

QP Code : 77080

(2½ Hours)

[Total Marks : 75

- N. B. :** (1) All questions are **compulsory**.
(2) All questions carry **equal** marks.
(3) Illustrate your answers with suitable diagrams wherever necessary.
(3) Figures to the **right** indicate marks.

1. (a) Using suitable diagrams explain the formation of the different organs of **Arabidopsis**. 8
- OR**
- Using well labelled diagrams explain how **Dictyostelium** achieves multicellularity. 8
1. (b) What are fate maps? Explain using a suitable example. 7
- OR**
- Explain the role of homeotic genes in specifying the parts of a flower. 7
2. (a) Using well labelled diagrams explain gastrulation and neurulation in chick. 10
- OR**
- Using a suitable example explain the organogenesis of eye or limb as seen in chick. 10
2. (b) With respect to Amphibians explain gastrulation. 5
- OR**
- Explain the role of neural crest cells. 5
3. (a) Enlist & give functions of cranial nerves of the peripheral Nervous System in Human. 8
- OR**
- Discuss the organisation and the function of the Brain Stem in Human. 8
3. (b) Discuss structure and function of the spinal cord in Human. 7
- OR**
- Give the organisation and function of the Limbic System of the Human Nervous system. 7

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4. (a) With reference of neural transmission explain, Nernst potential and Goldman equation. . 8
- OR**
- Discuss of Typical Nerve Cell and give the different types of nerve cells that transmit impulse. 8
4. (b) With reference to biosynthesis and the physiological role, explain **Glutamate** as a neurotransmitter. 7
- OR**
- Explain Electrical Synapse and Chemical Synapse of the central nervous system. 7
5. Write short notes on any **three** of the following :- 15
- (a) Enlist the major tissues formed from the ectoderm, mesoderm and endoderm
 - (b) Briefly explain meristems
 - (c) Using a flow-chart only explain in-situ hybridization
 - (d) Ganglionated nervous system citing one example only
 - (e) Learned behavior in animals.
 - (f) Cerebrospinal fluid of Human Central Nervous System.
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