

Final Theoretical Examination in Biology
First Term: January 2015

Educational Year: First Level

Subject: B121 & Z111

Time: 3 hours

Program (Branch): Chemistry

Course(s): General Bio. Sciences (1)

Date: 18 / 1 / 2015

(Q₁) Mention the reason(s) for the following:

(35 marks)

1. Alcoholic fermentation is less harmful than acidic fermentation.
2. Complete dominance is not the only type of dominance in Mendelian genetics.
3. Chlorophyll a is different from chlorophyll b.
4. The genetic material during G1 phase differs from that in S phase.
5. Mendel chose to work with *Pisum sativum* plants.
6. Nucleus is the most apparent organelle within the plant cell.
7. Anaerobic respiration liberates only 2 molecules of ATP.

(Q₂) A- Mark as true or false with correcting the underlined parts when wrong:

(20 marks)

1. Krebs cycle occurs within the mitochondrial cristae.
2. Nucleus is enclosed by a single membrane called the "nuclear envelope".
3. Spongy mesophyll cells are the main site of photosynthesis.
4. Young meristematic plant cells possess many small vacuoles scattered in cytoplasm.
5. In plant cells, Golgi apparatus is known as centrosome.
6. Interphase takes about 60% of the total time of the cell cycle.
7. Respiration is an anabolic process.
8. Kinetochores are formed within centromeres during prophase.
9. Light acts as a hydrogen donor during photosynthesis.
10. Smooth endoplasmic reticulum is characterized by the presence of ribosomes.

B- Compare in a table between each couple of the following:

(15 marks)

1. Aerobic and anaerobic respiration
2. Light-dependent and light-independent reactions
3. Chloroplast and mitochondrial structure

(Q₃) Write what you know about:

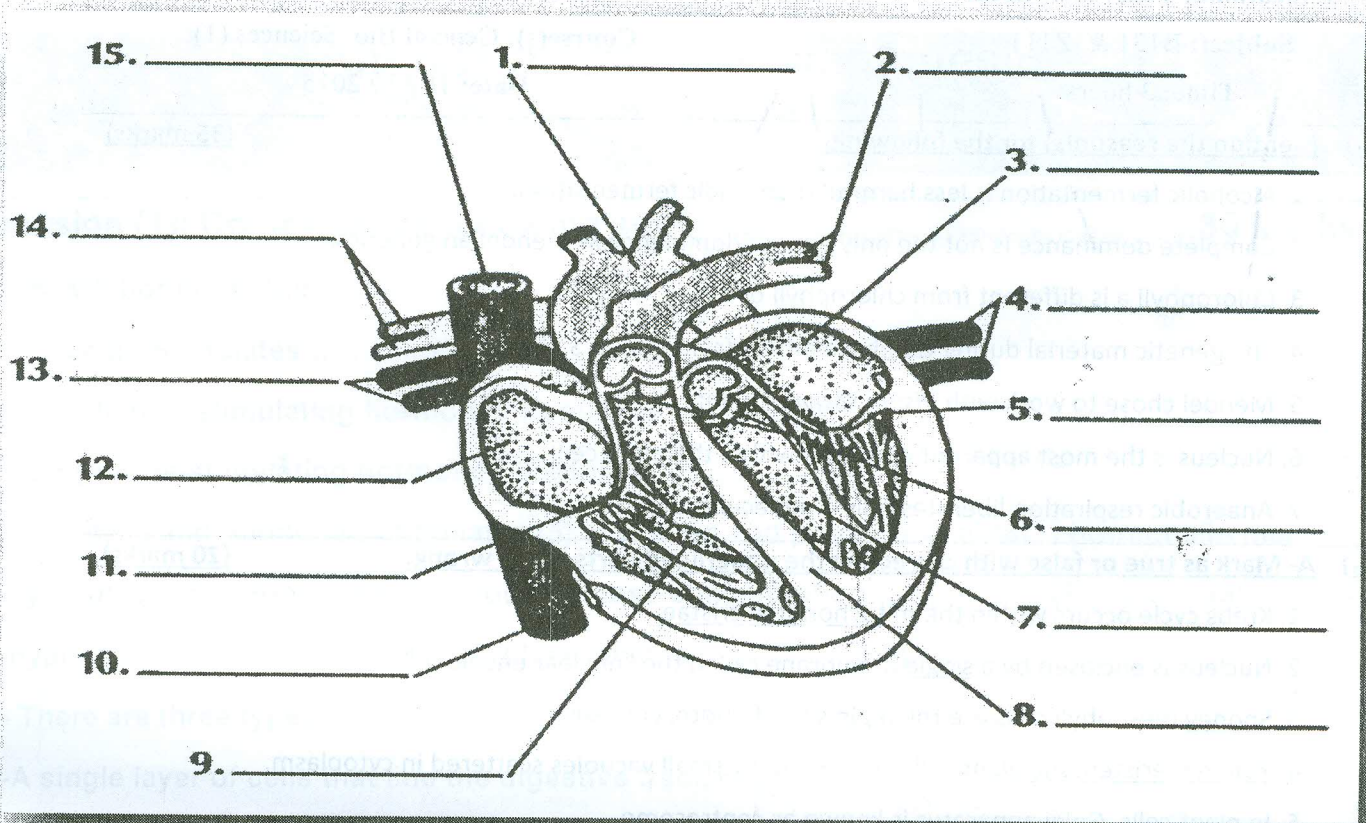
(35 marks)

1. Chemical structure of chromosomes
2. Leucoplasts
3. Energy storage
4. Zero phase
5. Secondary cell wall
6. Mayer's equation
7. Ribosomes

Best Wishes

D. Bardees M. Mickfy

Question (3 C): Complete the labels of the following diagram5 Marks



تعليمات الاجابه

بداية الاجابه في كل سؤال يجب أن تكون في صفحة مستقلة (من الجهة اليسرى لكراسة الاجابه)

السؤال الاول: أكمل الفراغات في الجمل: الاجابه في الصفحة الاولى

هناك رقم عند كل فراغ يجب كتابة الرقم والكلمة المناسبة لكل فراغ في الجملة

السؤال الثاني: أجب عمايلي: أجب كل جزء من السؤال في نصف صفحة على التوالى .

السؤال الثالث A: ضع رقم الفقرة وضع أمامها الاشارة اما X أو > ✓

السؤال الثالث B: اختار الاجابه الصحيحة - يجب كتابة رقم السؤال وبجواره الاجابه الصحيحة .

السؤال الثالث C: أكمل البيانات على الرسم - يجب كتابة الرقم واسم الجزء المشار اليه بالسهم.

دعواتى بالتوفيق

Question (3 B): Choose the correct answer30 Marks			
1	Which of the following is not considered a fat soluble vitamin?		
A	Vitamin A	C	Vitamin E
B	Vitamin B	D	Vitamin K
2	Which foods should be included in a balanced diet as a good source of fibers?		
A	red meat and poultry	C	eggs and milk products
B	fresh fruits and vegetables	D	animal fat and plant oils.
3	Which process causes the movement of the food? along the digestive tract		
A	Circulation	C	active transport
B	osmosis	D	Peristalsis.
4	Which of the following is caused by a Vitamin D deficiency?		
A	Edema	C	Anemia
B	Lupus	D	Rickets
5	Which of the following is caused by a Vitamin K deficiency?		
A	Bruising	C	Optic Nerve degeneration
B	Anemia	D	Hemorrhage (infants)
6	Which is the cartilage present in trachea, larynx and bronchi?		
A	Hyaline	C	Elastic
B	Calcified	D	Fibrous
7	Heparin is secreted by		
A	liver cell	C	mast cell
B	nervous cell	D	kidney
8	The four principal types of tissues are:		
A	muscle, nervous, skeletal, connective	C	connective, skeletal, epithelial, nervous
B	epithelial, skeletal, connective, reticular	D	epithelial, connective, muscle, nervous
9	Functions of epithelial tissue include:		
A	providing structural support	C	conducting electrical impulses
B	protecting exposed surfaces	D	storing energy in the form of fat
10	What are the three basic components of connective tissue?		
A	ground substance, cells, and basement membrane	C	cartilage, intercellular matrix, and serum
B	cells, protein fibers, and ground substance	D	collagen, elastin, and reticular fibers
11	Which organelles synthesize proteins?		
A	ribosomes	C	nucleoli
B	centrioles	D	all of the above
12	The correct sequence of the stages of mitosis is		
A	metaphase, anaphase, telophase, prophase	C	prophase, anaphase, metaphase, telophase
B	telophase, metaphase, anaphase, prophase	D	prophase, metaphase, anaphase, telophase
13	The largest groupings in the animal kingdom are called		
A	Phyla	C	Species
B	Classes	D	non
14	Humans are members of the kingdom:		
A	Plantae	C	Protista
B	Monera	D	none of the above
15	<i>Which of the following related with blood clotting</i>		
A	<i>Red blood cells</i>	C	<i>platelets</i>
B	<i>white blood cells</i>	D	<i>Neuron.</i>

General Biology

Bio111

1st year Chemistry & Physics Programs
Time allowed 2 Hrs.



Mansoura University
Faculty of Science.
Zoology Department
Faculty of Education

Answer all the following questions

تعليمات الاجابة على الاختبار يجب قراءتها

Question (1): Complete the following sentences:30 Marks

- 1-Growth hormone. Stimulates(1)
- 2-Prolactin. Stimulates(2)
- 3-TSH (thyroid-stimulating hormone). Regulates(3)
- 4-FSH (follicle-stimulating hormone). Stimulates(4)
- 5-LH (luteinizing hormone). Stimulates (5) in women and production of (6)... hormone in men.
- 6-hyperglycemic hormones raise blood glucose concentration.....(7).....(8).....(9).....-
- 7-hypoglycemic hormone that lower blood glucose.....(10).....
- 8- There are three types of muscle.....(11).....(12).....(13).....
- 9-A single layer of cells that line the digestive tract, called(14)
- 10-The ear pinna is an exomple of the(15).....cartilage.

Question (2): Answer the following: 20 marks

- A. Draw a diagram shows the systemic blood circulation.
- B. Compare between artery & vein.
- C. What is the type of Valves and their function.
- D. What is the difference between an adequate diet and a balanced diet?

Question (3 A): True or False20 Marks

- 1- The majority of people must be eat too much fat and not enough fiber.
- 2- Calcium is the main mineral needed for the growth, protection and strength of bones and teeth.
- 3- Carbohydrate is essential for growth, repair and the healing of the body.
- 4- Salivary glands are accessory organs that produce a watery secretion known as saliva.
- 5- The gallbladder is used to store hydrochloric acid.
- 6- Mechanical digestion is the physical breakdown of large pieces of food into smaller pieces.
- 7- Most absorption takes place in the walls of the stomach.
- 8- Anabolism Known as: synthesis reactions that combine simple molecules into complex molecules.
- 9- Ribosomes have digestive enzymes helps in breakdown the waste molecules.
- 10-The genetic material (DNA) in Pro-karyotic cells is within the nucleus that is bound by a double membrane.