Safety and risk of treadmill test.
2. Different scores used to risk stratify based on TMT.
3. Usual BP response during exercise. What does accelerated response indicate?
4. What are the drugs and equipment which should be available in treadmill room?
5. Absolute contraindications for exercise testing.
6. Importance of maximal work capacity.
7. Usefulness of treadmill in valvular heart diseases.
8. Reporting format of a treadmill test.

III. Write short answers on:

(10 x 3 = 30)

1. Non coronary causes of ST segment deviation.
2. Normal BP response during exercise.
3. Bayers thoram.
4. Chronotropic incompetence.
5. Importance of ST elevation during exercise.
6. Stratification of risk using exercise test in congestive cardiac failure.
7. MASON LIKAR Modification of 12 lead ECG.
8. Indication for termination of exercise testing.
9. Dietary advise before treadmill test.
10. Rate dependent LBBB during treadmill test.

[LH 0815]

AUGUST 2015

Sub. Code: 1512

B.Sc. CARDIAC TECHNOLOGY

SECOND YEAR

**PAPER II – TREADMILL EXERCISES STRESS TESTING AND 24 HOUR
AMBULATORY ECG RECORDING**

Q.P. Code: 801512

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. What are the indications and contra indications for Treadmill Test?
2. What are the physiological changes takes place during exercise Test?
3. List out the difference exercise protocols you know and discuss in detail about Bruce protocol.

II. Write notes on:

(8 x 5 = 40)

1. Indications for 24 hour holter monitoring.
2. Modified Bruce protocol.
3. MASONLIKER modification and its advantage.
4. Define METs (metabolic equivalent).
5. Non electro cardiographic changes during Treat mill test.
6. Different types of ST depression.
7. DUKE Tread mill score.
8. Dressing and dietary advice for Tread mill test.

III. Short answers on:

(10 x 3 = 30)

1. Indication for ARM ERGOMETRY.
2. Types of ST segment depression.
3. ST segment elevation in Tread mill test.
4. Non coronary cause for ST depression.
5. Target heart rate for exercise test.
6. Indication for modified Bruce protocol.
7. List out arrhythmias noted during tread mill test.
8. Instruction to patient while doing Tread mill test.
9. Monitoring during recovery period of treadmill Test.
10. Basis for Tread mill test.
