

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1123]

NOVEMBER 2023

Sub. Code: 1422

**B.Sc. CARDIO PULMONARY PERFUSION CARE TECHNOLOGY
THIRD YEAR – (Regulations 2010-2011, 2014-2015 & 2018-2019 onwards)
PAPER II – CARDIOPULMONARY BYPASS & PERFUSION
TECHNOLOGY
Q.P. Code: 801422**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: (3 x 10 = 30)

1. Types of hypothermia and write notes on deep hypothermic circulatory arrest.
2. Intra-aortic balloon pump - principle, indication, contraindication, placement.
3. Complications of Cardio Pulmonary Bypass.

II. Write notes on: (8 x 5 = 40)

1. Write on the principle of Hemofiltration.
2. Effects of priming solutions on RBCs.
3. Heparinisation and its reversal.
4. Principle of bubble detector.
5. Cannulation of the heart during bypass.
6. Principles of ECMO.
7. Causes of Cerebral Injury in Cardio Pulmonary Bypass.
8. Custodiol cardioplegia solution.

III. Short answers on: (10 x 3 = 30)

1. Autotransfusion.
2. Write the formula to Calculate Bicarbonate correction.
3. Priming volume.
4. List causes of low venous return.
5. Importance of activated clotting time during Cardio Pulmonary Bypass.
6. Oxygen toxicity.
7. Inotropes.
8. Hyperkalemia- causes and management during Cardio Pulmonary Bypass.
9. Left ventricular Assist devices.
10. Circuit alarms.
