

(Affiliated to the Tamil Nadu Dr M.G.R Medical University, Chennai)

B. Sc. CARDIOPULMONARY PERFUSION CARE TECHNOLOGY

2023 BATCH – INTERNAL EXAM – II - (24.06.2025)

PAPER II – PRINCIPLES OF PERFUSION

Time: 3 hours

Subject Code: 1412

Marks : 100 marks

ANSWER ALL THE QUESTIONS :

I. Elaborate on :

10 x 3 =30

1. CPB circuit diagram incorporating all components .
2. Hemoconcentrator and its types.
3. Write about the safety devices .

II. Write notes on

5 x 8 = 40

1. Venous cannulation.
2. Filters and its types.
3. pulsatile and non pulsatile flow .
4. Essential parameters monitored on CPB and state some safety device in ECC.
5. Heparin – MOA , dosage calculation and effects on CPB
6. Aortic Cannulation .
7. Write about the heat exchanger with its principle and mode of heat transfer .
8. Write 2 different CP techniques in detail and what are the advantages of blood CP .

III. Short answers on

3 x 10 = 30

1. List out the causes of low venous return and its management
2. Write about the importance of bivalurudin and HCO_3 during CPB .
3. Types of hypothermia.
4. How will you calculate HCT for 40 yrs old female with the Hb of 13g/dl and write down the baseline Hct level during CPB .
5. Define conduction, convection and radiation .
6. Corrections for hyperkalemia at K level of 6mmol/L , 8mmol/L, 9mmol/L .
7. What is MUF . When and where it is done , formula for volume to be removed during this process .
8. Principles of venous drainage .

9. Expand a) CUF, CABG , ECLS b) Adult arterial filter _____ microns c) 1ml k ____ Meq

10. COMPETITIVE EXAM QUESTIONS :

- a) Normal ACT value _____ sec. a) 80sec , b) 110sec c) 140sec d) 200sec (NEET 2020)
b) 1ml heparin _____ IU a) 500IU b) 5000IU c) 25000IU d) 150000IU (JIIPMER 2020)
c) ACT value _____ during on bypass. a) 480sec b) 300sec c) 460sec d) 500sec (JIIPMER 2019)

SNS COLLEGE OF ALLIED HEALTH SCIENCES COIMBATORE –35



(Affiliated to the Tamil Nadu Dr M.G.R Medical University, Chennai)

B. Sc. CARDIOPULMONARY PERFUSION CARE TECHNOLOGY