

**B.Sc. CARDIO PULMONARY PERFUSION CARE TECHNOLOGY
SECOND YEAR**

PAPER II – PRINCIPLES OF PERFUSION TECHNOLOGY – PART-I

Q.P. Code: 801412

Time : Three Hours

Maximum : 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Give a note on Extracorporeal Circulation and also State the History and Evolution of CPB till date.
2. Draw a CPB circuit and address the case study with detailed explanation, Calculations Cannulae selection etc. CASE : 1 year babe weighing 5.5 kg. Height 65 cm HB 11.3 g/dl posted for VSD closure.
3. Explain in detail about Cardioplegia Types, needs of Cardioplegic Surgery, Routes of Administration with all Advantages and Disadvantages.

II. Write Notes on:

(8 x 5 = 40)

1. What is Prime? Aims of Priming and Priming solutions used currently in CPB.
2. Write a note on any 1 Adult Oxygenator and 1 Pediatric Oxygenator with all its Specifications.
3. How will you manage a Renal failure patient in CPB? Mention about CUF.
4. Essential parameter Monitored on CPB and state some safety devices in extracorporeal circuit.
5. Principles of Oxygenation and note on Extracorporeal Gas Exchange.
6. Heparin – mechanism of action, dose and its effects on patients undergoing bypass.
7. Effects of CPB on Brain and Lung, State some Neurological problems faced post operatively after cardiac surgery.
8. How will you Wean off from CPB? Mention all parameters.

III. Short Answers on:

(10 x 3 = 30)

1. What are the routine Preoperative Investigations in Cardiac Surgery?
2. State the common Abnormalities on Bypass. Highlight it.
3. What are the Contraindications of IABP?
4. How will you Treat a Massive Air Embolism during Bypass?
5. What are the different types of filter in CPB?
6. Mention the formula for the following a) K + correction b) Circulating hct c) Heparin to be added in prime formulae.
7. Mention an Osmotic Diuretic and give a note of it.
8. What is Hot Shot? When it is given?
9. What is Act? Why it is essential to be monitored during CPB. Mention normal ACT values and values to be maintained in CPB.
10. Composition of Delnido Cardioplegia with base solution. What is the Safe duration of it?
