Final Exam:	2d semester	Course Code:	B2-8	Percentage	%60
Academic Year:	2016/2017	Academic Program:	MS.C	N. of Exam Paper	10
Level:	MS.C	Department:	Microbial Biotechnology	Date:	27/5
Course Name:	Biology of prokaryote	Total score:	60	Time allowed:	3h

Instructions of Exam:

1. Answer the obligatory questions.
2. Use the blue pen and pencil in answer sheet
3. Allow one sheet answer for every student
4. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator …etc)
5. Is not allowed to use the cell phone or any of its application during the time of exam

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Answer all the following questions

First question **(15 marks)**

a- prokaryotic genomic taxonomy
b- Shaping the prokaryotic genome (Gene duplications)
c- Prokaryotic Evolution in Light of Gene Transfer

Second question **(15 marks)**

a- Answer the following questions, supporting your answer with drawing if its possible.

b- Write short notes about prokaryote identification, Media classification and basic techniques of Culturing Microorganisms

Third question **(15 marks)**

1. Compare between different types of transport and bacterial Cells uptake of nutrients
2. Bacterial growth need different nutritional requirements explain.
3. Classify Nutritional types of bacteria.

Fourth question **(15 marks)**

1- What is the definition of algae?

2- Complete the following sentences

a. ..... with chlorophyll a and phycobiliproteins and glycogen as storage food.

Prochlorophyta With both chlorophyll .....&.....

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آمل الاسئلة بالتوفيق ←

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c. ..... They have endosymbiont bluegreen algae in the cytoplasm instead of chloroplast. Flagella present and whiplash type.

d. **Rhodophyta** Presence of both chlorophyll .....&..... Storage product is floridian starch.

e. ..... With both chlorophyll a & b. Reserve food starch within chloroplast usually in association with a pyrenoid.

f. ..... Have both chlorophylls a and b. Nucleus mesocaryotic. Paramylon formed as storage product.

g. ..... A typical motile dinoflagellate consists of an epicone and hypocone divided by the transverse girdle. Chlophyllua a &c2 .

h. Cryptophyta Contains both chlophylls.....&..... Phycobilins present outside the thylakoids. Starch as researve food present outside the chloroplast.

i. ..... Most cell wall is composed of two overlapping halves. Motile cells with a forwardly directed tinsel flagellum and a posteriorly directed whiplash flagellum.

j. ..... Mostly marine. Flagella two inserted laterally, one anterior tinsel & another poterior whiplash Storage product is laminarin.

3- **Explain "Asexual Reproduction" with drawn**

With best wishes

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