

USABO SEMIFINAL EXAMINATION
March 13 to March 22, 2013

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|----------|-------------|-------------|--------------|
| 1. C | 31. D | 62. A | 92. B |
| 2. B | 32. D | 63. D | 93. B |
| 3. C | 33. A | 64. A | 94. B |
| 4. D | 34. D | 65. B | 95. C |
| 5. B, C | 35. A, D | 66. B | 96. C |
| 6. A, E | 36. B, C, E | 67. C | 97. A, C, D |
| 7. E | 37. A | 68. C | 98. D |
| 8. B | 38. C | 69. D | 99. E |
| 9. C | 39. B | 70. B | 100. C |
| 10. E | 40. A | 71. A, B, C | 101. C |
| 11. D | 41. D | 72. A | 102. D |
| 12. D | 42. B | 73. D | 103. E |
| 13. C | 43. D | 74. A, E | 104. B |
| 14. A | 44. D | 75. A | 105. D |
| 15. B | 45. B | 76. D | 106. A, C |
| 16. E | 46. B | 77. A | 107. D |
| 17. C | 47. A, C | 78. D | 108. B |
| 18. D | 48. A, B | 79. D | 109. E |
| 19. E | 49. B | 80. E | 110. A |
| 20. B | 50. A | 81. C | 111. A |
| 21. C | 51. A | 82. C | 112. B |
| 22. D | 52. E | 83. B | 113. A |
| 23. A | 53. A | 84. B | 114. A |
| 24. D | 54. B | 85. D | 115. D |
| 25. C, E | 55. B | 86. E | 116. B |
| 26. D | 56. B | 87. B | 117. D |
| 27. C | 57. A | 88. B | 118. B |
| 28. D | 58. B | 89. A | 119. C |
| 29. E | 59. C | 90. A | 120. A, C, E |
| 30. D | 60. D | 91.. B | |
| | 61. D | | |

2013 USABO Semifinal Part C

Question 1

a. From the description provided, it is an endocrine deficiency of the anterior pituitary.

Point breakout:

a. 0 points: If response is either /or hypothalamus, pituitary, anterior pituitary, gonads

1 point: pituitary, pituitary → ovary or gonads

2 points: anterior pituitary

b. She is probably not producing growth hormones or growth releasing hormone (GRH) growth stimulating hormone (STH or HGH), FSH, and LH. These are especially important in combination with thyroid hormone.

1 point: Growth hormone

2 points: if growth hormone is combined with TH

1 point each: STH, FSH, LH; gonadotropin or GnRH for either FSH or LH, but not in addition to FSH or LH

4 points for STH, FSH & LH with THTSH, thyroxine, possible instead of TH

c. She may show abnormalities in protein synthesis, fat metabolism, and blood-glucose levels. She is most likely sterile.

1 point each for abnormality in: protein synthesis, fat metabolism, or blood-glucose levels

1 point: sterile

5 points: if abnormality: protein synthesis, fat metabolism, blood-glucose levels, and sterile.

Adult decreased muscle, body fat, elevated cholesterol, osteoporosis

LH/FSH decreased libido, irregular menses, decrease in muscle strength, hot flashes, moody

d. Treatment with pituitary extract.

Question 2.

Characteristic	Annelids	Arthropods
Segmentation 1 point: segmentation present 2 points if description of segmentation is included.	Highly segmented, mostly internally and externally. Must say segmented.	Segmented, but segments grouped into 3 body regions not body segments. Fewer segments
Appendages 1 point: jointed wings and segmented specialized	Usually 1 pair appendages/segment	Loss of some appendages on each segment. Appendages modified for other functions.
Nervous system	Some cephalization ganglia in each segment Ladder-like	More cephalization ganglia grouped together
Digestive system	Muscular pharynx, esophagus, crop (storage), gizzard (mechanical breakdown), intestine (digestion and absorption)	Chewing mouthparts, mouthparts for handling food, complete digestive tract with foregut, midgut, hindgut
Gas exchange	Parapodia in many, body surface in rest	Gills in aquatic species, tracheal system
Circulatory	Closed, 5 pair aortic hearts	Open with dorsal heart or contractile vessel.