Module 3
Reproductive Systems

Student Name: ________________________________________
<table>
<thead>
<tr>
<th>Lesson</th>
<th>Total Possible Marks</th>
<th>Your Mark</th>
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</thead>
<tbody>
<tr>
<td>Lesson 1.1</td>
<td>10</td>
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<td>Lesson 1.2</td>
<td>7</td>
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<td>Lesson 1.3</td>
<td>8</td>
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<td>Lesson 2.1</td>
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<td>Lesson 2.3</td>
<td>11</td>
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<td>Lesson 2.4</td>
<td>10</td>
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<tr>
<td>Total Marks</td>
<td>58</td>
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</tbody>
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**Teacher Comments:**
Section 1, Lesson 1: The Male Reproductive System

This Module 3—Lesson 1 Assignment is worth 10 marks. Each question is worth one mark.

1. Which of the following does not contribute to the formation of semen?
   - A. Prostate gland
   - B. Seminal vesicles
   - C. Cowper’s gland
   - D. Vas deferens

2. Which of the following secretes testosterone?
   - A. Sertoli cells
   - B. Interstitial cells
   - C. Pituitary cells
   - D. Sperm cells

Use the diagram below to answer the following four questions.
The most acidic secretions are released by the structure numbered
3. 
   A. 2  
   B. 8  
   C. 10  
   D. 12

The structure that is least important for reproduction and waste removal is labelled
4. 
   A. 1  
   B. 7  
   C. 11  
   D. 13

In a healthy male, sperm does not pass through which of the following structures
5. 
   A. 3  
   B. 4  
   C. 8  
   D. 12

Which structure produces nutrients for sperm transport?
6. 
   A. 8  
   B. 10  
   C. 11  
   D. 12

The tip of the sperm is called the
7. 
   A. tail  
   B. head  
   C. nucleus  
   D. acrosome

How many sperm are released in an average ejaculation?
8. 
   A. Tens  
   B. Hundreds  
   C. Thousands  
   D. Millions

Which of the following is true about testicular temperature?
9. 
   A. It is lower than average body temperature  
   B. It is equal to average body temperature  
   C. It is greater than average body temperature  
   D. It is much greater than average body temperature

In a vasectomy, the ________ is/are cut, a portion is removed and the stumps are sutured.
10. 
    A. urethra  
    B. oviducts  
    C. epididymis  
    D. vas deferens
Section 1, Lesson 2: The Female Reproductive System

This Module 3: Section 1—Lesson 2 Assignment is worth 7 marks. Each question is worth one mark.

1. The structure(s) responsible for the production of progesterone is/are
   A. ovarian follicle
   B. corpus albicans
   C. corpus luteum
   D. corpus spongiosum

2. What provides energy for motility of the egg cell from the ovary to the uterus?
   A. flagella powered by fructose in the fallopian tubes
   B. cilia powered by fructose in the fallopian tubes
   C. passive transport through the fallopian tubes which requires no extra energy
   D. flagella powered by the mitochondria within the large egg cell

Use the diagram below to answer the following four questions.
The order in which an unfertilized egg passes through the structures of the female reproductive system is represented by the following sequence:

A. 3, 1, 4
B. 1, 3, 4
C. 1, 4, 6
D. 13, 6, 7

The endometrium is best represented by which number?

A. 1
B. 4
C. 5
D. 6

Which of the numbers below represents a structure that is present in pairs within the human female?

A. 3
B. 4
C. 5
D. 7

Which number best represents where fertilization takes place?

A. 2
B. 3
C. 4
D. 12

Which reproductive structures are least similar in function?

A. Interstitial cells of testes and follicles of ovaries
B. Testes and ovaries
C. Vas deferens and fallopian tubes
D. Seminiferous tubules and uterus
Section 1, Lesson 3: Lab—Examining Gonads and Gametes

This Module 3: Section 1—Lesson 3 Assignment is worth 8 marks. The value of each question is stated in the left margin. Slides to refer to are found on the Bio 30 website: Unit B > Module 3 > Section 1 > Lesson 3 > Lab page

(2 marks) 1. How does the number of sperm cells that are visible in the images of the testicular tissue specimen compare with the number of ova that are visible in the ovarian tissue specimen images?

(2 marks) 2. How does the size of the sperm cells in the testicular tissue specimen compare with the size of the ova in the ovarian tissue specimen images?

(4 marks) 3. Explain how the difference in size and quantity of the gametes in the male and female gonads contribute to their reproductive functions.

There are no assignments for Module 3.1: Lessons 4 and 5. However, you are still responsible for learning the material presented in these lessons.
Section 2, Lesson 1: Testosterone and Male Development

This Module 3: Section 2—Lesson 1 Assignment is worth 12 marks. The value of each assignment and each question is stated in the left margin.

1. Examine the data in the table below. Graph this data using a line graph that you think is most appropriate (Note questions 2 and 3 when developing your graph).

Normal Blood Testosterone Levels in Males

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Blood testosterone level (ng/dL)</th>
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<tbody>
<tr>
<td>1 to 7.9</td>
<td>40</td>
</tr>
<tr>
<td>8 to 10.9</td>
<td>42</td>
</tr>
<tr>
<td>11 to 11.9</td>
<td>260</td>
</tr>
<tr>
<td>12 to 13.9</td>
<td>420</td>
</tr>
<tr>
<td>14 to 17.9</td>
<td>1000</td>
</tr>
<tr>
<td>18 to 29</td>
<td>1100</td>
</tr>
</tbody>
</table>

2. Extrapolate the graph to include ages 30 to 70 years of age, using a different color.

3. Based on the data, at what age does puberty begin? Mark this point on your graph.
4. Use print or Internet resources to research the physiological changes that take place during male puberty. Write a brief description of the changes that are associated with changing levels of testosterone. Identify which of these changes are directly related to reproductive function.

5. Is it possible to use blood hormone data to identify the end of puberty? Explain your answer.

6. In young men, the growth of facial hair begins at the same time as blood testosterone levels start to increase. From this evidence, can you conclude that testosterone causes facial hair growth? Justify your answer.

There is no assignment for Module 3.2: Lesson 2. However, you are still responsible for learning the material presented in the lesson.
Section 2, Lesson 3: Phases of Menstruation

This Module 3: Section 2—Lesson 3 Assignment is worth 11 marks. Each question is worth one mark.

1. Follicle-stimulating hormone is to estrogen as luteinizing hormone is to

   A. progesterone
   B. testosterone
   C. vasopressin
   D. luteotrophic hormone

2. During the follicular phase of a normal menstrual cycle, ovarian changes occur that are due to pituitary secretions of

   A. FSH only
   B. LH only
   C. Oxytocin
   D. FSH and LH

3. The structure(s) responsible for the production of progesterone is/are

   A. ovarian follicle
   B. corpus albicans
   C. corpus luteum
   D. corpus spongiosum

Use page 500 in your text to help you answer the following eight questions.

4. During which part of the menstrual cycles does the level of FSH increase? What happens to the follicle during this time?

   A. The follicular stage; the follicle breaks down
   B. The luteal stage; the follicle breaks down
   C. The follicular stage; the follicle forms
   D. The luteal stage; the follicle forms

5. What event takes place immediately following the peak in LH levels during the menstrual cycle?

   A. Menstruation
   B. Ovulation
   C. Fertilization
   D. Lutenization

6. What event is associated with the decline of LH in the blood?

   A. Formation of the corpus luteum
   B. Formation of the follicle
   C. Formation of the corpus albicans
   D. Formation of the zygote
7. How does the uterus respond to increased estrogen levels during days 10-14 of the menstrual cycle?

   A. The lining thickens  
   B. The lining thins  
   C. It contracts  
   D. It expands  

8. How does the uterus respond to increased progesterone in the blood after ovulation?

   A. The lining thickens  
   B. The lining thins  
   C. It contracts  
   D. It expands  

9. During what days of the cycle are estrogen and progesterone at their lowest? What happens at this time?

   A. 1-5; the endometrial lining is shed  
   B. 23-28; the endometrial lining is shed  
   C. 7-12; ovulation occurs  
   D. 15-20; ovulation occurs  

10. Increasing blood levels of estrogen and progesterone causes FSH levels in the blood to

    A. fluctuate  
    B. increase  
    C. decrease  
    D. remain constant  

11. At which time in the menstrual cycle is a woman most fertile?

    A. Day 1  
    B. Day 7  
    C. Day 14  
    D. Day 21
Section 2, Lesson 4: Endocrine Disruptors in the Environment

This Module 3: Section 2—Lesson 4 Assignment is worth 10 marks.

1. Complete the two questions in “Endocrine Disruptors in the Environment” from page 501 of the textbook. (5 marks each)

This is the end of the module. Please check your work, make sure your name is on the cover and submit the completed module to your instructor for marking.