

G
(20518)
B.D.S.-I Prof.

Printed Pages : 3
Roll No. 6097015

5136(N)

B.D.S. Supply. & Main Examination,
May-2018

**HUMAN PHYSIOLOGY AND
BIOCHEMISTRY**

[BDS-02(N)]

Time : Three Hours]

[Maximum Marks : 35+35=70

Note : (i) Attempt all questions.

(ii) Illustrate your answers with suitable diagram wherever necessary. Use separate copy for Part-A and Part-B.

Part-A

1. Describe the mechanism of HCl secretion and its regulation. 8
2. Define cardiac output. What are the determinants of Cardiac output. Discuss the factors affecting it. 8
3. Differentiate between the following : 3×3=9
 - (a) Myopia and hypermetropia
 - (b) Nephron and Neuron
 - (c) Hyperthyroidism and hypothyroidism.



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4. Write short notes on any *four* : $2\frac{1}{2} \times 4 = 10$

- (a) Neuromuscular Junction (NMJ)
- ✓ (b) Fate of Haemoglobin
- ✓ (c) Glomerular Filtration Rate (GFR)
- ✓ (d) Menstrual Cycle
- (e) Chemical regulation of respiration.

Part-B

Bio-Chemistry

5. Explain 'Glyogenesis' and 'Glycogenolysis' in details, showing all enzymes and coenzymes.

$5+5=10$

6. (a) How a molecule of 'lauric acid' ($C=12$) is completely oxidised in human body? Write the energetics of this pathway. $6+3=9$

(b) Explain protein synthesis in a bacterial cell under following headings- $2 \times 4 = 8$

- (i) Initiation
- (ii) Elongation
- (iii) Termination
- (iv) Post Translation Modifications

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7. Write short notes on each of the following :

$4+4=8$

- (i) Source, Functions, Requirement and Deficiency Manifestation of vitamin-D.
- (ii) Maintenance of Blood Glucose Level.



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Printed Pages : 3
Roll No. 6098059....

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**B.D.S. Supply. & Main Examination,
November-2018**

**HUMAN PHYSIOLOGY &
BIOCHEMISTRY**

[BDS-02(N)]

Time : Three Hours] [Maximum Marks : 35+35=70

Note : (i) Attempt all questions.

*(ii) Illustrate your answers with suitable
diagram wherever necessary. Use separate
copy for Part-A and Part-B.*

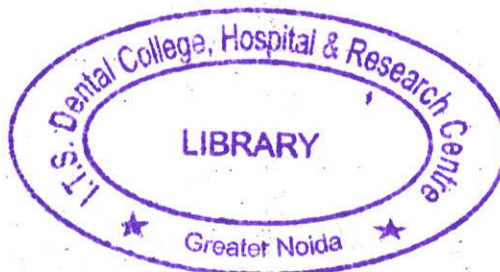
Part-A

(Human Physiology)

1. Draw well labeled diagram of neuro muscular Junction (NMJ). Give sequence of events across it during transmission of nerve impulse. 8
2. Name the hormones secreted by Pituitary Gland. Discuss the physiological action of growth hormone. 8

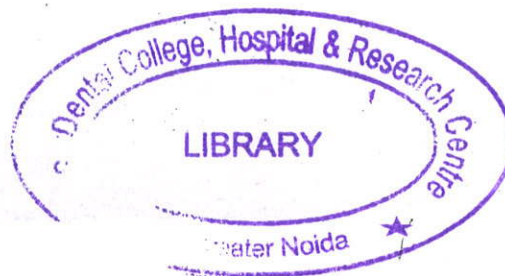
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(2)

3. Differentiate between the following : $3 \times 3 = 9$
- (a) Type I and Type II skeletal muscle fiber
 - (b) Fetal hemoglobin and adult hemoglobin
 - (c) Rods and cones.
4. Write short note on any *four* – $2.5 \times 4 = 10$
- (a) Juxtaglomerular apparatus
 - (b) Lung volumes and capacities
 - (c) Plasma proteins
 - (d) Functions of saliva
 - (e) Oral-contraceptive



Part-B
(Bio-Chemistry)

1. Write all reactions of hexose monophosphate shunt pathway. Add a note on the metabolic significance of this pathway. $6+4=10$
2. (a) How ketone bodies are synthesised and disposed off from human body ? Why they are increased in starvation and diabetes both ? $5+5=10$

(3)

- (b) What are Plasma Buffers ? Add the note on the biochemistry of respiratory acidosis and respiratory alkalosis. $2+4=6$
3. Write short note on any *three* of the following – $3 \times 3 = 9$
- (a) Gluconeogenesis
 - (b) Figure of replicating DNA Showing all Enzymes
 - (c) Secondary Structures of Proteins
 - (d) Fluid Mosaic Model