SNS COLLEGE OF ALLIED HEALTH SCIENCE, COIMBATORE -35.

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

B.Sc., CARDIAC TECHNOGY

ANATOMY PUZZLE

UNIT 2 - LUNGS

Puzzle — *The Silent Drop in SpO_2*

You are monitoring a 58-year-old male admitted for chest pain. He is on supplemental oxygen via simple face mask at 6 L/min. Baseline earlier today: RR 18/min, SpO_2 96% on O_2, comfortable, bilateral breath sounds equal.

At 02:40 the nurse calls: over the last 10 minutes the patient's SpO_2 dropped from 96% → 86%, he looks mildly anxious and is using accessory muscles; RR increased to

28/min. No chest pain now. Vital signs: HR 110, BP 120/78.

You examine him and find:

- Breath sounds: markedly decreased on the **left** side anteriorly; faint wheeze on the right.
- Trachea: **midline**.
- Percussion: left hemithorax is **hyperresonant** anteriorly.
- There's no audible crackles; no new jugular venous distention.
- Chest X-ray (portable, AP upright) shows increased radiolucency on the left compared with the right; mediastinum midline.
- Lab/monitoring: ABG on O_2 shows pH 7.43, $PaCO_2$ 33 mmHg, PaO_2 60 mmHg (on 6 L/min mask).

Tasks:

1. List the **three** most likely diagnoses (ranked) that explain this clinical

picture.

2. For the top diagnosis: explain the **pathophysiology** in 3–4 bullets and name **two immediate bedside actions** you would take.

RUBRICS

CRITERIA	DESCRIPTION	POINTS
1. Completeness	Answering all questions	5 pts
2. Accuracy	Clearly answering all questions	3 pts
4. Neatness	Clear handwriting, no erasures	2 pts
	TOTAL	**10 pts**