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(20315) Roll No.

B.D.S. I Prof.

5136(N)

47 Dental College (Regd) & Research Centre
47, Knowledge Park-III, Greater Noida

B.D.S. Supply & Main Examination,

March 2015

Human Physiology & Biochemistry

BDS-02(N)

Time : Three Hours / [Maximum Marks : 35+35]

Note: (1) Attempt all questions.

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

Part - A

(Physiology)

1. Describe the process of skeletal muscle contraction. 7
2. Enumerate anterior pituitary hormones. Describe the disorders of growth hormone. 7

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3. Differentiate between: 2.5 x 4 = 10

- (a) Hypoxic and anemic hypoxia
- (b) Red and white skeletal muscle fibres
- (c) Gastrin and cholecystokinin
- (d) Simple and facilitated diffusion

4. Enumerate the functions of Stomach. Write the Mechanism of HCl Secretion. 5

5. Write short notes on any three : 2 x 3 = 6

- (a) Baroreceptors
- (b) Referred pain
- (c) Glomerular filtration rate (GFR)
- (d) Oral contraceptives

Part - II

Biochemistry

1. Enumerate the factors the influence the absorption of calcium. Give in details how blood calcium levels are regulated. 5

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2. Define Isoenzyme giving examples. Describe relevance of Isoenzyme in the diagnosis of diseases. 4

3. Discuss the role of insulin in the regulation of blood glucose level. 4

4. Discuss the inborn errors of metabolism. 4

5. Write short note on: 3 x 6 = 18

- (a) DNA replication
- (b) Plasma Lipids
- (c) Scurvy
- (d) Tumour markers
- (e) Detoxication
- (f) B.M.R.

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Roll No.

B.D.S. I Prof.

5136(N)

B. D. S. Supply. & Main Examination, Oct. 2015

Human Physiology & Biochemistry

[BDS-02(N)]

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

Note: (1) Attempt all questions.

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

Part-A

(Physiology)

1. Define glomerular filtration rate (GFR). Give its normal value and discuss the factors affecting it. 7
2. Enumerate the hormones secreted by Ant Pituitary Gland and discuss physiological actions of growth hormone in detail. 7

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3. Differentiate between the following: 2.5×4=10

- (a) Rods and Cones
- (b) Active and Passive transport
- (c) Intrinsic and Extrinsic mechanism of blood coagulation.
- (d) Tetany and Tetanus.

4. Write briefly about the following: 2.5×2=5

- (a) Functions of Placenta
- (b) Menstrual cycle.

5. Write short notes on any three of the following: 2×3=6

- (a) Hypoxia
- (b) Neuromuscular junction
- (c) Basal Ganglia
- (d) Acquired immunity.

Part-B

(Biochemistry)

1. What are the different types of enzyme inhibition ?
Explain with suitable examples. 5

2. Give the normal blood glucose levels in fasting conditions and after a carbohydrate meal. What are the mechanisms by which normal range is maintained? 4

3. Describe sources, biochemical functions, requirements and deficiency manifestations of Vitamin-A. 4

4. Describe the reactions of Urea cycle. Discuss the interrelation of Urea cycle and Citric acid cycle. 4

5. Write short notes on the following: 3×6=18

- (a) Fluorosis
- (b) Basal metabolic rate
- (c) DNA polymerase
- (d) Gout
- (e) Uncouplers of oxidative phosphorylation
- (f) Lipoproteins.