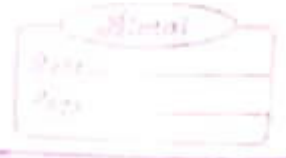


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28.05.2020

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Dr. Rajesh Verma, Assistant professor  
and Head, U.G. Department of  
zoology, D.K. College, Gurgaon (Haryana).  
Notes for B.Sc part 2<sup>nd</sup>, paper 3  
(A), Unit = 3 (C).

Question :- Respiratory system key comparative  
Anatomy ke chitra sahit Varan  
kare ?

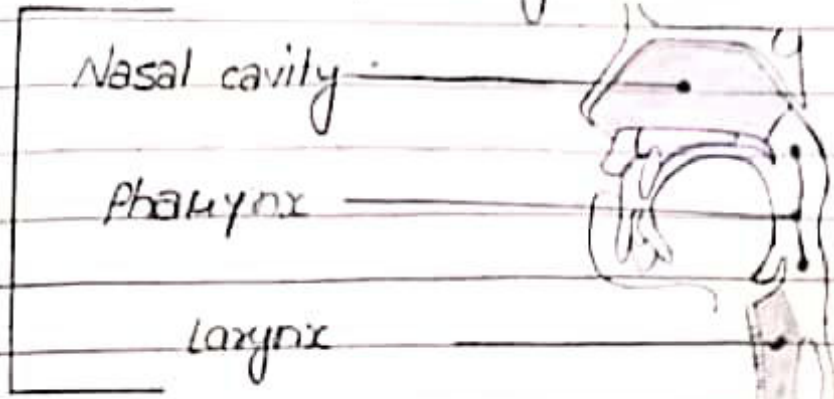
Ans:- The respiratory system (also  
respiratory apparatus ventilatory  
system) is a biological system  
consisting of specific organs and  
structures used for gas exchange  
in animals and plants. The  
anatomy and physiology that  
make this happen varies greatly  
depending on the size of the  
organism, the environment in  
which it lives and its  
evolutionary history. In land  
animals the respiratory surface  
is internalized as linings of  
the lungs. Gas exchange in  
the lungs occurs in millions of  
small air sacs called alveoli  
in mammals and reptiles, but  
atria in birds. These microscopic  
air sacs communicate with the  
external environment via a

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Journal

### Upper respiratory tract



### Lower respiratory tract



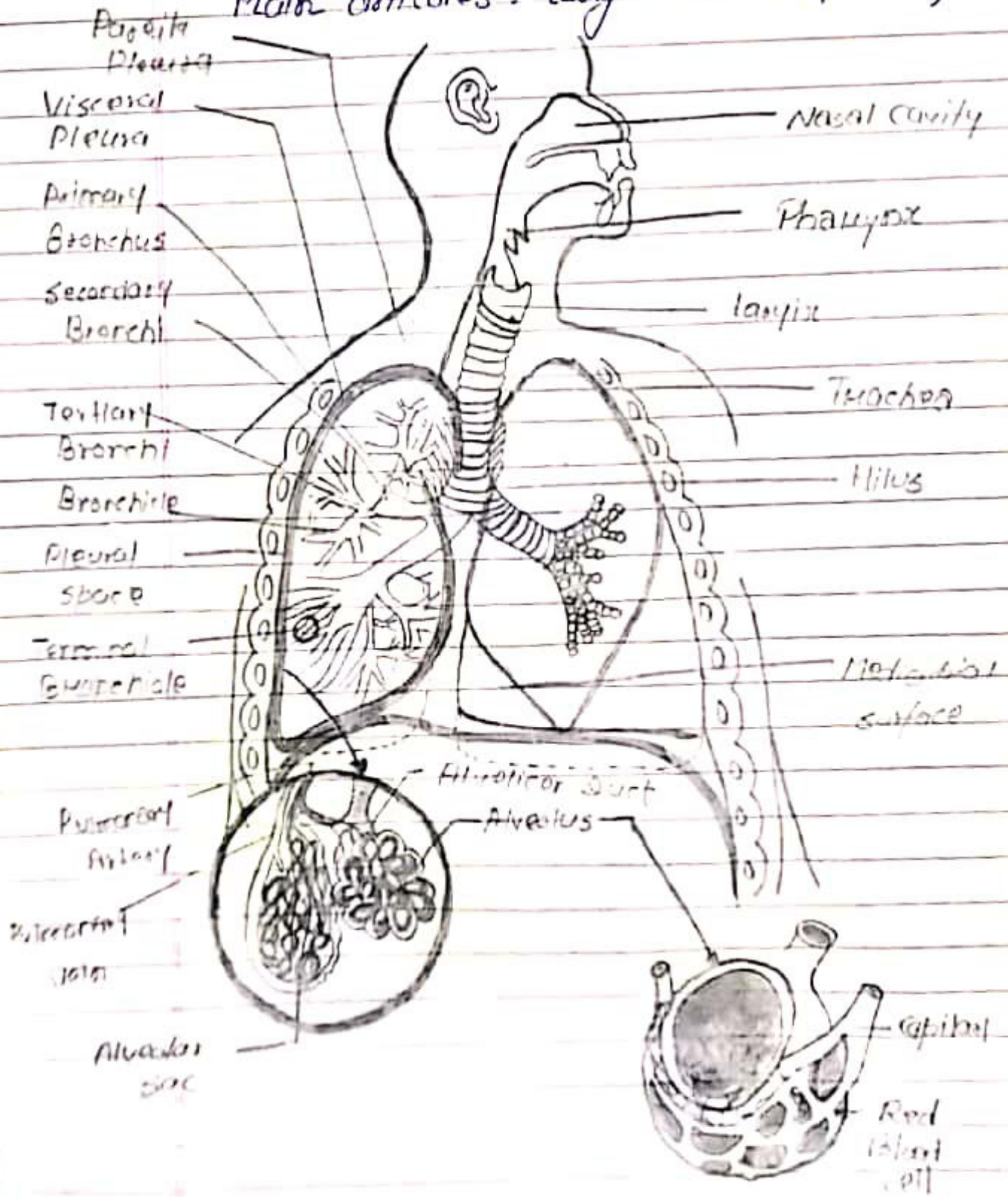
system of airways, are hollow tubes of which the largest is the trachea, which branches in the middle of the chest into the two main bronchi. These enter the lungs where they branch progressively into secondary and tertiary bronchi that branch into numerous smaller tubes, the bronchioles. In birds the bronchioles are termed parabronchi. It is the bronchioles, or parabronchi that generally open into the microscopic alveoli in mammals and atria in birds.



Mammals :-

Anatomy

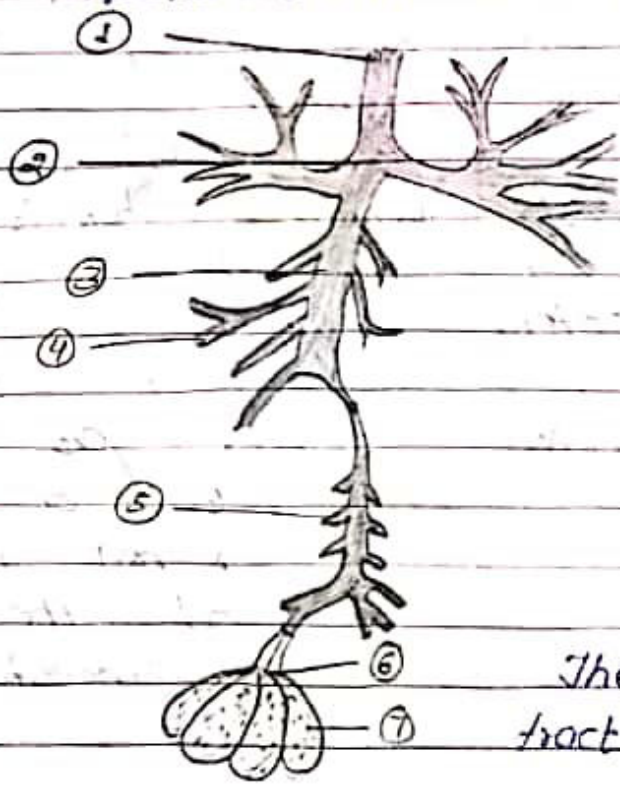
Main articles : lung and Respiratory Tree



In humans and other mammals, the anatomy of a typical respiratory system is the respiratory tract. The tract is divided into an upper and a lower

respiratory tract. The upper tract includes the nose, nasal cavities, sinuses, pharynx and the part of the larynx above the vocal folds. The lower tract includes the lower part of the larynx, the trachea, bronchi, bronchioles and the alveoli.

The branching airways of the lower tract are often described as the respiratory tree or tracheobronchial tree.



The lower respiratory tract, or "Respiratory tree"



11/11  
15.10.2020

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The intervals between successive branch points along the various branches of "tree" are often referred to as branching "generations" of which there are, in the adult human about 23.

The earlier generations (approximately generations 0-16), consisting of the trachea and the bronchi, as well as the larger bronchioles which simply act as air conduits, bringing air to the respiratory bronchioles, alveolar ducts and alveoli (approximately generations 17-23) where gas exchange takes place. Bronchioles are defined as the small airways lacking any cartilaginous support.

The alveoli are the dead end terminals of the "tree", meaning that any air that enters them has to exit via the same route.

A system such as this creates dead space, a volume of air (about 150 ml in the adult ~~space~~ human) that fills the airways after exhalation and is breathed back into the alveoli before environmental air reaches them.