

# FOR TEACHERS ONLY

# Bio

The University of the State of New York  
REGENTS HIGH SCHOOL EXAMINATION

## BIOLOGY

Thursday, June 24, 1999—9:15 a.m. to 12:15 p.m., only

### SCORING KEY

#### Part I

Refer to the table on the answer paper for the number of credits to be given on Part I.

#### Part I (65 credits)

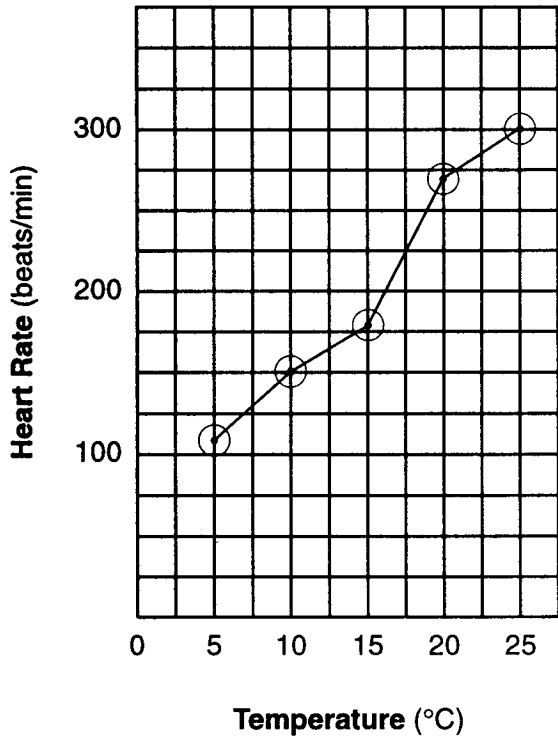
|    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |
|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|
| 1  | X | 2 | 3 | 4 | 21 | 1 | 2 | X | 4 | 41 | 1 | X | 3 | 4 |
| 2  | 1 | 2 | X | 4 | 22 | X | 2 | 3 | 4 | 42 | 1 | 2 | 3 | X |
| 3  | X | 2 | 3 | 4 | 23 | 1 | 2 | X | 4 | 43 | X | 2 | 3 | 4 |
| 4  | 1 | X | 3 | 4 | 24 | 1 | 2 | 3 | X | 44 | 1 | 2 | 3 | X |
| 5  | 1 | 2 | 3 | X | 25 | 1 | X | 3 | 4 | 45 | 1 | 2 | X | 4 |
| 6  | 1 | X | 3 | 4 | 26 | X | 2 | 3 | 4 | 46 | 1 | 2 | X | 4 |
| 7  | 1 | 2 | X | 4 | 27 | 1 | 2 | X | 4 | 47 | X | 2 | 3 | 4 |
| 8  | 1 | 2 | 3 | X | 28 | 1 | 2 | X | 4 | 48 | 1 | X | 3 | 4 |
| 9  | 1 | X | 3 | 4 | 29 | 1 | 2 | 3 | X | 49 | 1 | 2 | 3 | X |
| 10 | 1 | 2 | 3 | X | 30 | 1 | X | 3 | 4 | 50 | 1 | 2 | 3 | X |
| 11 | X | 2 | 3 | 4 | 31 | X | 2 | 3 | 4 | 51 | X | 2 | 3 | 4 |
| 12 | 1 | 2 | 3 | X | 32 | 1 | X | 3 | 4 | 52 | X | 2 | 3 | 4 |
| 13 | 1 | 2 | 3 | X | 33 | 1 | X | 3 | 4 | 53 | 1 | X | 3 | 4 |
| 14 | 1 | 2 | X | 4 | 34 | X | 2 | 3 | 4 | 54 | 1 | 2 | X | 4 |
| 15 | 1 | X | 3 | 4 | 35 | 1 | 2 | X | 4 | 55 | 1 | 2 | 3 | X |
| 16 | 1 | X | 3 | 4 | 36 | 1 | 2 | 3 | X | 56 | X | 2 | 3 | 4 |
| 17 | 1 | 2 | 3 | X | 37 | 1 | 2 | 3 | X | 57 | 1 | X | 3 | 4 |
| 18 | X | 2 | 3 | 4 | 38 | 1 | 2 | X | 4 | 58 | X | 2 | 3 | 4 |
| 19 | 1 | 2 | X | 4 | 39 | X | 2 | 3 | 4 | 59 | 1 | X | 3 | 4 |
| 20 | 1 | 2 | X | 4 | 40 | 1 | X | 3 | 4 |    |   |   |   |   |

#### Directions to the Teacher:

Use only *red* ink or *red* pencil in rating Regents examination papers. Do *not* correct the student's work by making insertions or changes of any kind.

Scan each answer paper to make certain that the student has marked only one answer for each question. If a student has marked two or more answers with an X in ink, draw a red line through the row of numbers for that question to indicate that no credit is to be allowed for that question when the answer paper is scored.

To facilitate scoring, the scoring key has been printed in the same format as the answer paper. The scoring key for **Part I and Part II** may be made into a scoring stencil by punching out the correct answers. Be sure that the stencil is aligned with the answer paper so that the holes correspond to the correct answers. To aid in proper alignment, punch out the first and last item numbers in each part and place the stencil on the answer paper so that these item numbers appear through the appropriate holes.



**Part II**

Allow a total of 20 credits, one credit for each question, for only two of the five groups in this part. If more than two groups are answered, only the first two should be considered.

| Group 1<br>Biochemistry |   |   |   |   |
|-------------------------|---|---|---|---|
| 60                      | 1 | 2 | 3 | X |
| 61                      | 1 | X | 3 | 4 |
| 62                      | X | 2 | 3 | 4 |
| 63                      | 1 | X | 3 | 4 |
| 64                      | 1 | 2 | X | 4 |
| 65                      | 1 | 2 | X | 4 |
| 66                      | 1 | X | 3 | 4 |
| 67                      | 1 | 2 | 3 | X |
| 68                      | X | 2 | 3 | 4 |
| 69                      | 1 | 2 | X | 4 |

| Group 3<br>Reproduction and<br>Development |   |   |   |   |
|--|---|---|---|---|
| 80   | X | 2 | 3 | 4 |
| 81   | 1 | 2 | X | 4 |
| 82   | X | 2 | 3 | 4 |
| 83   | 1 | X | 3 | 4 |
| 84   | 1 | 2 | 3 | X |
| 85   | 1 | X | 3 | 4 |
| 86   | 1 | 2 | X | 4 |
| 87   | X | 2 | 3 | 4 |
| 88   | 1 | X | 3 | 4 |
| 89   | 1 | 2 | 3 | X |

| Group 5<br>Ecology |   |   |   |   |
|--------------------|---|---|---|---|
| 100                | 1 | 2 | 3 | X |
| 101                | X | 2 | 3 | 4 |
| 102                | 1 | X | 3 | 4 |
| 103                | 1 | 2 | 3 | X |
| 104                | 1 | 2 | X | 4 |
| 105                | 1 | X | 3 | 4 |
| 106                | X | 2 | 3 | 4 |
| 107                | 1 | 2 | X | 4 |
| 108                | X | 2 | 3 | 4 |
| 109                | 1 | 2 | X | 4 |

| Group 2<br>Human Physiology |   |   |   |   |
|-----------------------------|---|---|---|---|
| 70                          | 1 | 2 | 3 | X |
| 71                          | 1 | X | 3 | 4 |
| 72                          | 1 | 2 | 3 | X |
| 73                          | 1 | 2 | X | 4 |
| 74                          | X | 2 | 3 | 4 |
| 75                          | 1 | 2 | X | 4 |
| 76                          | 1 | 2 | 3 | X |
| 77                          | 1 | X | 3 | 4 |
| 78                          | X | 2 | 3 | 4 |
| 79                          | 1 | X | 3 | 4 |

| Group 4<br>Modern Genetics |   |   |   |   |
|----------------------------|---|---|---|---|
| 90                         | 1 | X | 3 | 4 |
| 91                         | 1 | 2 | 3 | X |
| 92                         | 1 | 2 | 3 | X |
| 93                         | 1 | 2 | X | 4 |
| 94                         | 1 | X | 3 | 4 |
| 95                         | 1 | 2 | 3 | X |
| 96                         | X | 2 | 3 | 4 |
| 97                         | X | 2 | 3 | 4 |
| 98                         | 1 | 2 | X | 4 |
| 99                         | 1 | X | 3 | 4 |



Part III

Allow a total of 15 credits for only three of the five groups in this part. If all five groups are answered, only the first three should be considered.

Group 1

110

Data Table

| Temperature (°C) | Heart Rate (beats/min) |
|------------------|------------------------|
| 5                | 108                    |
| 10               | 150                    |
| 15               | 180                    |
| 20               | 270                    |
| 25               | 300                    |

**Rating instructions for question 110.**

The data table may be completed with temperature increasing from the top to the bottom of the data table as shown here *or* decreasing from the top to the bottom of the data table.

**111–112 Example of Acceptable Response**  
[See the back of the Scoring Key for Part I for acceptable graph.]

**Rating instructions for questions 111–112.**

**111** Allow one credit for marking an appropriate scale on each labeled axis.

**112** Allow one credit for plotting the data correctly, surrounding each point with a small circle, and connecting the points.

**113** 1 2 **X** 4

**114** 1 2 **X** 4

Group 2

**115** **X** 2 3 4

**116** 1 2 **X** 4

**117** 1 **X** 3 4

**118** 1 2 3 **X**

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

**119** Iodine can be used to test for the presence of starch. A blue-black color indicates a positive test for starch.

Group 3

**120** **X** 2 3 4

**121** 1 2 3 **X**

**122** 1 2 3 **X**

**123** 1 **X** 3 4

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

**124** A — It supports and protects the cell.  
B — It regulates the movement of materials into and out of the cell.  
C — It stores various materials.

**Group 4**

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

- 125** A — This group could be used to observe organisms in pond water.  
 B — This group could be used to dissect an earthworm.  
 C — This group could be used to test food items for sugar.  
 D — This group could be used to test the response of hydra to vinegar (an acid) or light.

**126** 1 2 **X** 4

**127** 1 2 **X** 4

**128** 1 2 3 **X**

**129** **X** 2 3 4

**Group 5**

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

- 130** The number of turns in the waggle dance decreases as the distance of the food supply from the hive increases.

**131** 1 2 **X** 4

**132** 1 **X** 3 4

**133** 1 2 3 **X**

The answers below represent sample responses. Other complete-sentence responses are acceptable. Allow no partial credit.

- 134** Goggles should be worn.  
*or*  
 Dissection instruments should be handled with care.