
	Final Exam:	May Season	Course Code:	A77	Percentage of Degree%:	60 %	
	Academic Year:	2018/2019	Program Name:	Master	The number of exam bulletin:	2	
	Semester:	1 <sup>st</sup>	Department:	Elective course	Date of Exam:	/1 /2018	
	Course title:	Developmental biology A77	Degree	60	Time of Exam:	3 hours	

**Exam instructions:**

1. Answer questions only prescribed others will not be considered excess to questions.
2. Use only blue pen and pencil on answer sheet.
3. Disposal of paper and one for each student.
4. Trading instruments is not allowed (pens, ruler, calculators, etc.).
5. Mobiles, smart phones, taps, and calculator application on mobile phone are not allowed.

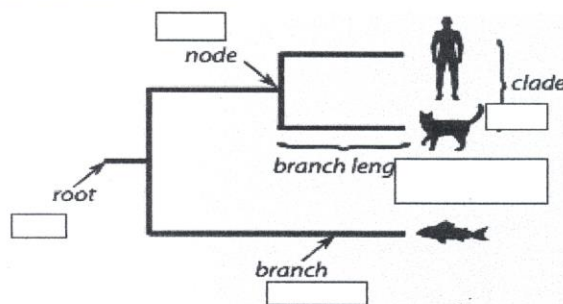
**Answer the following questions:**

**First question**

**Total score (30)**

**1- Discuss:**

- A - How do cells know what they're supposed to do during development? Explaining the different Sources of information in development? **(5 points)**
- B- The two extensive groups of analyses exist to examine phylogenetic relationships? Mentioning the two important tools that have dramatically improved the study of phylogenetic? **(5 points)**
- 2- Write the missing indicators defining the: Maximum parsimony trees- Maximum likelihood- chemotaxonomy and Distance matrix? **(10 points)**



- 3- What are the typically major steps that a Molecular phylogenetic analysis consists of? **(5 points)**
- 4- Describe the Limitations of Molecular Systematics? **(5 points)**



**2<sup>nd</sup> question:**

**(15 M)**

**Compare between the followings and draw if possible:**

- A- Prokaryotes and Eukaryotes. **(5 M)**
- B- Endocytosis and exocytosis. **(5 M)**
- C- The endosymbiosis theory and cell theory. **(5 M)**

Course Professor:	Prof. Dr. Omaila Khamiss	Course Coordinator:	Assoc.Prof. Dr. Osama Badr
Examiners:	Prof. Dr. Omaila Khamiss Assoc.Prof. Dr. Osama Badr	Head of Department:	Prof. Dr. Omaila Khamiss
Examination committee:	Prof. Dr. Omaila Khamiss Assoc.Prof. Dr. Osama Badr Assoc.Prof. Dr. Medhat Hashem		

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**3<sup>rd</sup> question:**

(15 M)

**Discuss in detail with drawing the followings:**

A- The endomembrane system and different properties of cell.

(7 M)

B- The active transport and different types of transporters.

(8 M)

With best wishes

----- *Best wishes* -----

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Examiners:	Prof. Dr. Omaila Khamiss    Assoc.Prof. Dr. Osama Badr	Head of Department:	Prof. Dr. Omaila Khamiss
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