National Board of Examinations

| Question Paper Name : | DNB Physiology Paper3 |
|---|-----------------------|
| Subject Name : | DNB Physiology Paper3 |
| Creation Date : | 2022-06-25 17:21:35 |
| Duration : | 180 |
| Share Answer Key With Delivery Engine : | No |
| Actual Answer Key : | No |

DNB Physiology Paper3

| Group Number : | 1 |
|-------------------------------|------------|
| Group Id : | 3271871167 |
| Group Maximum Duration : | 0 |
| Group Minimum Duration : | 180 |
| Show Attended Group? : | No |
| Edit Attended Group? : | No |
| Break time : | 0 |
| Group Marks : | 100 |
| Is this Group for Examiner? : | No |
| Examiner permission : | Cant View |
| Show Progress Bar? : | No |

DNB Physiology Paper3

| Section Id : | 3271871170 |
|------------------|------------|
| Section Number : | 1 |

| Section type : | Offline | |
|---|------------|--|
| Mandatory or Optional : | Mandatory | |
| Number of Questions to be attempted : | 10 | |
| Section Marks : | 100 | |
| Enable Mark as Answered Mark for Review and | Voc | |
| Clear Response : | Tes | |
| Maximum Instruction Time : | 0 | |
| Sub-Section Number : | 1 | |
| Sub-Section Id : | 3271871174 | |
| Question Shuffling Allowed : | No | |

Question Number : 1 Question Id : 32718710722 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Please write your answers in the answer booklet within the allotted pages as follows:-

| Question Number | Answer to be attempted within | Question Number | Answer to be attempted within |
|-----------------|-------------------------------|-----------------|-------------------------------|
| Q. 1 | Page 1-5 | Q. 6 | Page 26-30 |
| Q. 2 | Page 6-10 | Q. 7 | Page 31-35 |
| Q. 3 | Page 11-15 | Q. 8 | Page 36-40 |
| Q. 4 | Page 16-20 | Q. 9 | Page 41-45 |
| Q. 5 | Page 21-25 | Q. 10 | Page 46-50 |

1. Explain the synthesis, secretion, mechanism of action and regulation of the principal hormone responsible for maintaining extracellular fluid osmolarity. List one disorder each of hypo and hypersecretion of this hormone. [8+2]

Question Number : 2 Question Id : 32718710723 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Explain the role of cerebellar circuits in motor learning. Add a note on motor and extramotor predictive functions of cerebellum. [5+5]

Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Bone formation & resorption. [5]

b) Familial hypocalciuric hypercalcemia (FHH). [5]

Question Number : 4 Question Id : 32718710725 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Describe the muscle spindle and golgi tendon organ and discuss their role in the maintenance of tone and posture. [5+5]

Question Number : 5 Question Id : 32718710726 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Describe the growth, development and functions of the ovarian follicle. Add a note on the paracrine regulation of ovarian function. [7+3]

Question Number : 6 Question Id : 32718710727 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Give classification of sensory receptors. [4]

b) Describe the transduction of sensory stimuli into nerve impulses. Add a note on "The Labeled Line" principle. [4+2]

Question Number : 7 Question Id : 32718710728 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

- a) Define learning & memory. [1]
- b) Classify different forms of memory. [4]
- c) Explain the role and mechanism of synaptic plasticity in learning. [3]
- d) What is the visual theory of dyslexia? [2]

Question Number : 8 Question Id : 32718710729 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Describe the neural mechanisms involved in perception of colors from the retina to visual cortex. Add a note on color blindness. [8+2]

Question Number : 9 Question Id : 32718710730 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Describe the pathway and processing of auditory signals from ear to brain. [6]

b) Explain how the sound of guitar & sitar is differentiated by the auditory system, inspite of both being string instruments. [2]

c) Add a note on tympanometry. [2]

Question Number : 10 Question Id : 32718710731 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Describe the structure and function of the neural elements in the olfactory epithelium and olfactory bulb. [4]

b) Explain how odorant receptors are activated and the mechanism by which signal transduction occurs in these receptors. [4]

c) Explain anosmia in COVID-19. [2]