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Notes for B.Sc part and  
paper 1 (V) A.

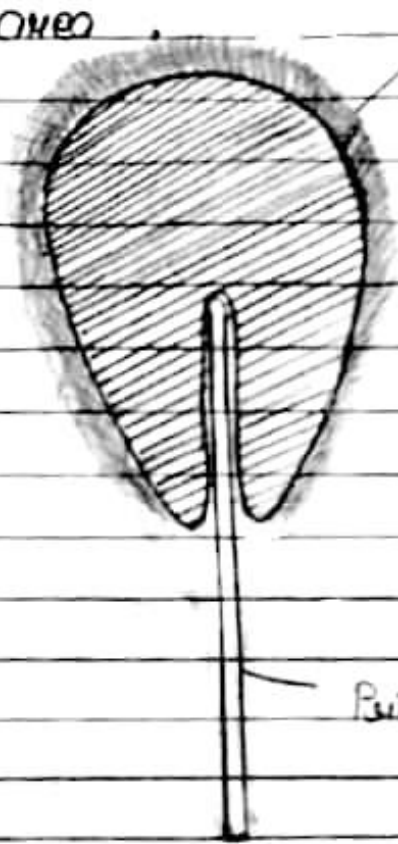
Lionel White notes on the  
Organogenesis of Brain in chick.

Introduction to Development of  
Brain in chick :-

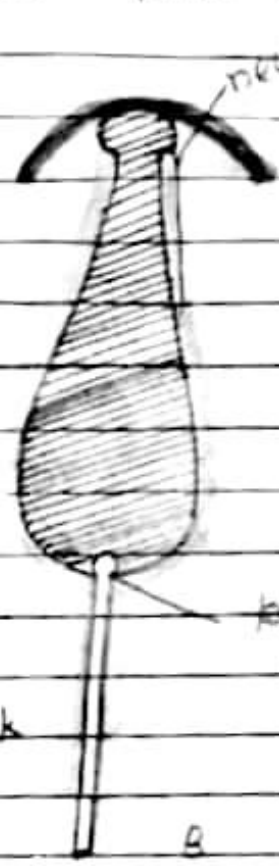
The neural tube formed  
from the neural ectoderm is  
located dorsally in the median  
plane of the embryo and  
forms the basis for the  
central nervous system. The  
groove continues to deepen and  
the neural folds meet above it,  
converting the original plate into  
a neural tube.

During  
gastrulation of chick a primitive  
streak with Hensen's node is  
formed. In the 24 hours  
chick-embryo, as epiboly of ecto-  
dermal cells is taking place at  
the surface of the embryo,  
it brings about an elongation  
of the presumptive neural

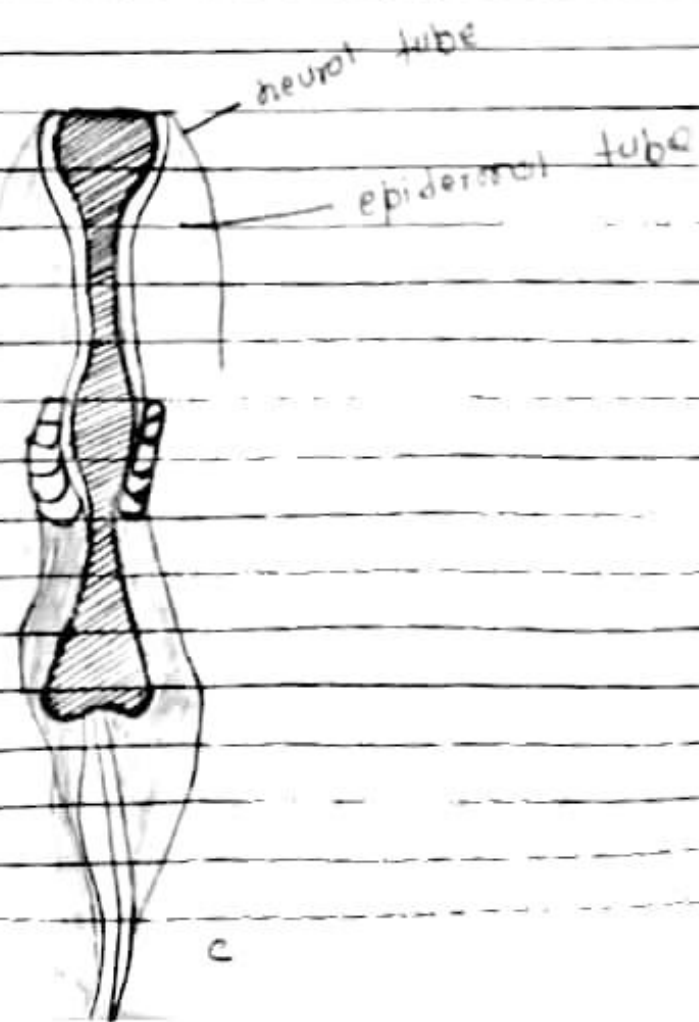
ectodermal cells above the notochordal  
OHED



A



B



C



## Organogenesis :-

Organogenesis is the phase of embryonic development that starts at the end of gastrulation and continues until birth. During organogenesis, the three germ layers formed from gastrulation (the ectoderm, endoderm, and mesoderm) form the internal organs of the organism.

The cells of each of the three germ layers undergo differentiation, a process where less-specialized cells become more-specialized through the expression of a specific set of genes. Cell differentiation is driven by cell signaling cascades. Differentiation is influenced by extracellular signals such as growth factors that are exchanged to adjacent cells which is called juxtacrine signaling or to neighboring cells over short distances which is called paracrine signalling. Intracellular signals (autocrine signaling), also play a role in organ formation.

Date  
-6-2020

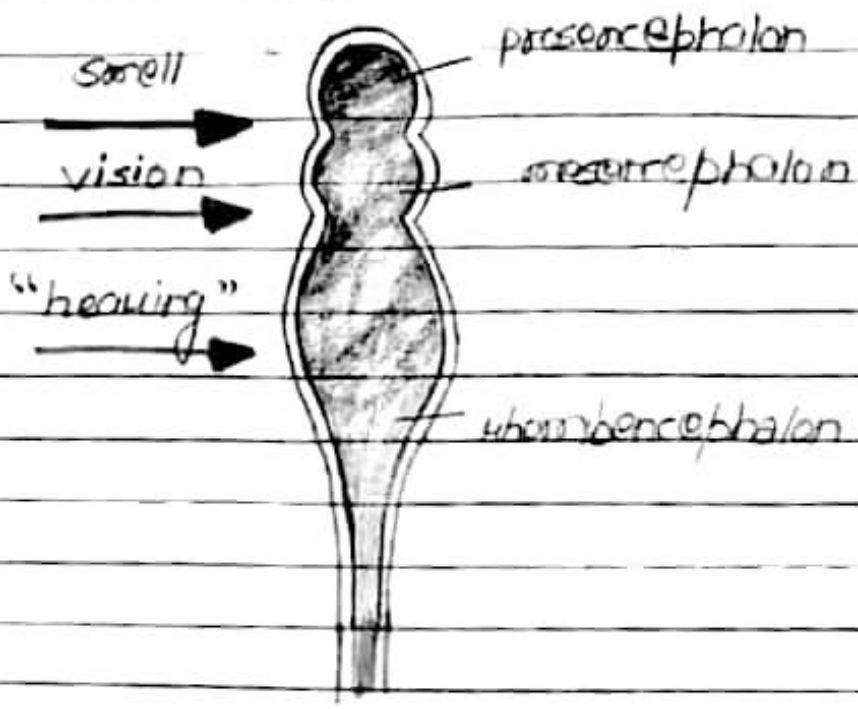


Diagram of the three part division of the brain in relation to smell, vision and hearing.

Development of Brain in chick

Organs produced by the germ layers :-

The endoderm is the inner most germ layer of the embryo which gives rise to gastrointestinal and respiratory organs by forming epithelial linings and organs such as the liver, lungs, and pancreas. The mesoderm or middle germ layer of the embryo will form the blood, heart, kidney, muscles, and



connective tissues. The ectoderm or outermost germ layer of the developing embryo forms epidermis, the brain, and the nervous system.

