مقرر / حقوق الإنسان
كود المقرر / ع ١٠٣
زمن الإمتحان / ساعتان
المستوى الأول (جميع البرامج)

كلية العلوم
جامعة المنصورة
التاريخ ٢٠١٥/١٢/٣٠

أجب على الأسئلة الآتية:-

السؤال الأول:- ضع علامة صح أو علامة خطا بدون تعليل

١-صدر الإعلان العالمي لحقوق الإنسان في العاشر من ديسمبر عام ١٩٥٨.

٢-يعتبر رضاء المجني عليه سبباً لإباحة الفعل في القتل بدافع الرحمة .

٣-تعد حرية الرأي هي الحرية الأم بالنسبة لطائفة الحريات المعنوية .

٤-يعد اتخاذ الدولة ديناً رسمياً لها عائقاً أمام الحرية الدينية .

٥-حق التقاضي يمكن الشخص من اقتضاء حقه عن طريق العدالة الخاصة .

السؤال الثاني:- اكتب في موضوع واحد فقط مما يلي :-

١-تكلم عن حق التقاضي مبينا ماهيته ومصادره والضمانات اللازمة له.

٢-تكلم عن حق الإنسان في الحياة في الإسلام .

المستوى : الأول المادة : جبر وهندسة كود المادة : (ر111)	كلية العلوم – قسم الرياضيات	دور: يناير 2016 الزمن : ساعتان التاريخ : 9/ 1/ 2016

البرامج: كيمياء-الكيمياء الحيوية- كيمياء وحيوان- ميكروبيولوجى- كيمياء ونبات-علوم بيئة- جيولوجيا- جيوفيزيقا

أجب عن الأسئلة الآتية: **الدرجة الكلية :** 80 درجة

السؤال الأول:

أ –استخدم مبدأ الاستنتاج الرياضي فى اثبات أنه لاى عدد طبيعى $n \in N$ فان:

$$\frac{1}{1\times3}+\frac{1}{3\times5}+\ldots.+\frac{1}{(2n-1)(2n+1)}=\frac{n}{(2n+1)}$$ (10 درجات)

ب – اوجد نقطة تقاطع المستقيمين $x+y+2=0$, $2x+y+5=0$ والزاوية بينهما

ثم اوجد معادلة المستقيم الذي يمر بنقطة التقاطع وعمودى على المستقيم $2x+3y+7=0$

(10 درجات)

السؤال الثاني:

أ – اختار الاجابة الصحيحة مع الرسم وتوضيح جميع البيانات على الرسم

المعادلة $y^2-4y+x-8=0$ تمثل: أ) قطع ناقص, ب) دائرة , جـ) قطع مكافىء

(10 درجات)

ب – اوجد المقياس والسعة للعدد المركب $z=\frac{2-2i}{1+i}$ ثم اوجد $z^{\frac{4}{3}}$. (10 درجات)

السؤال الثالث:

أ- باستخدام طريقة كرامر اوجد حل المعادلات الخطية الآتية:

$2x-3y+z=-1$, $x+2y-z=2$, $3x+y+2z=11$ (10 درجات)

ب- اوجد معادلة القطع الناقص الذى مركزه عند النقطة(2 , 3 -) و احدى بؤرتيه (2 , 3)

واحدى رؤوسه عند النقطة (2 , 8) موضحا جميع المعلومات الخاصة به مع الرسم .

(10 درجات)

السؤال الرابع :

أ-حلل الكسر الآتى إلى كسوره الجزيئية $\frac{3x^2+x+4}{x^3+4x}$ (10 درجات)

ب – أوجد معادلة المنحنى $x^2+y^2-12x-8y+50=0$ عند نقل المحاور

موازية لنفسها إلى النقطة $o'(6,4)$ وحدد نوع المنحنى . (10 درجات)

مع أطيب التمنيات بالتوفيق: اسرة التدريس

Mansoura University
Faculty of Science
Department of Physics

Time Allowed: 2 h
Date: 16 / 1 / 2016
All Programs

First Term Exam 2015-2016
Physics (101)

Answer the following Questions:

Q.1) What is the meaning of each expression: **(20 Mark)**

1- The work done to produce a quantity of heat equal to 1 cal.
2- Particles that are very close together can transfer heat energy by…..
3- The quantity of heat (Q) that flow perpendicular to the face during a time (t).
4- The rate of heat flow per unit area per unit temperature gradient when the heat flow is at right angle to the faces of a thin parallel material under steady state condition.
5- The amount of time it takes to complete one oscillation or 1 cycle.
6- The amount of heat per unit mass needed to change one gram of a solid substance into one gram of liquid without changing its temperature.
7- The deformation produced in the body is not completely recovered after the removal the load.
8- The negative ratio between the lateral strain to longitudinal strain.
9- An external pressure applied to an enclosed fluid is transmitted uniformly throughout the volume of the liquid.
10- If a body is totally or partially immersed in a fluid, the buoyant force will equal to the weight of displaced fluid.

Q.2) Write 'T' if the statement is true and 'F' if the statement is false. **(10Marks).**

1- Hooks law is applied correctly up to Elastic limit. ( )
2- Insulators do not have free electrons and so they conduct heat as well as metals. ( )
3- Heat conduction is the transfer of heat by the direct collision between particles of matter. ( )
4- The heat travels between the Sun and the Earth by conduction or by convection. ( )
5- The latent heat of vaporization of a substance is always Greater than its latent heat of fusion. ( )
6- The coefficient of linear expansion is twice the area of thermal expansion. ( )
7- Substances with higher heat capacities heat up more slowly than those with lower heat capacities. ( )
8- In steady flow, the velocity of an incompressible fluid at each point does not remains constant. ( )
9- A thermometer is an instrument that measures the temperature of a system in a quantitative way. ( )
10- Change in shape or size (or both) of a body due externally applied force is called stress. ( )

Q.3) Solve these Problems **(10 Marks)**

1- A 0.1 Kg unknown (ingot) of metal is heated to 300 °C and then dropped into a beaker containing 0.5 Kg of water initially at 25 °C. If the final equilibrium temperature of the mixed system is 50 °C. Find the specific heat of the metal. ($C_w = 4190$ J)
2- The smaller and larger pistons of a hydraulic press have diameters of 4 cm and 12 cm. What input force is required to lift a 4000 N weight with the output piston?
3- The extremes of temperature in the bottom of the earth, over a period of 50 years, differ by 116 °F. Express this range in Celsius degree?
4- A square hole 8.00 cm along each side is cut in a sheet of copper. Calculate the change in the area of this hole if the temperature of the sheet is increased by 50.0 K. $\beta_C = 34 \times 10^{-6}\ K^{-1}$.
5- If the force F equal $F = 2\pi r L v\eta/R$ where r is radius L is length, v is speed and R is distance, what are the dimensions of η (viscosity)?

Q.4) Answer these questions: **20 Marks)**

1- If the general equation of simple harmonic motion is gives by $[d^2x/dt^2 + (k/m)x = 0]$. Prove that the angular frequency $\omega^2 = k/m$ where x is the displacement k is the spring constant and m is the mass of object.
2- Write the difference between the tensile, the Bulk and the Rigidity modulus.
3- Bernoulli's equation studies the relation between pressure P, density ρ, velocity υ and height h and their ability to describe fluids in motion. Discuss this equation in When i- the liquid at rest, ii- if the height is constant. iii- When there is no change in pressure
4- There are three temperature scales that are used by scientists to measure temperature. How are they different from each other?

Good luck
Examiners

Prof . Dr. Moustafa Tawfik
Ass. Prof. Maysa -Ismael
Dr. Afaf Sarhan

Prof . Dr. Rizk Moustafa
Dr. Mohamed Mekamer
Dr. Menem Reda

Mansoura University
ESPC
Faculty of Science

First Year English Examination
23/ 1/ 2016
Time: Two Hours

Section One: Reading Skills:

Below is a short passage comparing Solar energy to other sources of energy. Read the passage in order to do the tasks which follow:

(1) Solar energy is a renewable energy source. This means that we cannot run out of solar energy, as opposed to non-renewable energy sources (e.g. fossil fuels, coal and nuclear). We will have access to solar energy for as long as the sun is alive – another 6.5 billion years according to NASA. It is also abundant: The potential of solar energy is beyond imagination. The surface of the earth receives 120,000 terawatts of solar radiation (sunlight) – 20,000 times more power than what is needed to supply the entire world. An abundant and renewable energy source is also sustainable. Sustainable energy sources meet the needs of the present without compromising the ability of future generations to meet their needs. In other words, solar energy is sustainable because there is no way we can over-consume.

(2) Harnessing solar energy does generally not cause pollution. It is clear that solar energy reduces our dependence on non-renewable energy sources. This is an important step in fighting the climate crisis. Solar energy is available all over the world. Not only the countries that are closest to the Equator can put solar energy to use. The majority of today`s solar power systems do not require a lot of maintenance. Residential solar panels usually only require cleaning a couple of times a year. Serious solar manufacturers ship 20- or 25-year warranties with their solar panels.

(3) Solar vs. Wind : Wind turbines can take a lot of space and can be noisy, so they're better suited for rural rather than urban locations. Wind energy works best in windy places, not surprisingly. Solar power is adaptable – Germany is currently the largest market for solar panels, even though it's not known as a particularly sunny place. In other words: it is more important to live in a windy place if you want to use wind turbines than it is to live in a sunny place if you want to use solar panels. Wind turbines require maintenance, and solar is virtually maintenance-free. Wind power can be less expensive to produce initially. On the other hand, the federal tax credit, state and local incentives are making solar power more affordable.

(4) Solar vs. Hydropower: Hydropower is typically done in large-scale dams rather than for homeowners (although someone with a rushing stream or river on their property might be able to use small scale "micro-hydro"); solar can be used almost anywhere. Large dams are extremely expensive to build. Flooding large areas of land destroys habitat and can force human relocation; solar panels can be installed on existing unused space like rooftops. Building large dams can cause geological damage leading to earthquakes. Dams can unfairly alter water supply between communities and countries. Building dams alters the natural water table level and can negatively affect wildlife such as salmon.

(5) Solar vs. Biomass: Biomass (wood or plants) is usually used for fuels rather than electricity production, though it can be used either way. Right now, most homeowners in the U.S. do not have the option to purchase electricity made from biomass, though it's available in a very small number of areas. Crops like sugar cane and other sources for biomass require land that could otherwise be used for growing food. Algae helps avoid this problem somewhat because it can grow in water. Solar panels do not necessarily need to use land space, since they can go on existing roofs. Burning biomass creates CO_2 emissions, though less than fossil fuels like coal. Solar energy does not create emissions as it produces power. Solar panels have efficiencies as high as 19%, meaning that much of the sun's energy is converted into electricity. The efficiency of biomass is much, much lower – perhaps less than 1%.

I. Answer the following questions <u>briefly</u>:

1. What are some of the negative effects of a) dams, b) wind turbines, and c) coal?

2. According to the information in the passage, explain in your words how solar energy is a) abundant, b) sustainable, c) renewable, and d) efficient.
3. Based on the text , how is solar energy more friendly to the environment and less expensive than the other sources mentioned ?

II. Are the following statements true or false? Justify your answer with evidence from the text:

1. Establishing solar energy panels requires a lot of space on land.
2. Solar energy can be produced in places where the weather is not very hot .
3. Hydropower may be produced on a small scale by homeowners.
4. Generating solar pollution leads to noise pollution.
5. Biomass is more friendly to the environment than solar energy.

III. Find words in the passage which mean:

1) Whole (Paragraph 1) 2) Need (Paragraph 2) 3) Influence (Paragraph 4)
4) Changed (Paragraph 5)

Section Two: Language Skills:

I. Each of the sentences in the passage below has one grammatical mistake. Find the mistake and rewrite each sentence correctly.

(1) Acid rain describing any form of precipitation with high levels of nitric and sulfuric acids. (2) It can also occur in the form of snow, fog, and tiny bits of dry material that settles to Earth. (3) When humans burn fossil fuels, sulfur dioxide (SO2) and nitrogen oxides (NOx) released into the atmosphere. (4) These chemical gas react with water, oxygen, and other substances to form mild solutions of sulfuric and nitric acid. (5) Winds may spread this acidic solutions across the atmosphere and over hundreds of miles. (6)When acid rain reaches Earth, it flows across the surface in runoff water, entering water systems, and sinks into the soil.

II. Each of the definitions below has a mistake. First, decide if it is (1) giving an example, (2) using a word from the term to be defined, or (3) absence of general class word. Then , rewrite the definition correctly.

1. Geometry is the study of geometric figures.
2. A degree is given by a university to a student who has passed the appropriate examinations.
3. A dictionary is a book like 'Oxford Dictionary'.

III. Punctuate the following sentences

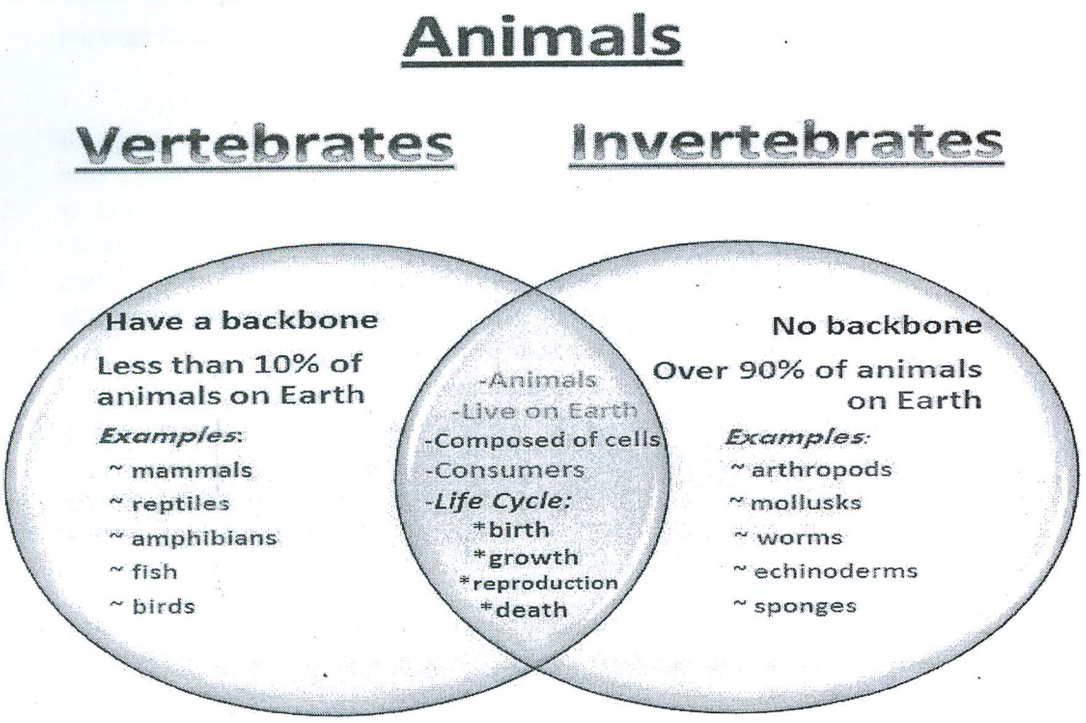
1. although peter lives by the ocean he won t go in water
2. i have some news for you john s father has arrived
3. he said there is a u turn on two blocks on first avenue

IV. Do as shown in brackets:

1. _____ can't make the person rich. (Add a gerund phrase).
2. Working in the yard all day, I got a sore.
   Working in the yard all day, my back got sore.
   Working in the yard all day, it became very neat.
   (Choose the only correct structure avoiding Dangling Modifiers)
3. Having seen black pool tower, the Eiffel tower is more impressive. (Correct the sentence)
4. He gave a present to his sister wrapped in a bright paper. (Correct the sentence)
5. Iceland has little agriculture (beside – besides – despite – during) grazing land for sheep, horses and cattle.

Section Three: Writing Skills: Choose 0nly one topic: either A) or B):

A) Using the information in the following diagram, write down a paragraph of about 150 words to compare between vertebrates and invertebrates:



B) Using the information in the following table, write a paragraph of about 150 words comparing between Bacteria and Viruses.

Viruses	Bacteria
• 20x smaller than bacteria	• 20x larger than viruses
• Single-celled micro organisms	• Non-cellular and sub-microscopic (much smaller)
• Contain: a central core of DNA surrounded by a protein coat, no nucleus, no cytoplasm, no cell membrane, no cell walls, no ribosomes, enzymes needed to invade a cell and replicate their nucleic acids	• Contain: a single chromosome, a cell wall, cytoplasm, a cell membrane, ribosomes and enzymes to break down food and build cell parts
• Only capable of reproducing inside other living cells	• Capable of independent reproduction, host cells not needed
• Do not feed, excrete, and grow • Non-living	• Feed, excrete, grow, and reproduce • Living

Mansoura University
Faculty of Science
Botany Department
El-Mansoura, Egypt

جامعة المنصورة
كلية العلوم
قسم النبات
المنصورة - مصر

Educational Year: First Level

Final Examination in Botany
First Term: Jan. 2016

Subject: Botany

Program: Microbiology, Chemistry and Botany, Chemistry and Zoology, Environmental Sciences, Biochemistry and Geology.

Course: Biodiversity

Code: B 101 **Time: 2 hours** **Date: 26/1/2016** **Full Mark: 60** **Question Mark:15**

Answer the Following Questions: الإمتحان في صفحتين

Q1: A. Complete the following sentences: (6 mark)

1. Deutromycetes are characterized by.....**and** .....
2. Eumycota are classified into classes .....,....., ...,.....
3. Ascocarps in ascomycetes are .....,.....,.....
4. Spores produced in the hosts of *Puccinia graminis* are .....,.....,.....,.....
5. Asexual reproduction in Zygomycetes by the formation of.....
6. Stages of sexual reproduction in fungi are ....., ...,.....

B. Write short notes with labeled diagrams on the following: (9 mark)

1. Ascus and ascospores formation in ascomycetes.
2. Economic importance of mycophyta
3. Nutrition in Fungi.

Q2: A. Complete the missing word(s): (4 mark)

1- Staminate flower must lack.....

2- In bryophytes, the root-like structure is known as.....

3- Gymnospermae reproduce by.....

4- .....is the dominant generation in *Funaria* life cycle.

B. Choose the most correct answer: (4 mark)

1) Which of the following is a non-vascular plants

a- *Pinus* **b-** *Cycas* **c-** *Adiantum* **d-** *Funaria*

2) Double fertilization occurs in

a- Gymnospermae **b-** Angiospermae **c-** Ferns **d-** a+b

فضلا اقلب الورقة ←

C. 1- Mention ONLY TWO diagnostic features of bryophytes, ferns and dicot plants. (4 mark)

2- With the help of a LABELED DIAGRAM, illustrate the life cycle of a bryophyte. (3 mark)

Q3: A. Types of reproduction in *Chlamydomonas* with the help of labeled diagrams. (7 mark)

B. Define each of the following (draw if possible): (3 mark)

1- Air bladders in phaeophyceae. **2-** Carpogonium. **3-** Chrysolaminarin.

C. IN A TABLE; compare between each of the following: (5 mark)

1. The kingdoms of Whittaker's classification of living organisms.
2. Prokaryotes and eukaryotes organisms.

Q4: A- Complete the missing word (s): (7 mark)

1. The binomial nomenclature system gives each organism two names the .....and .....
2. The protein coat enclosing the viral genome is known as .....
3. Viruses that replicates inside bacterial cells are termed as .....
4. Eubacteria belong to the kingdom .....
5. Bacteria that cannot grow in absence of oxygen are called .....
6. Peptidoglycan is a polymer composed of amino acids and sugars which is an integral part of the cell wall of.....
7. Bacteria reproduce vegetatively by.....

B- Mention the potential function of the following: (3 mark)

1. Heterocysts. **2.** Bacterial capsules. **3.** Akinetes.

C- 1- Using labeled diagrams ONLY differentiate between monotrichous, lophotrichous, amphitrichous, and peritrichous bacteria. (2.5 mark)

2- Mention the distinctive characters of cyanobacteria. (2.5 mark)

With Best Wishes

Examiners: **Prof. Dr. Salah AlDohlob** **Dr. Ahmed Shawky**

Mansoura University
Faculty of Science
Zoology Department
Subject: Zoology (Z 125)
Courses' Nutrition

First Semester, Jan, 2016
1st Level: Biochemistry
Date: 12/1/2016
Time Allowed: 2hr
Full Mark: (60)

Answer all Questions

Q1) A- Choose the correct answer: **(15 marks)**

1- Vitamin E and vitamin C
a- both release free radicals b- both are antioxidants
c- are formed from provitamins d- are required for blood clotting

2- Excessive bleeding due to slowed blood clotting is a symptom of vitamin -------- deficiency
a- A b- D c- K d- C

3- Which of the following minerals is a part of thyroxin molecule?
a- iodine b- iron c- zinc d- fluorine

4- A function of carbohydrates in the diet is to ----------
a- enable chemical reactions b- promote growth and repair of tissues
c- supply energy d- maintain water balance

5- The inorganic nutrients are ----------
a- proteins and fats. b- vitamins and minerals. c- minerals and water. d- vitamins and proteins.

6- Cholesterol is useful for following, EXCEPT ----------
a- cell membrane formation b- synthesis of vitamin D
c- energy generation d- steroid hormonal formation.

7- The energy-yielding nutrients are ----------
a- fats, minerals, and water. b- minerals, proteins, and vitamins.
c- carbohydrates, fats, and vitamins. d- carbohydrates, fats, and proteins

8- Which nutrient helps in absorption of vitamins A, D, E, and K?
a- Fat b- Carbohydrate c- Protein d- Vitamins

9- Disaccharides include ----------
a- starch, glycogen, and fiber. b- amylose, pectin, and dextrose.
c- sucrose, maltose, and lactose. d- glucose, galactose, and fructose.

10- A triglyceride consists of ----------
a- three glycerols attached to a lipid. b- three fatty acids attached to a glucose.
c- three fatty acids attached to a glycerol. d- three phospholipids attached to a cholesterol.

11---------- are complex carbohydrates not broken down by digestive processes
a- glycogen. b- enzymes. c- fiber. d- starches

12- Which is a trace mineral?
a- sodium b- calcium c- iron d- potassium

13- The vitamin essential to the absorption and utilization of calcium and phosphorus is vitamin --------
a- C b- E c- B12 d- D

14- The caloric content of a diet containing 30 g of carbohydrate, 5 g of protein and 10 g of fats is equal to ---------- Kcal.

a- 250 b- 230 c- 170 d- 290

15- A deficiency of vitamin B12 produces the disease ----------

a- Beri-beri b- rickets c- scurvy d- pernicious anemia

Q-2) A- Fill in the blanks: (5 marks)

1- Two macronutrients are ------(1)------ and ------(2)---------
2- From the functions of iron are: -------(3)--------- and --------(4)----------
3- One of the antioxidant minerals is -------(5)------, While thiamin forms the coenzyme -------(6)------
4- Two main functions of proteins are: ---------(7)---------- and ---------(8)--------
5- From the symptoms of vitamin A deficiency are: -------(9)-------- and ------(10)---------

B- Discuss FOUR only of the following: (10 marks)

1- The differences between water-soluble and fat-soluble vitamins.
2- Functions of vitamin C.
3- Synthesis and activation of vitamin D
4- Biological functions of dietary minerals.
5- Sources of water intake and output.

Third question [20 mark]

(A) Fill in the spaces

1. The hormone causes an increased output of enzyme-rich pancreatic juice is.....
2. Isomerase enzyme catalyzes the conversion of.....into.....
3. When proteins undergo oxidative deamination, the waste substance found in the urine is mostly.....
4. Transamination is the process whereby the amine group of an amino acid .....
5. The process by which glucose is formed from non-carbohydrate precursors is called.....
6. Gastrin hormone is secreted in response to the presence of .....in the stomach.
7. Nucleotidase catalyzes the conversion of ..... into .....
8. Chemical digestion of fats and proteins in the small intestine is regulated by.....
9. The citric acid cycle produces.....ATP molecules per one molecule of glucose.
10. Bile juice is necessary for digestion of.....

(B) Put (√) or (X), and correct the false sentences:

1. Digestion of carbohydrates starts in the mouth.
2. Production of energy by β-oxidation of fatty acids is derived only from oxidation of acetate units via citric acid cycle.
3. Enterokinase is a hormone which stimulates the intestinal wall to secret the intestinal juice.
4. Pancreatic lipase converts emulsified fat into fatty acids and glycerol.
5. Ketone bodies are produced by all body organs.
6. Oxidation of one molecule of pyruvic acid into acetyl-CoA produces 6 molecules of ATP.
7. Type 1 diabetes is called insulin-independent diabetes and known as adult onset diabetes.
8. Parotid glands composed mainly of serous cells which secrete saliva rich in enzymes.
9. Chief cells are located in the wall of the gastric gland.
10. The pathway of citric acid cycle begins with the reaction between acetyl-CoA and citric acid.

Fourth question (10 marks)

(A) Write short notes on each of the following items:

1. Fate of NH2 group.
2. Metabolic pathway of glycogen synthesis.
3. Mechanisms of absorption of carbohydrates.
4. Conversion of proteins into amino acids.

مع تمنياتنا لكم بالتوفيق

Prof. Dr./ Elsayed Elhabibi **Dr./ Faried Abdel-Kader**