

# National Board of Examinations

**Question Paper Name :** DNB Physiology Paper2  
**Subject Name :** DNB Physiology Paper2  
**Duration :** 182  
**Total Marks :** 100  
**Display Marks:** No

**Maximum Instruction Time :** 0  
**Is Section Default? :** No

**Question Number : 1 Question Id : 32718744767 Consider As Subjective : Yes**

**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) Define cardiac output and discuss Fick principle. [3]
- b) Explain the factors regulating stroke volume. [4]
- c) Compare fetal vs adult cardiac output distribution. [3]

**Question Number : 2 Question Id : 32718744768 Consider As Subjective : Yes**

- a) Describe determinants of blood flow (Poiseuille's law). [3]
- b) Explain the mechanism of autoregulation of blood flow. [4]
- c) Compare laminar vs turbulent flow. [3]

**Question Number : 3 Question Id : 32718744769 Consider As Subjective : Yes**

- a) Discuss structure & function of RBC membrane. [3]
- b) Explain the factors affecting oxygen transport mechanism by hemoglobin. [4]
- c) Describe differences between fetal hemoglobin and adult hemoglobin. [3]

**Question Number : 4 Question Id : 32718744770 Consider As Subjective : Yes**

- a) Describe migrating motor complex. [3]
- b) Explain the mechanism of gastric acid secretion. [4]
- c) Discuss the pathophysiology of gastric ulcers. [3]

**Question Number : 5 Question Id : 32718744771 Consider As Subjective : Yes**

- a) Describe the various determinants of GFR. [3]
- b) Explain the countercurrent mechanism in nephron. [4]
- c) Add a note on urea cycling. [3]

**Question Number : 6 Question Id : 32718744772 Consider As Subjective : Yes**

- a) Describe lung compliance & hysteresis. [3]
- b) Explain ventilation–perfusion ratio. [4]
- c) Discuss the various pressure-volume changes in the alveoli and pleural space during respiration. [3]

**Question Number : 7 Question Id : 32718744773 Consider As Subjective : Yes**

- a) Innervation of urinary bladder. [3]
- b) Micturition reflex and cystometrogram in normal human. [4]
- c) Explain the effects of deafferentation, denervation and spinal cord transection on urinary bladder functioning. [3]

**Question Number : 8 Question Id : 32718744774 Consider As Subjective : Yes**

- a) Enterohepatic circulation. [3]
- b) Mechanism of absorption and metabolism of fats. [4]
- c) Role of dietary fibres. [3]

**Question Number : 9 Question Id : 32718744775 Consider As Subjective : Yes**

- a) Describe platelet activation pathways. [3]
- b) Explain the mechanism of coagulation. [4]
- c) Use of anticoagulants in various clinical conditions. [3]

**Question Number : 10 Question Id : 32718744776 Consider As Subjective : Yes**

- a) Describe the role of J receptors present in lungs. [3]
- b) Explain the mechanism of neural control of respiration. [4]
- c) Describe the various non-chemical stimuli / afferents affecting the respiratory centre. [3]