



## MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND SEMESTER BPT / B.Sc. C.V.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. RRT&DT / BOPT / B.O.T./ B.Sc. N.M.T./B.Sc. M.L.T./ B.Sc. P.F.T.  
DEGREE EXAMINATION - MAY/JUNE 2018

SUBJECT : BIOCHEMISTRY / GENERAL BIOCHEMISTRYII  
(BIOC 102/BPT 106; BIOC 102; BIOC 102/BRES 108; BIOC 102/BMIT 106; BIOC 102/BDT 106; BIOC 102/ BOPT 104; BIOC 102/BOT 106;  
BIOC 102; BIOC 102/BMLT 104; BIOC 102)  
(2016 RV & 2016 SCHEME)  
Friday, June 01, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- 1) Describe in detail the steps of gluconeogenesis from lactate. Mention the significance of this process. (10)  
2A) Classify enzymes and name one enzyme in each class. (6)  
2B) Name four diagnostic enzymes and mention their clinical importance. (4)

3) Answer the following questions:

- 3A) Define electron transport chain. Give a diagrammatic representation of its complexes with their components in their order of arrangement. (5)  
3B) Write the site, subcellular site and reactions of  $\beta$ -oxidation of fatty acyl CoA. (5)  
3C) Describe the structure of DNA with a suitable diagram. (5)  
3D) Write the reactions of urea cycle. (5)

4) Answer the following:

- 4A) Name two glycogen storage disorders and mention the defective enzymes. (2)  
4B) Mention one example and one function each for a homopolysaccharide and a heteropolysaccharide. (2)  
4C) Define the terms replication and translation. (2)  
4D) List four factors affecting basal metabolic rate (BMR). (2)  
4E) Name two water soluble vitamins and mention one function for each. (2)

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## MANIPAL ACADEMY OF HIGHER EDUCATION

**FOURTH SEMESTER B.Sc. R.T./ BOPT / B.Sc. N.M.T. DEGREE EXAMINATION - MAY/JUNE 2018**  
**SUBJECT : BIOSTATISTICS/ RESEARCH METHODOLOGY & BIOSTATISTICS/ BIOSTATISTICS &**  
**RESEARCH METHODOLOGY**  
**(STAT 402 - 2016 SCHEME)**  
**Saturday, June 02, 2018 (14.00 - 16.00)**

**Marks: 50**

**Duration: 120 mins.**

1) The daily numbers of animals treated at a certain veterinarian clinic over a 20-day period are as follows:

22 17 19 31 28 29 21 33 36 24 15 28 25 28 22 27 33 19 25 28

Calculate the values of:

- |     |                             |     |
|-----|-----------------------------|-----|
| 1A) | Sample mean                 | (2) |
| 1B) | Coefficient of variation    | (8) |
| 1C) | 75 <sup>th</sup> percentile | (3) |

2) Briefly explain the following with examples:

- |     |                                |     |
|-----|--------------------------------|-----|
| 2A) | Interval scale and ratio scale | (4) |
| 2B) | Snowball sampling              | (4) |

**Answer all the questions.**

- |    |   |     |
|----|---|-----|
| 3) | Explain the structure of a research protocol.   | (6) |
| 4) | With the help of an example explain dependent and independent variables used in simple linear regression. Give the relationship between correlation coefficient and coefficient of determination in simple linear regression. | (6) |
| 5) | What is the role of Statistics in clinical medicine?  | (5) |
| 6) | Describe case series and case report study designs.   | (6) |

**7) Define the following:**

- |     |                         |     |
|-----|-------------------------|-----|
| 7A) | Period prevalence rate  | (2) |
| 7B) | Neonatal mortality rate | (2) |
| 7C) | Crude birth rate        | (2) |

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## MANIPAL ACADEMY OF HIGHER EDUCATION

**FOURTH SEMESTER B.Sc. C.V.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. RRT&DT / BOPT / B.O.T. / B.Sc. E.S.S./  
B.Sc. H.I.M. DEGREE EXAMINATION - MAY/JUNE 2018  
SUBJECT : GENERAL PSYCHOLOGY (PSYC 202)  
(2016 SCHEME)  
Thursday, May 31, 2018 (14.00 - 16.00)**

**Answer ALL questions.**

**Marks: 50**

**Duration: 120 mins.**

- |     |  |      |
|-----|--|------|
| 1)  | Define Intelligence. Explain any two theories of intelligence. | (10) |
| 2)  | Discuss the various factors that influence attention.          | (10) |
| 3A) | Maslow's hierarchy of needs                                    | (5)  |
| 3B) | Schools of Psychology  | (5)  |
| 3C) | Motor development  | (5)  |
| 3D) | Types of Conflict  | (5)  |
| 4A) | Shaping  | (2)  |
| 4B) | Introspection  | (2)  |
| 4C) | Algorithm  | (2)  |
| 4D) | IQ   | (2)  |
| 4E) | Rehearsal  | (2)  |

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