

# **22<sup>nd</sup> INTERNATIONAL BIOLOGY OLYMPIAD**

**July 10-17, 2011**

**Taipei, Taiwan**



## **PRACTICAL TEST 2**

### **ANIMAL PHYSIOLOGY AND ANATOMY**

**Total Points: 100**

**Duration: 90 minutes**

## **ANSWER KEY**

Q.1.1. (9 points) When you have finished the above five steps, **lift the sign** to notify the Lab assistant to videotape the contraction.

The 1 <sup>st</sup> checkpoint	Points	Lab assistant signature
Leg limb muscle contraction	0 or 9	

Q.1.2. (8 points) When you have finished the steps 6 to 10, **lift the sign** to notify the Lab assistant to videotape the contraction.

The 2 <sup>nd</sup> checkpoint	Points	Lab assistant signature
Indicate the sciatic nerve correctly (nerve must be intact)	0 or 4	
Gastrocnemius contraction	0 or 4	

Q.1.3. (40 points) When you have finished the steps 11-12, **lift the sign** to notify the

Lab assistant for checking the results and videotape the contraction.

The 3 <sup>rd</sup> checkpoint	Points	Lab assistant signature
Isolation of “sciatic nerve” (must be more than 2 cm)	0 or 15	
Isolation of “gastrocnemius” (must be intact; including A and B parts)	0 or 15	
Contraction of the isolated sciatic nerve-gastrocnemius tissue.	0 or 10	

Q.2.1. (30 points) Match each tissue section (A to J) with its correct name from 20 different tissue/organ names listed in above table. (Note: only one correct answer for each specimen). Fill in the correct number in the answer sheets.

Slide specimen	Answers (3 points each)
A.	<b>4</b>
B.	<b>9</b>
C.	<b>15</b>
D.	<b>10</b>
E.	<b>14</b>
F.	<b>11</b>
G.	<b>18</b>
H.	<b>5</b>
I.	<b>12</b>
J.	<b>17</b>

**Q.2.2. (13 points) Correctly write down the functional symbols, i.e. the alphabetic letters (A to K), on the answer sheets. Match the organ with their functionalities.**

Note: some organs may have more than one function (1 point will be deducted for each incorrect answer, minimum score will not be less than zero).

Figure	Functional symbol
1.	<b>B,E</b>
2.	<b>A</b>
3.	<b>C</b>
4.	<b>D,E</b>
5.	<b>F</b>
6.	<b>I,K</b>
7.	<b>J</b>
8.	<b>G,H</b>
9.	<b>I</b>