

NEW
Part-III 3-Tier
2016
ZOOLOGY
(Honours)
PAPER—VII
(PRACTICAL)

Full Marks : 100

Time : 5 Hours

*The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their
own words as far as practicable.*

Answer all questions.

Group—A

1. Make a smear preparation of the sample provided. Draw, label and comment on your observation. 4+4+3+4
2. (a) Identify the specimens / prepared slides (A & B) with reasons. 4+4
(b) Determine the blood group of the sample provided. Write the principle and comment on your observation with suitable explanation. 3+2+2

(Turn Over)

3. Make a 'Gram' stained preparation of the bacterial sample provided and identify the organisms under compound microscope. 8+2

Group—B

4. Make a 'Chi-square' test of the problem provided. 15

Or

Analysis of Pedigree (Cross to be provided).

5. (a) Identify (qualitative test) the sample provided and make an inference on your observation. 6+4
- (b) Estimate the amount of protein in unknown solution using 'Lowry' method. 7+3
- (c) Estimate the pH of a given sample. Comment on your result. 2+3

Group—C

6. Viva Voce. 10
7. Laboratory Note Book. 10

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[Instructions to the Examiners]

Group—A

1. Gut content of cockroach / seminal vesicle smear from earthworm to be given.

	<u>Marks</u>
(a) Smear preparation/Identification of Parasite	04
(b) Drawing the endoparasite	04
(c) Labelling of diagram	03
(d) Comments	04
Total :	<u>15</u>

(Turn Over)

2. (a) Two (2) Prepared slides to be given :

- (i) Lymph gland
- (ii) Bursa fabriciosa
- (iii) Spleen

	<u>Marks</u>
(i) Identification	01
(ii) Key points	03
Total :	04 × 2 = 8

(b) Own blood sample to be taken.

[Provide sterilized new needle to every student. No multiple use]

	<u>Marks</u>
(i) Blood group determination	03
(ii) Principle	02
(iii) Comments	02
Total :	07

3. Microbial (Bacteria) sample to be given for staining.

	<u>Marks</u>
(i) Smear preparation	02
(ii) Staining	06
(iii) Identification	02
Total :	10

Group—B

4. A standard genetic cross followed by Chi square test for goodness of fit of the offspring ratio with that of theoretical genetic ratio is to be worked out. (with *df* not more than 2). Chi square values for the given *df* at $\alpha = 0.05$ are to be supplied.

	<u>Marks</u>
(i) Genetic cross (set up)	05
(ii) Chi square test (procedure)	05
(iii) Inference	05
Total :	<u>15</u>

Or

Pedigree for common inheritance (from Mendelian recessive or dominant / Sex-linked recessive of dominant / Holandric) pattern should be supplied.

	<u>Marks</u>
(i) Stepwise analysis	05
(ii) Inference	05
Total :	<u>10</u>

5. (a) Two samples are to be provided as per syllabus.

	<u>Marks</u>
(i) Identification of the sample	06
(ii) Inference	04
Total :	<u>10 × 2 = 20</u>

N.B. : *Extra credit should be given to the condition those who mention the reaction steps.*

	<u>Marks</u>
(b) (i) Determination of the concentration of the provided sample	07
(ii) Inference	03
Total :	<u>10</u>

N.B. : Graphical presentation is required.

(c) Water sample (Acidic / Alkaline) are to be given for pH analysis :

(i) Mention the pH of the sample	02
(ii) Comment	<u>03</u>
Total :	5

Group—C

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| 6. Viva-Voce. | 10 |
| 7. Laboratory note book.
(Should be duly signed by the teachers.) | 10 |

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