



DEPARTMENT OF MATHEMATICS
TANTA UNIVERSITY
FACULTY OF SCIENCE
(Computer Science Division)



EXAMINATION FOR PROSPECTIVE STUDENTS (1ST YEAR)

COURSE TITLE: Programming

COURSE CODE: CS1101

DATE: 24-1-2017

JAN 2017

TERM: I

TOTAL ASSESSMENT MARKS: 150

TIME ALLOWED: 2 HOURS

Question 1:

- Define computer program and computer software and networks? Define source code? Define object code? Write the four main type of Variables with their format?
- Write a program to printout the following number 8756.456 as Integer number, then float with two decimal number, and float number?
- Can you write the nested for loop to calculate the multiplication Table till mxn?
- Write a program that take the Character and print out the ASCII Code of that Character using Scanf and Printf? What are the main three types of secondary memory?

Question 2:

- Define Algorithm and program? What are a good Algorithm and a good program? What is the job of the printf and scanf functions? Give an example with integer and float variables?
- Define the array? How to assigned variable and string to it? Write an example to fill array? What you should do to print out the values of array, give an example?
- Write a C program to read an array with ten float numbers and multiply it by number 10 and then print it on the screen?
- Write a program to calculate the factorial for any value n? Write a program to read four real numbers on the screen then calculate the summation, multiplication with the avrage and print them.

Question 3:


- Write if.....else if....else if ... else and switch..... Case Branches with same example? What is the deference between while loop and dowhile loop, give an example?
- Describe the three main component of any Function? Can you describe the differences between void-functions and functions that return value? Write an example?
- Write a C program that calling function to calculate the Cube and square of any number n? How to describe the two dimensional array, Give an example? How to initialize the two dimension array by characters?
- Write a program to read two float numbers and then replace (swap) the two values and print the two values on the screen?

EXAMINERS	PROF. DR./ ATLAM ELSAYED	DR/ MOSAAD WGEEH
	DR/	DR/

With my best wishes

انتهت الأسئلة.....مع أطيب الأمنيات والتوفيق

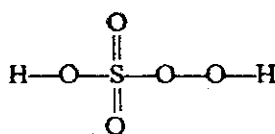
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF CHEMISTRY		
	FINAL EXAMINATION FOR 1ST YEAR STUDENTS (ALL GROUPS)		
	COURSE TITLE: General Chemistry (I)		COURSE CODE: CH1101
DATE: 9TH JANUARY, 2017	TERM: FIRST	TOTAL ASSESSMENT MARKS: 150	TIME: 2 Hours

Answer the following questions with questions 1, 4, 5, 6, 7 out of 15 marks each. Questions 2, 3 and 8 out of 25 marks each.

1- Underline the correct answer and complete as appropriate then transfer to your Answer Sheet:

(a) In persulphuric acid of the following structure:



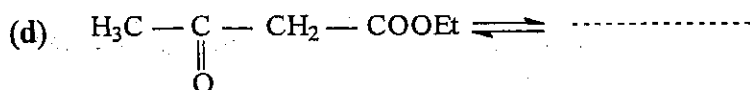
Given the electronegativity of S = 2.58, that for O = 3.44 and that for H = 2.20, then:

- The number of O atoms having oxidation number = 0 is (0 / 1 / 2 / 3 / 4 / 5) atoms.
- The number of O atoms having oxidation number = -1 is (0 / 1 / 2 / 3 / 4 / 5) atoms.
- The number of O atoms having oxidation number = +1 is (0 / 1 / 2 / 3 / 4 / 5) atoms.
- The number of O atoms having oxidation number = -2 is (0 / 1 / 2 / 3 / 4 / 5) atoms.
- The oxidation number of S isand that of H atoms is

(b) For ${}_{24}\text{Cr}$, the electronic configuration $3d^4 4s^2$ has (6 / 10) exchanges but the electronic configuration $3d^5 4s^1$ has (6 / 10) exchanges. Therefore, the stable electronic configuration of ${}_{24}\text{Cr}$ is ($3d^4 4s^2$ / $3d^5 4s^1$). The oxidation state Cr^+ arises from the electronic configuration ($3d^4 4s^2$ / $3d^5 4s^1$).

(c) $\text{MnO}_4^- + 8\text{H}^+ + n e^- \rightleftharpoons \text{Mn}^{2+} + \dots\dots\dots$

To get the equivalent weight of KMnO_4 , we divide the molecular weight by



Keto-form

Enol-form

2- (a) Calculate the mole fraction of a solute in its 2 molal methanolic solution. (For methanol M = 32 amu)

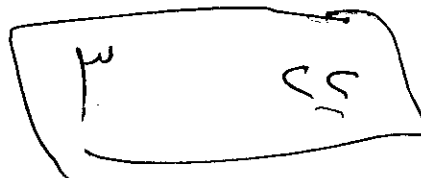
(b) Work out the formal charge in CO and O₃ then indicate the accepted structure of each compound given you have ${}_6\text{C}$ and ${}_8\text{O}$.

(c) According to VSEPR theory, give the geometry of the following molecules:

- ammonia molecule NH_3 , ammonium ion NH_4^+ and iodine heptafluoride IF_7 .

(d) Apply Graham's law of diffusion to the uranium enrichment process to D (${}^{235}\text{UF}_6$) / D (${}^{238}\text{UF}_6$) Given the atomic mass of each fluorine as 19 amu.

انظر خلف الصفحة



EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF GEOLOG+-PHYSICALSCIENCE

COURSE TITLE: Heat & Properties of Matter (Physics 1)

COURSE CODE:PH 1121

DATE:

4 /1/2017

TERM: FIRST

TOTAL ASSESSMENT MARKS: 150

TIME ALLOWED: 2 HOURS

Answer the Following Questions

First Question :(35 Marks)

- a) Explain in details the Platinum resistance thermometer and show what the Callendar and Griffiths Bridge is used for (15 Marks)
- b Explain an electrical method for determination the specific heat of a liquid(20 Marks)

Second Question :(40 Marks)

- a) Write the three fundamental laws of heat transfer mechanisms, explain each term in the different cases and write the units (20 Marks)
- b) A liquid takes 5 minutes to cool from 70°C to 50°C. How much time will it take to cool from 60°C to 30°C. The temperature of the surroundings is 20°C (10Marks)
- c) For an ideal gas if its specific heat under constant pressure $C_p = (5/2) R$, calculate the following for one mole :
 - i- The ratio γ
 - ii- The change in internal energy, the work done and the total energy transferred when its temperature increases from -40°F to 0°C ($R=8.31 \text{ J/mol K}$) (10Marks)

Third Question :(40 Marks)

a-Define the following with dimensions and units

Viscosity - Surface Tension – Stress - Bulk Modulus. (20Marks)

b-The critical velocity (V_c) depends on the radius(r) of tube, the viscosity of liquid (η) and density (ρ). Find dimensionally relation for critical velocity. (20Marks)

Fourth Question:(35Marks)

a- Proof formula for centripetal force. (20 Marks)


b-A 5 cm cube gelatin has its upper surface displaced 0.64 cm by a tangential force of 0.3 Newton.What is the shear modulus of gelatin. (15 Marks)

GOOD LUCK

Examiners:Prof.Dr.Ahmed Abdel-Azeem.

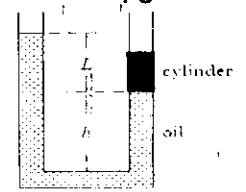
Prof.Dr.Neima Zakaria Darwish- Prof Dr S Aboul Enein.

السؤال الأول

 TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF PHYSICS				
EXAMINATION OF GENERAL PHYSICS (FIRST YEAR) STUDENTS OF PHYSICS				
COURSE TITLE:		general physics		COURSE CODE: PH 1125
DATE:	28-12-2016	TERM: FIREST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Question one : choose the correct answer(40 degree)

- 1-Let M denote the mass of Earth and let R denote its radius. The ratio g/G at Earth's surface is: A. R^2/M B. M/R^2 C. MR^2 D. M/R E. R/M
- 2-The mass of a hypothetical planet is 1/100 that of Earth and its radius is 1/4 that of Earth. If a person weighs 600N on Earth, what would he weigh on this planet?
A. 24N B. 48N C. 96N D. 192N E. 600N
- 3-An object is raised from the surface of Earth to a height of two Earth radii above Earth. Then:
A. its mass increases and its weight remains constant B. both its mass and weight remain constant
C. its mass remains constant and its weight decreases D. both its mass and its weight decrease
E. its mass remains constant and its weight increases
- 4-Two particles, each of mass m, are a distance d apart. To bring a third particle, with mass 2m, from far away to a resting point midway between the two particles the work done by an external agent is given by:
A. $4Gm^2/d$ B. $-4Gm^2/d$ C. $8Gm^2/d^2$ D. $-8Gm^2/d^2$ E. zero
- 5-Neglecting air resistance, the escape speed from a certain planet for an empty space vehicle is 1.12×10^4 m/s. What is the corresponding escape speed for the fully loaded vehicle, which has triple the mass of the empty one?
A. 3.73×10^3 m/s B. 1.12×10^4 m/s C. 3.36×10^4 m/s D. 9.98×10^4 m/s E. 1.40×10^{12} m/s
- 6-A spherical shell has inner radius R_1 , outer radius R_2 , and mass M, distributed uniformly throughout the shell. The magnitude of the gravitational force exerted on the shell by a point mass m, located a distance d from the center, outside the outer radius, is:
A. 0 B. GMm/R^2 C. GMm/d^2 D. $GMm/(R_2^2 - d^2)$ E. $GMm/(R_1 - d)^2$
- 7-A spaceship is returning to Earth with its engine turned off. Consider only the gravitational field of Earth and let M be the mass of Earth, m be the mass of the spaceship, and R be the distance from the center of Earth. In moving from position 1 to position 2 the kinetic energy of the spaceship increases by:
A. $GMm(1/R_2^2 - 1/R_1^2)$ B. GMm/R_2 C. $GMm(1/R_2^2 + 1/R_1^2)$ D. $GMm(R_1 - R_2)/R_1^2$ E. $GMm(R_1 - R_2)/R_1 R_2$
- 8-The approximate value of g at an altitude above Earth equal to one Earth diameter is:
A. $9.8m/s^2$ B. $4.9m/s^2$ C. $2.5m/s^2$ D. $1.9m/s^2$ E. $1.1m/s^2$
- 9-Each of the four corners of a square with edge a is occupied by a point mass m. There is a fifth mass, also m, at the center of the square. To remove the mass from the center to a point far away the work that must be done by an external agent is given by:
A. $4Gm^2/a$ B. $-4Gm^2/a$ C. $4\sqrt{2}Gm^2/a$ D. $-4\sqrt{2}Gm^2/a$ E. $4Gm^2/a^2$
- 10- The diagram shows a U-tube with cross-sectional area A and partially filled with oil of density ρ . A solid cylinder, which fits the tube tightly but can slide without friction, is placed in the right arm. The system is in equilibrium. The weight of the cylinder is: A. $AL\rho g$ B. $L3\rho g$ C.



- $A\rho(L + h)$
 D. $A\rho(L - h)g$
 E. none of these

