BSc - CCT March - 2025

BLDE (DEEMED TO BE UNIVERSITY)

B.Sc. in Cardiac Care Technology

[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER - I (Applied Anatomy, Physiology & Pharmacology)

QP CODE: 8335/8338

Your answer should be specific to the questions asked.

Write Question No. in left side of margin.

Section 8335 (Anatomy & Physiology)

Long Questions **10X1 = 10 Marks**

1. Describe the interior of right atrium in detail. Add a note on applied anatomy.

Short Essays: (Any – 4) **5 X 4 = 20 Marks**

2. Right coronary artery- origin, course, branches, areas of distribution.
3. Azygos vein- origin, course, termination, tributaries.
4. Transverse sinus of heart.
5. Myocardial infarction
6. Define systolic and diastolic blood pressure, what are its normal values

Short Answers (Any – 5) **2 X 5 = 10 Marks**

7. Semilunar valves.
8. Myocardium.
9. Hypotension
10. Peculiarities of coronary circulation
11. Define blood pressure, what are the short term regulatory mechanisms
12. Pace maker potential

Section 8338 (Pharmacology)

Long Questions **10X1 = 10 Marks**

1. Write mechanism of action, therapeutic uses and adverse effects of Benzodiazepines.

Short Essays: (Any – 4) **5 X 4 = 20 Marks**

2. Mention the advantages and disadvantages of Intramuscular route of drug administration.
3. Therapeutic uses and adverse effects of Organic nitrates.
4. Mechanism of action and adverse effects of Co – trimoxazole.
5. Therapeutic uses and adverse effects of Radioactive Iodine (I^{131})
6. Write the therapeutic uses and contraindications of Morphine.

Short Answers (Any – 5) **2 X 5 = 10 Marks**

7. Name four G-protein coupled receptors.
8. Write Antidote for Methyl alcohol and Diazepam.
9. Mention four drugs useful in the treatment of Glaucoma.
10. Write four Insulin preparations.
11. Write the adverse effects of Aminoglycosides.
12. Mention four Anti-retroviral (Anti HIV) drugs.

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III SEMESTER

PAPER - II (Basic Electrocardiography)

QP CODE: 8336

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Describe normal ECG

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Electrical axis
3. LBBB and RBBB
4. Fascicular block
5. Left atrial and right atrial enlargement
6. ECG changes in complete AV Block
7. Augmented Limb Leads
8. When and how do you record Right chest leads
9. Cardiac Rotation
10. S1,S2,S3 syndrome

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. ECG changes in left Atrial Enlargement
12. LVH & RVH
13. U wave
14. Heart rate calculation
15. QTc Interval
16. What is Transition zone
17. Explain ECG changes in second degree AV block
18. Complete AV dissociation
19. Biventricular Hypertrophy
20. Lead Placement
21. Explain R wave Progression

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III SEMESTER
PAPER - III (Basic Echocardiography)
QP CODE: 8337

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Explain the procedure, indication, contraindications and uses of contrast echo.

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Specular and scattered echoes
3. Normal echo views
4. Systolic murmurs
5. M-mode echocardiography
6. Draw and label 17 segments of LV
7. Doppler effect
8. Continuous wave Doppler and pulse wave Doppler.
9. Define resolution. Describe its components.
10. Continuity Equation

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Placement of Transducer
12. What is Aliasing
13. Continuous murmurs
14. What the of murmur is present in AR
15. Pulse wave Doppler
16. Normal Variants
17. Piezoelectric effect
18. Bernoulli's Equation
19. Color Doppler
20. Tissue Doppler imaging
21. Describe various modes used in 2D echo

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[Time: 3 Hours] [Max. Marks: 80]

III SEMESTER

PAPER - IV (CCT Directed Clinical Education I)

QP CODE: 8339

Your answer should be specific to the questions asked.
Write Question No. in left side of margin.

Long Questions **10X1 = 10 Marks**

1. Management of Hypertension

Short Essays: (Any – 8) **5 X 8 = 40 Marks**

2. Management of Cardiac arrest
3. Explain patient care and management in ICU
4. Explain role and responsibilities of cardiac care technologist
5. Write Anatomy of heart
6. Pathophysiology of tachycardia & bradycardia
7. Explain conduction system of heart
8. Explain about cath lab
9. Explain Emergency Situations and its management
10. Management of Hypertension

Short Answers: (Any – 10) **3 X 10 = 30 Marks**

11. Calcium channel blockers
12. Contrast media
13. What is Hypotension?
14. How to calculate hemoglobin from hematocrit?
15. Led aprons
16. Circulatory system of heart
17. C arm machine
18. Beta Blockers
19. What are cardiomyocytes?
20. What is hypoxemia?
21. Depolarization