

National Board of Examinations

Question Paper Name :	DNB Physiology Paper4
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DNB Physiology Paper4

Group Number :	1
Group Id :	3271871168
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 Paper4

Section Id :	3271871171
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 Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	3271871175
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 32718710732 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. a) Describe the mechanism of sex differentiation & sexual development. [6]
- b) Discuss the causes of aberrant sexual differentiation. [4]

Question Number : 2 Question Id : 32718710733 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Describe the basic principles of control system. Explain the applications of these principles in context to hemostatic function of blood. Write a short note on DIC (disseminated intravascular coagulation) explaining the derangement in control system. [5+2+3]

Question Number : 3 Question Id : 32718710734 Question Type : SUBJECTIVE Consider As

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

What is the chemical composition and function of Pulmonary Surfactant? Explain the mechanism and physiological importance of first breath after birth. Add a note on hyaline membrane disease.

[5+3+2]

Question Number : 4 Question Id : 32718710735 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Discuss the physiological adjustments that accompany acclimatization to high altitude over a period of days, weeks, and months. [7]

b) High Altitude Pulmonary Edema (HAPE). [3]

Question Number : 5 Question Id : 32718710736 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Autophagy and its types. [5]

b) Hayflick limit. [3]

c) Sirtuin proteins. [2]

Question Number : 6 Question Id : 32718710737 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Discuss the circulatory dynamics in acute and chronic heart failure. Explain the physiological basis of various treatment modalities of chronic heart failure. [6+4]

Question Number : 7 Question Id : 32718710738 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

a) Channelopathies. [7]

b) Piezo ion channels. [3]

Question Number : 8 Question Id : 32718710739 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

- a) Permissive action of Glucocorticoids. [3]
- b) Anti-allergic and anti-inflammatory actions of Glucocorticoids. [5]
- c) Glucocorticoid-remediable aldosteronism (GRA). [2]

Question Number : 9 Question Id : 32718710740 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

- a) Define diabetes mellitus & add a note on "Maturity Onset Diabetes of the Young (MODY)". [1+4]
- b) Enumerate and give the pathophysiological basis of chronic complications of diabetes mellitus. [5]

Question Number : 10 Question Id : 32718710741 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

- a) Null Hypothesis. [5]
- b) ANOVA. [5]