Kafrelsheikh University *Mathematics II* **Time: 3 Hours**

Faculty of Computers& Information **First year**

The second semester exam. (2015-2016) **Date : 28-5-2016**

Answer the following questions

1- (a) Express $\frac{3x+1}{(x-1)^2(x+2)}$ **as the sum of its partial fractions.**

(b) Find the sum of the following series

$$\sum_{k=1}^{\infty}\frac{1}{k(k+1)}=\frac{1}{2}+\frac{1}{6}+\frac{1}{12}+\frac{1}{20}+.....$$

2- Find the Maclaurin series for $f(x)=\sin x$ **.**

(b) Does the series $\sum_{n=1}^{\infty}\frac{n}{e^n}$ **converge?**

3- Find a power series representation for the given function and determine the radius of convergence

(a) $f(x)=\frac{x}{1-5x}$, **(b)** $f(x)=\frac{x}{1+4x^2}$

4- Find the general solution of the differential equation

$$\frac{dy}{dx}+\frac{1}{x}y=xy^2$$

5- (a) Calculate the inverse of $A=\begin{pmatrix}1 & 2\\ 3 & -5\end{pmatrix}$

(b) Find the value of x **for the linear equation** $\frac{3}{(x-1)}+\frac{4}{(x+1)}=\frac{8}{(x+1)}$

Kafrelsheikh University
Faculty of Computers & Information
Subject: Digital Circuits
Time Allowed: 3 Hours
Code: EE102

Full marks: 60
Date: 15/6/2016
Pages (2)

Answer four questions only:

Question1:

(A) Choose the correct answer: **(9 degrees)**

1. **..... is the excess-3 code, equivalent to the decimal number 3.241.**
   a. 0011.001001000001 b. 0011.010101110100 c. 0110.010101110100
2. **..... is the simplified expression of the Boolean expression $xy + x(y + z) + y(y + z)$.**
   a. $xy + xz + x$ b. $xy + xz + y$ c. $xy + xz + z$
3. **..... is the octal number, equivalent to $[10100101001110]_2$.**
   a. $[14516]_8$ b. $[51232]_8$ c. $[24516]_8$
4. **A 32×8 ROM consists of ..... input lines that form 32 address.**
   a. 5 b. 8 c. 32
5. **The 2's complement of binary 0110111 is .....**
   a. 1001000 b. 1001001 c. 1001110
6. **8-to-one line multiplexer has a set of ..... selection lines.**
   a. 1 b. 2 c. 3

(B) Implement a full adder circuit with a decoder and two OR gates. **(6 degrees)**

Question2:

(A) Check the following truth table, and then answer the questions following it. **(8 degrees)**

X	*Y*	*Z*	*F*
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

a) **Derive the Boolean Function $F(X, Y, Z)$ in the canonical SOP form.**
b) **Simplify the function $F(X, Y, Z)$ to its simplest form using Boolean Algebra.**
c) **Implement the digital circuit corresponding to $F(X, Y, Z)$ using NAND gates only.**

(B) A sequential circuit has two JK flip-flops A and B and one input x. the circuit is described by the following flip flop input equations: **(7 degrees)**

$$J_A = x \qquad K_A = B$$

$$J_B = x \qquad K_B = A'$$

Question3:

(A) Design a three-bits counter to count in the sequence 000, 001, 010, 011, 100 and repeat. (use T flip-flops). (6 degrees)

(B) Design a four bits combinational circuit 2's complement (the output generates the 2's complement of the binary number). (6 degrees)

(C) Prove that NAND is a universal gate. (3 degrees)

Question4:

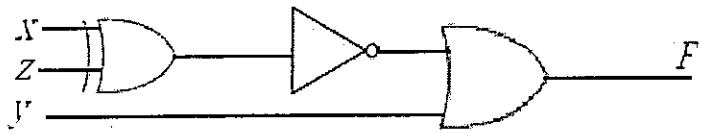
(A) Simplify the following Boolean function F(A, B, C,D) = Σ(0, 1, 2, 5, 8, 9, 10) (6 degrees)

into:

(a) Sum-of-products form

(b) Products-of-sum form

(B) Analysis the following combinational circuit: (3 degrees)



(C) Implement the following Boolean function with a multiplexer: (6 degrees)

$$F(x, y, z) = \Sigma(1, 2, 6, 7)$$

Question5:

(A) Use the K-map to simplify the following Boolean function in minimized form: (6 degrees)

$$F(A, B, C) = \Sigma\, m(1, 4, 6) + \Sigma d(0)$$

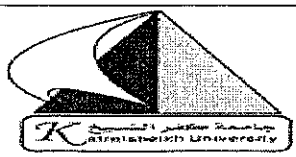
(B) Construct a 3-to-8-line decoders with two 2-to-4-line decoders and enable input. Use block diagrams for the components. (5 degrees)

(C) Implement the following Boolean function (With NOR and inverter gates): (4 degre)

$$F = XY + X'Y' + Y'Z$$

Good Luck

Dr. Diana Tharwat Mosa

Faculty of Computers & Information	Year 2015-2016	
	Second - term Exam	
Privacy and Civil Liberties	Two Hours	

Answer the following questions

Q1. Put True (T) or False (F) and correct the false sentences(15 points)

1. Search warrant can be in a wide search area ( )
2. Online retailers make recommendations to you based on exact information about you. ( )
3. Data Mining means analyzing data to determine characteristics of people most likely to engage in certain behavior. ( )
4. Opt-out policy the person explicitly checks or clicks a box or signs a form permitting the use. ( )
5. Online retailers make recommendations to you based on prior purchases and similar buying patterns ( )
6. Social and personal activity is the responsibility of the companies and persons as well ( )
7. Re-identification is identifying the individual from a set of anonymous data ( )
8. The Fourth Amendment protects a right to privacy from government intrusion. ( )
9. Authentication allows us to "sign" documents online. ( )
10. History sniffers often downloaded from a website without the user's knowledge. ( )

Q2. Give the scientific term for the following definition(15 points)

1. Enforces rights and responsibilities is essential to a complex, robust society and economy for enforcement of agreements and contracts.
2. A technology that transforms data into a form that is meaningless to anyone who might intercept or view it.
3. Secure financial transactions electronically without the seller acquiring a credit card or checking account number from the buyer.
4. Control of information about oneself.
5. Computer and communications services that depend on knowing exactly where a person or object is at a particular time.
6. These technologies can search our homes and vehicles but do not require police to physically enter or open them.
7. Any information relating to, or traceable to, an individual person.

Faculty of Computers & Information	Year 2015-2016	
	Second - term Exam	
Privacy and Civil Liberties	Two Hours	

8. Informing people about data collection and use policies or about the data that a particular device or application collects, each person can decide.
9. The use of personal information for a purpose other than the one for which the person supplied it.
10. Combining and comparing information from different databases, often using an identifier.

Answer only **Two** questions of the following

Q3. **(15 Points)**

1. Discuss the Policies for protecting personal data? **(5 points)**

a. Write short notes about Life in cloud advantages and disadvantages. **(10 points)**

Q4. **(15 points)**

1- What is the invisible information gathering methods, give examples? **(5 points)**
2- Give three cases of that interpret **plain view** concept?**(5 points)**
3- List five risks of privacy via new technology. **(5 points)**

Q5. **(15 points)**

1. Discuss the companies methodologies in Paying for consumer information **(5 points)**
2. Discuss differences and similarities between Warren and Brandeis and of Thomson in their view of protecting privacy?**(10 points)**

مع تمنياتى بالنجاح والتوفيق

د/ منى جمال جعفر

Kafrelsheikh University
Faculty of Computers and Information
Department of Computer Science

Final Exam of
Computing Economics (HUM133)
2015/2016 (second term)
Date: 1/6/2016
Time: 3hrs

Name: ..... **No. List:** .....

Question (1)

Answer the following *sub-questions* as what is required at each of them: (15 marks)

(1) Define A Price as in "Merriam-Webster Dictionary" ?

(2) Define A Monopoly ?

(3) Define A Monopolistic Competition ?

(4) Define A flexible-price policy ?

(5) Define A Cloud Computing ?

(6) What is the points for Determinants of supply ?

(7) What is the points of Establishing the Base Price ?

(8) What should governments do about Monopolies ?

Question (2)

Choose the correct answer among multiple choices in the follows, *only write the numb of question and the correct answer*: (14 marks)

(1) The externality which occurs because as new firms enter, other firms lose customers and profit.

(a) The product-variety externality (b) The business-stealing externality (c) The positive externality (d) Nothing

(2) Is detrimental to consumer welfare in the long run because once the competitors exit the mark the predators raises prices with the intention of collecting supra-normal profits.

(a) Price competition (b) Base pricing (c) Predatory pricing (d) Nothing

(3) Tastes and preferences is one of the determinants of .

(a) Supply (b) Demand (c) Predatory pricing (d) Nothing

(4) Number of potential consumers is one of the determinants of .

(a) Demand (b) Predatory pricing (c) Supply (d) Nothing

(5) Setting a high price for a new product to capitalize on high demand.

(a) Base pricing (b) Skimming pricing (c) Predatory pricing (d) Penetration pricing

(6) Setting a low initial price to encourage higher distribution and exposure.

(a) Penetration pricing (b) Skimming pricing (c) Base pricing (d) Predatory pricing

(7) Its vendors offers a development environment to application developers, also it includi operating system, programming-language execution environment, database, and web server.

(a) Utility Computing (b) IaaS (c) PaaS (d) SaaS

Kafrelsheikh University
Faculty of Computers and Information
Department of Computer Science

Final Exam of
Computing Economics (HUM133)
2015/2016 (second term)
Date: 1/6/2016
Time: 3hrs

Question (3)

Write *only, the term that expresses* each of the following paragraphs: (12 marks)

(1) Is a table that shows the relationship between the price of a good and the quantity supplied.

(2) Is defined as "The set of controllable marketing variables that marketers employ to obtain the desired responses from their target markets".

(3) Are those who have received enough training to become licensed or certified in a particular trades field.

(4) Is one in which all customers are charged the same prices, quoted to them by means of signs and price tags without deviations.

(5) Refers to price adjustments required because of the location of the customer for delivery of products, whereas, the manufacturer assumes responsibility for the cost and management of product delivery.

(6) Is a systematic approach to estimating the strengths and weaknesses of alternatives that satisfy transactions, activities or functional requirements for a business.

(7) Represents the sales amount in **either** unit **or** revenue terms that is required to cover total costs.

(8) Is a strategic technique employed to make money yield the highest interest-yielding value for any amount spent.

Question (4)

Answer the following questions as required in each of them: (12 marks)

I. Write the reasons for arising the monopolies.

II. Write short notes about Service models of Cloud Computing.

III. Prove the break-even point (BEP) in terms of Unit Sales (X): $X = \frac{TFC}{P - V}$

Question (5)

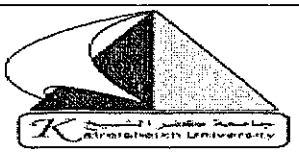
(a) Calculate the *present value* at the following case: (7 marks)

One hundred Euros to be paid 1 year from now, where the expected rate of return is 5% per year, is worth in today's money.

(b) Calculate the *Expectancy* at the following case:

Even if a trading system has 60% losing probability and only 40% winning of all trades, using money management a trader can set his average win substantially higher compared to his average loss in order to produce a profitable trading system. If he set his average win at around $400 per trade (this can be done using proper exit strategy) and managing/limiting the losses to around $100 per trade.

With best wishes;
Dr. Osama M. Abu Zaid

Faculty of Computers & Information	Year 2015-2016	
	Second - term Exam	
Social Context of Computing	Three Hours	

Answer the following questions

Q1. Put True (T) or False (F) and correct the false sentences(15 points)

1. In E-commerce, critical projects suffer from one shift work hours because of time differences. ( )
2. Long distance are considered barrier for E-commerce ( )
3. E-commerce start-ups can be expensive and represents a significant transaction cost ( )
4. Failures in the technological infrastructure can cause the collapse of economic and social functionality. ( )
5. E-commerce adds shipping costs to the digital products final price. ( )
6. Collective intelligence provides users with a way to make relationships through a social interactive environment. ( )
7. Social Informatics is based on empirical work to be critical. ( )
8. Social Networking use platforms to build or enhance social networks and relations. ( )
9. ICT refers to Intellectual Computing Technologies. ( )
10. For IT effects on workplace, students can interact in real time via e-mail and discussion groups ( )

Q2. Give the scientific term for the following definition(15 points)

1. The process of the internationalization and integration of nations arising from the human connectivity.
2. Web-based services that allow individuals to construct a public or semi-public profile within a bounded system.
3. Area of computer science that is concerned with the intersection of social behavior and computational systems.
4. Collaborative media creation and sharing on a fairly large scale.
5. A system-level framework for analyzing socio-technical networks / systems that views the social and the technological as fundamentally inseparable components of the system.

Faculty of Computers & Information	Year 2015-2016	
	Second - term Exam	
Social Context of Computing	Three Hours	

6. Users as social beings, embedded within an enabling and constraining social context but with individual agency to shape that context.

Answer only **Two** questions of the following

Q3. **(15 Points)**

1. Give five example of Social Computing Discuss two of them in brief. **(5 points)**

a. List and explain five ways for Cost Reduction via electronic commerce. **(10 points)**

Q4. **(15 points)**

1- List and explain five principles on social analysis of computing. **(5 points)**
2- Give five challenges that face E-Commerce. **(5 points)**
3- List five benefits of Social Networking Services. **(5 points)**

Q5. **(15 points)**

1. Discuss Four Dimensions of Social Actors **(5 points)**
2. Discuss positive and negative effects of globalization on various social aspects **(10 points)**

مع تمنياتي بالنجاح والتوفيق

د/ منى جمال جعفر

Kafrelsheikh University
Faculty of Computers & Information
Subject: Interpersonal Communication
Time Allowed: 3 Hours
Code: HUM132

Full marks: 60
Date: 15/6/2016
Pages (2)

Answer four questions only:

Question1:

(A)Choose the correct answer: (10 degrees)

1. **The means by which the message is expressed to the receiver.....**
   a. context b. channel c. feed back
2. **You are allowed to use abbreviations in..... page of the report.**
   a. abstract b. introduction c. conclusion
3. **Interactive communication is a..... process**
   a. one -way b. two -way c. three -way
4. **..... communication is the highest form of human dialogue, each person affirms the other as cherished.**
   a. I–You b. I–Thou c. I–It
5. **..... communication occurs when one person communicates the same message to many people at once**
   a. Public b. Small group c. Mass

(B)Explain: (5 degrees)

Different types of writing styles.

Question2:

(A)Mark the following sentences with True or False and correct the false ones: (10 degrees)

1. The introduction page in report shouldn't contain page number. ( )
2. Impersonal communication is defined as communication with the self. ( )
3. Majority of our communication is through the non-verbal channels. ( )
4. Decoder is the person determines whether your message was understood and appropriate. ( )
5. Linear communication is a three -way process ( )

(B)Explain: (5 degrees)

Basic steps for a successful oral presentation.

Question3:

(A)Write the difference between: (12 degrees)

1. Process barriers and physical barriers of communication.
2. Verbal and non-verbal communication
3. Impersonal communication and intrapersonal communication.

(B)Explain: (3 degrees)

Features of a good plain English.

Question4:

(A)Write the scientific term: **(10 degrees)**

1. The art of transmitting knowledge, ideas, information and thoughts from one person to another.
2. Specialized terminology developed and used by technical experts that only other similar staff and technical experts can understand.
3. Factors which breakdown the continuous communication loop.
4. Communication between people from different cultural groups.
5. Pattern of information, used when you describing an experiment.

(B)Define the following terms: **(5 degrees)**

BLUF – Proxemics – Diction – Extempore - Encoder.

Question5:

(A)Explain (with diagram) the following terms: **(10 degrees)**

1. A Communication continuum
2. Maslow's hierarchy of needs

(B)Write Short notes: **(5 degrees)**

1- How to communicate effectively?

2- Barriers of written communication.

Good Luck

Dr. Diana Tharwat Mosa

Kafrelsheikh University
Faculty of Computers and Information
Department of Computer Science

Final Exam of
Programming Fundamentals (**CS141**)
2015/2016 (second term)
Date: 22/6/2016
Time: 3hrs

Question (1) Answer the following *sub-questions* as required at each of them: (12 marks)

(1) Define: *Algorithm*, and *Program* ?

(2) What are the most important applications that can be developed using C# language?

(3) What are the three different actions of the Methods?

(4) What is the Attributes of the Program ?

(5) What is the Classification of Flowchart ?

Question (2) Write *only, the term that expresses* each of the following paragraphs: (9 marks)

(1) Is the basal layer required in order to C# operates on Windows.

(2) Are the programming languages which are the proximity of human languages (close to the language that is understood by humans).

(3) Is a program that to translate the source programs which is written by programming language and turning it in one batch to the target program.

(4) Is similar to the programming languages but it is not a programming language, as they contain a mixture of language expressions with the math. symbols and expressions with arithmetic operations.

(5) Is a reserved place to store the data in it until needed and deal with it through the program instructions, and takes the name to facilitate handling.

(6) Is a basic part of a program. It consist of the program's logic, and it can solve a certain problem, eventually take parameters and return a result.

Question (3) Answer the following questions as required in each of them: (12 marks)

(a) Write the general structure for (*switch-case, while, and foreach*)

(b) Write for each one of following names proper or improper as variables with the reason.

@9ahmed _ali_6 1ahmed $ali_9 FOR iff if

(c) Write algorithm in *Pseudo-Code*, and draw *Flowchart* to find the Arithmetic Mean for Ages of (*N*) students in the class.

Question (4) Write the program by C#.Net for *(a)* , and *only one* of *(b)* or *(c)* (15 marks)

(a) Write a program, which creates square matrices 4 x 4 like those in the figures below and prints them formatted to the console. The size of the matrices will be read from the console.

a)

1	5	9	13
2	6	10	14
3	7	11	15
4	8	12	16

b)

1	8	9	16
2	7	10	15
3	6	11	14
4	5	12	13

(b) Write a program that calculates $n!*k!/(n-k)!$ by using a *Method* for given n and k $(1<k<n)$.

(c) Write a program that use the coefficients a, b and c of a quadratic equation: $ax^2 + bx + c$ to calculate and print its real roots (if they exist), check it has real roots or imagine roots.

Kafrelsheikh University
Faculty of Computers and Information
Department of Computer Science

Final Exam of
Programming Fundamentals (**CS141**)
2015/2016 (second term)
Date: 22/6/2016
Time: 3hrs

Question (5) Write the output of the following programs in console of C#.Net. (12 Marks)

(A)

```
int a = 16;
int b = 12;

Console.WriteLine(a + (b++));
Console.WriteLine(a + b);
Console.WriteLine(a + (++b));
Console.WriteLine(a + b);
Console.WriteLine( 28 / a);
Console.WriteLine( 28 % b);
Console.WriteLine("{0} + {1} = {2}", a, b, a + b);
Console.WriteLine("{0} * {1} = {2}", a, b, a * b);
```

OUTPUT

(B)

```
Console.Write("n = ");
int n = int.Parse(Console.ReadLine());
Console.Write("m = ");
int m = int.Parse(Console.ReadLine());
int num = n;
long product = 1;
do
{
  product *= num;
  num = num+2;
} while (num < m);

Console.WriteLine("product[n...m] = " + product);
```

OUTPUT
n = 2 m = 6

(C)

```
Console.Write("n = ");
int n = int.Parse(Console.ReadLine());
int sum = 0;
for (int i=0; i<=n; i +=2)
{
    if (i % 5 == 0)
    {
        continue;
        //break;
    }
    sum += i;
}
Console.WriteLine("sum = " + sum);
```

OUTPUT at using *continue*
n = 13

OUTPUT at using *break*
n = 13

With best wishes;

Dr. Osama M. Abu Zaid

Kafrelsheikh University
Faculty of .Science
Computer science students
First Year
June 2016

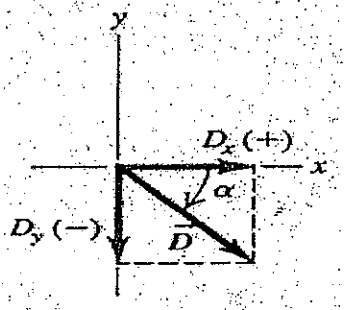
Time: 3h
Subject. Mechanics
Total Marks
Date: .8-6-2016

Answer the following questions-.

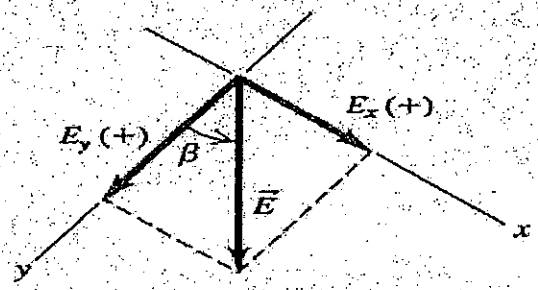
1 Questions No

(a) What are the x- and y-components of vector $\vec{D}$ in Fig. ? The magnitude of the vector is $D = 3.00$ m, and the angle $\alpha = 45°$. (b) What are the x- and y-components of vector $\vec{E}$ in Fig. 1.19b? The magnitude of the vector is $E = 4.50$ m, and the angle $\beta = 37.0°$.

(a)



(b)



Questions No 2

Three players on a reality TV show are brought to the center of a Large, flat field. Each is given a meter stick, a compass, a calculator, A shovel, and (in a different order for each contestant) the following Three displacements:

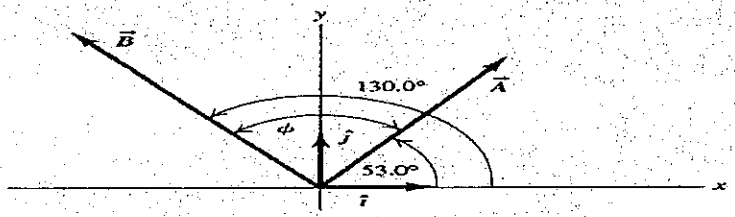
A :72.4 m, 32.0° east of north

B :57.3 m, 36.0° south of west

C ;17.8 m due south

The three displacements lead to the point in the field where the keys to a new Porsche are buried. Two players start measuring Immediately, but the winner first *calculates* where to go. What Does she calculate?

..Questions No 3

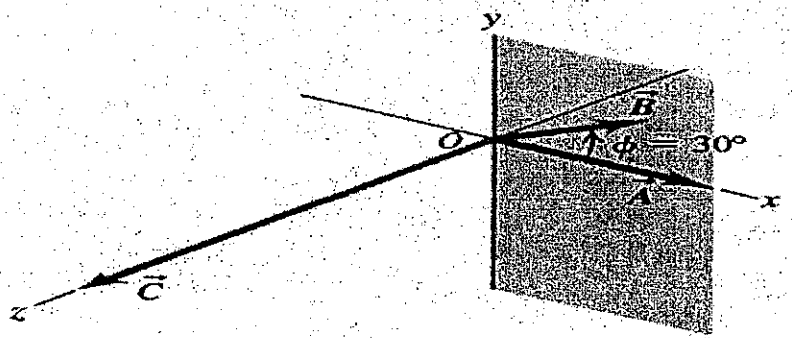


Find the scalar product A.B of the two vectors in the Fig.. The magnitudes of the *vectors are*

A=4.00 , B=5.00

..Questions No 4

Vector $\vec{A}$ has magnitude 6 units and is in the direction of the $+x$-axis. Vector $\vec{B}$ has magnitude 4 units and lies in the xy-plane, making an angle of 30° with the $+x$-axis (Fig.). Find the vector product $\vec{C} = \vec{A} \times \vec{B}$.



Questions No 5

A cheetah is crouched 20 m to the east of an observer (Fig. 2.6a). At time $t = 0$ the cheetah begins to run due east toward an antelope that is 50 m to the east of the observer. During the first 2.0 s of the attack, the cheetah's coordinate x varies with time according to the equation $x = 20\ \text{m} + (5.0\ \text{m/s}^2)t^2$. (a) Find the cheetah's displacement between $t_1 = 1.0$ s and $t_2 = 2.0$ s. (b) Find its average velocity during that interval. (c) Find its instantaneous velocity at $t_1 = 1.0$ s by taking $\Delta t = 0.1$ s, then 0.01 s, then 0.001 s. (d) Derive an expression for the cheetah's instantaneous velocity as a function of time, and use it to find v_x at $t = 1.0$ s and $t = 2.0$ s.

..Questions No 6

You throw a ball vertically upward from the roof of a tall building. The ball leaves your hand at a point even with the roof railing with an upward speed of 15 m / s the ball is then in free fall. On its way back down, it just misses the railing. Find

(a) the ball's position and velocity 1.00 s and 4.00 s after leaving your hand;

(b) the ball's velocity when it is 5.00 m above the railing;

(c) the maximum height reached;

(d) the ball's acceleration when it is at its maximum height.

Questions No 7

A robotic vehicle, or rover, is exploring the surface of Mars. The stationary Mars lander is the origin of coordinates, and the surrounding Martian surface lies in the *xy*-plane. The rover, which we represent as a point, has *x*- and *y*-coordinates that vary with time:

$x = 2.0\ m - (0.25\ m/s^2)t^2$

$y = (1.0\ m/s)t + (0.025\ m/s^3)t^3$

(a) Find the rover's coordinates and distance from the lander at t=2.0 s

(b) Find the rover's displacement and average velocityvectors for the interval to t=0.0 s to t= 2.0 s

(c) Find a general expression for the rover's instantaneous velocity vector $\vec{v}$ Express $\vec{v}$ at t=2.0 s in component form and in terms of magnitude and direction.

Questions No 8

Passengers on a carnival ride move at constant speed in a horizontal circle of radius 5.0 m, making a complete circle in 4.0 s. What is their acceleration

جامعة كفر الشيخ

كلية الحاسبات والمعلومات — المادة/ حقوق الإنسان

المستوى الأول — تاريخ الامتحان ٢٠١٦/٥/٣٠

أجب عن سؤالين فقط مما يلي:

السؤال الأول: أكتب في مفهوم وضوابط حرية الرأي والتعبير.

السؤال الثاني: أكتب في خصائص الحق الأدبي للمؤلف.

السؤال الثالث: أكتب في شروط استحقاق المطلقة للمعاش.

السؤال الرابع: أكتب في حق الإنسان في الزواج وتكوين أسرة.

مع أطيب التمنيات بالتوفيق