PRACTICE SET

End Semester Examination, Dec 2025

Program: BPT
Semester: V
Course: Cardiopulmonary
Course Code: 23A503

CO 1	Recall anatomy and physiology of cardiopulmonary system
CO 2	Assess cardiopulmonary system
CO 3	Identify different types of cardiopulmonary condition and its management.
CO 4	Understand different cardiothoracic surgery
CO 5	Describe different vascular diseases etc.

Section A – **(20 × 5 = 100 Marks)**

1. Discuss the anatomy of the upper respiratory tract.[Unit 1][CO1] [LOT][UNDERSTAND]

2. Write the ABCs of resuscitation. [Unit 1] [CO1] [LOT] [REMEMBER]

3. Explain the composition of alveolar air. [Unit 1] [CO1] [LOT] [UNDERSTAND]

4. Define diffusion and discuss the factors affecting it. [Unit 1] [CO1] [LOT] [REMEMBER]

5. Explain partial pressure of oxygen and carbon dioxide in lungs. [Unit 1] [CO1] [LOT] [UNDERSTAND]

6. What is dead space? Mention its types. [Unit 1] [CO1] [LOT] [REMEMBER]

7. Explain the mechanics of breathing. [Unit 1] [CO1] [LOT][UNDERSTAND]

8. Define compliance and surface tension and also write about its applied physiology . [Unit 1] [CO1] [LOT][REMEMBER]

9. Discuss on pulmonary function tests (PFT). [Unit 2] [CO2] [LOT] [UNDERSTAND]

10. Explain the term “ventilation-perfusion ratio.” [Unit 2] [CO2] [LOT] [UNDERSTAND]

11. Explain about voluntary and involuntary control of respiration. [Unit 1] [CO1] [LOT] [UNDERSTAND]

12. Explain the physiological basis of oxygen transport in blood. [Unit 1] [CO1] [LOT] [UNDERSTAND]

13. Discuss the normal ECG wave pattern. [Unit 2][CO2] [LOT] [UNDERSTAND]

14. Write a short note on arrhythmia. [Unit 2] [CO2] [LOT] REMEMBER]

15. Explain the pathophysiology of myocardial infarction. [Unit 5] [CO3] [LOT] [UNDERSTAND]

16. Interpret clinical features and management of cardiac arrest. [Unit 1] [CO3] [LOT] [APPLY]

17. Write a short note on Intensive Care Unit (ICU) setup. [Unit 3] [CO3] [LOT] [REMEMBER]

18. Enumerate any two common conditions managed in ICU. [Unit 3] [CO3] [LOT] [REMEMBER]

19. Explain thoracotomy and its indications. [Unit 4] [CO4] [LOT] [UNDERSTAND]

20. Define emphysema and its clinical features. [Unit 4] [CO4] [LOT] [REMEMBER]

Section B **(15 × 10marks = 150 Marks)**

21. Differentiate Between pneumothorax and hemothorax and add a note on Intercostal Drainage. [Unit 4] [CO3] [HOT] [ANALYZE]

22. A patient of age 25 diagnosed RDS and has been advised to intubate in that context to apply your knowledge on the modes of ventilation and its weaning criteria. [Unit 3] [CO3] [LOT] [APPLY]

23. A 64-year-old female patient with a history of monoclonal gammopathy of undetermined significance and hepatitis B presents to the emergency department with sudden and severe shortness of breath, diaphoresis (excessive sweating), cyanosis, and peripheral vasoconstriction write the assessment of the patient in detail and formulate a treatment plan . [Unit 1] [CO3] [HOT] [CREATE]

24. Write in detail about the assessment of the cardiovascular system. [Unit 1] [CO3] [LOT] [REMEMBER]

25. A 55-year-old male with a history of chronic smoking presents with shortness of breath, productive cough, and wheezing. On auscultation, you hear diminished breath sounds in the lower lobes and prolonged expiratory phase with scattered wheezes.critically analyze the clinical application of auscultation of Breath Sound [Unit 1] [CO3] [HOT] [ANALYZE]

26. Apply your knowledge of cardiac physiology to identify and interpret different types of cardiac arrhythmias using ECG patterns, and explain the underlying physiological changes responsible for each type. [Unit 1] [CO3] [LOT][APPLY]

27. Describe ARDS and its management in ICU. [Unit 3] [CO3] [LOT [UNDERSTAND]

28. Apply your understanding of respiratory physiology to explain the causes, identify the clinical signs, and describe the appropriate management approach for a patient presenting with pneumothorax.[Unit 4] [CO3] [LOT[[APPLY]

29. Demonstrate how knowledge of respiratory anatomy and physiology can be applied to explain the causes, recognize the clinical signs, and outline the management of pneumothorax in a clinical scenario. [Unit 4] [CO3] [LOT[[APPLY]

30. Apply your understanding of cardiovascular anatomy and physiology to describe various congenital heart diseases, and illustrate their structural defects using neat and labelled diagrams. [Unit 5] [CO3][LOT[[APPLY]

31.Analyze in detail the assessment and physiotherapy management of a patient with Bronchial Asthma during an acute attack and in the remission phase. [Unit 3] [CO3] [HOT] [ANALYZE]

32. Describe the mechanism of gas exchange and analyze how alterations in alveolar–capillary membrane affect oxygen diffusion in diseases like ARDS. [Unit 1] [CO1] [HOT] [ANALYZE]

33. Discuss the hemodynamic changes occurring during congestive heart failure and create an appropriate physiotherapy management plan. [Unit 5] [CO5] [HOT] [CREATE]

34. Apply your understanding of respiratory mechanics to explain the impact of posture and positioning in improving lung ventilation in bedridden patients. [Unit 2] [CO2] [LOT] [APPLY]

35. Critically evaluate the role of cardiopulmonary rehabilitation in post–coronary artery bypass grafting (CABG) patients, focusing on phases of rehabilitation and exercise prescription. [Unit 4] [CO4] [HOT] [EVALUATE]

Section C **(10 × 20marks = 200 Marks)**

36. Explain in detail the anatomy of the cardiopulmonary system with labeled diagrams. And differentiate between Bronchopulmonary Segment and Tracheobronchial Tree? [Unit 1] [CO1] [HOT] [ANALYZE]

37. Develop a comprehensive case-based management plan for a patient with Chronic Obstructive Pulmonary Disease (COPD) by integrating knowledge of its clinical conditions, underlying pathophysiology, diagnostic findings, and therapeutic strategies.. [Unit 3] [CO3] [HOT] [CREATE]

38.Analyze the role of different cardiac investigations in diagnosing heart diseases, and interpret how ECG findings help differentiate among common cardiac disorders. [Unit 2] [CO2] [HOT] [ANALYZE]

39. Design a comprehensive care plan for patients on mechanical ventilation, incorporating strategies for ventilator management, monitoring, and prevention of complications.. [Unit 3] [CO3] [HOT] [CREATE]

40. Formulate a detailed preoperative and postoperative management plan for a patient undergoing pneumonectomy due to lung cancer, integrating knowledge of disease pathology, surgical procedure, and rehabilitation care. [Unit 4] [CO4] [HOT] [CREATE]

41.Design a comprehensive diagnostic and management protocol for a patient with Coronary Artery Disease (CAD), integrating knowledge of its clinical features, pathophysiology, and the role of cardiac catheterization.[Unit 4] [CO4] [HOT] [CREATE]

42. Critically evaluate the different types of Coronary Artery Bypass Grafting (CABG) procedures based on their indications, advantages, limitations, and patient outcomes. [Unit 4] [CO4] [HOT] [EVALUATE]

43. Develop a comprehensive clinical case analysis on Cardiomyopathies, integrating the disease types, clinical features, pathophysiology, diagnostic methods, and evidence-based management strategies. [Unit 4] [CO4] [HOT] [CREATE]

44. Design a detailed clinical management plan for patients with Peripheral Vascular Diseases, incorporating their classification, pathophysiology of venous insufficiency, and appropriate medical and physiotherapy interventions. [Unit 5] [CO5] [HOT] [CREATE]

45. Develop a structured emergency care protocol for any two neonatal emergency conditions, detailing ICU setup, essential equipment, and physiotherapy considerations for effective management. [Unit 3] [CO3] [HOT] [CREATE]

SUMMARY SHEET
Course Outcome Wise

CO	Question	Marks
CO1	**1-8,11,12,32,36**	**80**
CO2	**9,10,13,14,34,38**	**50**
CO3	**15,16,17,18,21-31,37,39,45**	**190**
CO4	**19,20,33,35,40,41,42,43,44**	**130**
	TOTAL	**450**

Unit Wise

	Question	Marks
Unit1	**1-8,11,12,16,23,24,25,26,32,36**	**125**
Unit2	**9,10,13,14,34,38**	**50**
Unit3	**17,18,22,27,31,37,39,45,**	**100**
Unit4	**19,20,21,28,29,35,40,41,42,43**	**130**
Unit5	**15,30,33,44**	**45**
	TOTAL	**450**

Bloom Taxonomy Wise

	Question	Marks
BTLOT	**1-20,21,24,26,27,28,29,30,34**	**180**
BTLHOT	**22,23,25,31-35,36-35**	**270**
	TOTAL	**450**

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Disclaimer: - This is a Practice Set. The Question in End term examination will differ from the Practice set. This Practice set is meant for practice only.