


**National University of Computer and Emerging Sciences,
Lahore Campus**

	Course:	Professional Issue in IT	Course Code:	CS449
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	Paper Date:	17-05-2018	Weight	40 %
	Section:	E	Page(s):	4
	Exam Type:	Final		

Student: Name: _____ **Roll No.** _____
Section: _____

Instruction/ Notes: Cutting and over writing will not be acceptable. Attempt all questions. Question
Paper should be attached with the answer sheet.

Question 1: Choose the best answer.
(20 marks)

1. A professional is someone who:
 - a. Within limits puts the interest of organization above of their own convenience
 - b. They can be relied on to carry out the work competently regardless of circumstances
 - c. They can be relied on to carry out the work conscientiously regardless of the circumstances
 - d. All of the above

2. A good team lead should spend most of his own energy in which time management quadrants:
 - a. 1st and 4th quadrant
 - b. 1st and 3rd quadrant
 - c. 2nd and 4th quadrant

- d. 1st and 2nd quadrant
3. A set of programs that enables a hacker to gain administrative level access to a computer without the end user's consent or knowledge is called a(n):
- Trojan horse
 - Logic bomb
 - Rootkit
 - Worm
4. Which of the following is not a major cause of poor software quality?
- Many developers do not know how to design quality into software or do not take the time to do it.
 - Programmers make mistakes in turning design specifications into lines of code.
 - Software developers are under extreme pressure to reduce the time to market of their products.
 - Many organizations avoid buying the first release of a major software product.
5. The power is kept at the top level management, the company is
- Bureaucratic
 - Centralized
 - Closely Structured
 - Decentralized
6. You read online that snake oil has benefits for arthritis patients. Which of the following, if you see, will make a convincing case for these benefits:
- A Facebook post claiming these benefits
 - A peer-reviewed (work evaluation study by people of similar competence) study showing its effects on a 1000 arthritis patients
 - A news item on CNN
 - An online article mentioning how using snake oil was an ancient Chinese practice
7. Which of these is NOT recommended in your resume`
- Desired and required skills you possess
 - Your past projects
 - Honours and Awards
 - References
8. _____ is an effort by an employee to attract attention to a negligent, illegal, unethical, abusive, or dangerous act by a company that threatens the public interest.
- Reporting
 - Informing
 - Whistleblowing
 - Social Communication
9. _____ occurs when someone steals key pieces of personal information to impersonate a person
- Phishing
 - Identity theft
 - Fraud

- d. Cyber squatting
 - e.
10. Which of the following is NOT protected if a software is patented:
- a. A function of the software
 - b. A bug in the software
 - c. A feature of the software
 - d. A process embedded in the software

Question 2

10 Marks

You are the team lead of your project and you need to prioritize and manage team time for the following tasks:

Writing 10 coding modules, reply to email from customer, run backup scripts for server maintenance, preparation for upcoming meeting, send team's resumes required by HR, track work hours for each team member.

Assign each of these tasks a score of importance (low, medium, high) and urgency.

Using this assignment, place these tasks in one of the four quadrants.

<p>1st – Imp & Urgent</p> <ol style="list-style-type: none"> 1. Reply to email from customer 2. Writing 10 coding modules 	<p>2nd – Imp & Not Urgent</p> <ol style="list-style-type: none"> 1. Run scripts for maintenance 2. Preparation for upcoming meeting
<p>3rd – Not Imp & Urgent</p> <ol style="list-style-type: none"> 1. Send team's resume to HR 	<p>4th – Not Imp & Not Urgent</p> <ol style="list-style-type: none"> 1. Track working hours

Question 3

10 Marks (5+5)

- a. Explain following perpetrators of computer crime.

Industrial spy

- Use illegal means to obtain trade secrets from competitors .Obtains information not available to the public

An unethical firm may spend a few thousand dollars to hire an industrial spy to steal trade secrets that can be worth a thousand times that amount. The industrial spy avoids taking risks that would expose his employer, as the employer's reputation (an intangible but valuable item) would be considerably damaged if the espionage were discovered.

Malicious Insider

- Major security concern for companies
- Fraud within an organization is usually due to weaknesses in internal control procedures
- Collusion
 - Cooperation between an employee and an outsider for fraud
- Insiders are not necessarily employees
 - Can also be consultants and contractors
- Extremely difficult to detect or stop

- Authorized to access the very systems they abuse
 - Negligent insiders have potential to cause damage
- b. State few SEO tips specifically for your LinkedIn Bio.
1. Completely fill out profile
 2. Claim your custom URL
 3. User keyword rich job titles
 4. Expand your network
 5. Join relevant groups and participate
 6. Upload a picture
 7. Optimize your job description
 8. Get recommendations and Endorsements
 9. Share more
 10. Put URL everywhere

Question 4

10 Marks

You notice that the productivity of your team falls during summers in Pakistan – a period when your US-based client requires high performance. How would you apply the IDEAL method to work towards solving this problem?

- ◆ Identify the problem.
- ◆ Define the problem.
 - -What do you want to happen?
- ◆ Explore alternative approaches.
 - Some solutions-best solutions-is it safe, fair?-will it work
- ◆ Act on the best strategies.
- ◆ Look back to evaluate the effects.
 - Is it working? – what will you do next time

Question 5

10 Marks(2.5x4)

You work for Teamviewer Inc and your core team has developed the entire software. Your company is, at this stage, concerned about copyright infringements on different parts of your product. The team informs you that the software is a combination of:

Innovative video streaming algorithms,
 P2P speed enhancement techniques already in use,
 Programming hacks and implementation tricks your coders developed over the years,

General session maintenance tools and front-end graphics

For each of the parts above, you have the choice to file a patent, register a copyright, keep it as a trade secret, or make it public for usage. Which one will you choose keeping in mind the company's profitability and constraints of each part? Give reasons.

Video streaming algorithms are new so they can be patented or copyrighted. Patent takes longer to file and offers more protection but copyright can be filed very quickly.

Speed enhancements techniques are already in use so can't copyright or patent them. And they'll possibly be leaked since TeamViewer has many employees so making them public as open source software can give benefit of further development of these algorithms.

Hacks and tricks can't be copyright but putting them out there might make it very easy for competitors to develop similar products so keep them as trade secret

Session maintenance tools have information like logo, titles of proprietary nature so we can keep it as company secret

Question 6

10 Marks

Your software company is dealing with a service provider that has two options for payment: you can either buy 3 year license of their software for 1 million PKR or you can buy yearly subscription for 500,000 PKR (and then renew twice).

What is the NPV of the second proposal assuming an interest rate of 10%? Which proposal will give you more value for your money? 4+3+

Proposal 2 = $500,000 + 500,000 * (1/(1+.1)^1) + 500,000 * (1/(1+.1)^2)$
=> 4 POINTS

= $500,000 + 500,000 * 0.9091 + 500,000 * 0.8264$
= $500,000 + 454550/454500/454545.454545 + 413200/413223.140496$ => 3 POINTS

= $1367750/1367700/1367768.59504$ => 2 POINTS

1 POINT FOR CHOSING THE RIGHT PROPOSAL - Proposal 1

Question 7

10 Marks(2.5 x 4)

Suppose your ride-hailing (Transportation from an unlicensed **taxi** service such as Uber or Lyft.) company is considering to launch bike service in

Karachi. Analyze this business idea by discussing the following components of the business model:

Market size and target customers (by estimating total addressable market)

Revenue stream(s)

Value proposition (an innovation, service, or feature intended to make a company or product attractive to customers.)

Backup plan

1) An educated guess of market size is asked here. So any student who starts with Karachi's population, or another similar number and makes a guess of number of drivers/users is roughly correct.

For example: Karachi's population: about 20 million, half of them are male (females are not likely to use bikes), middle class is roughly 30% of males. So in the absence of any other public transport in Karachi, roughly 1 million people can be addressed using this solution.

Students can estimate this number in other ways, like estimating number of job commuters etc.

2) Direct cut + selling customer data to third party clients

3) There is no urban transport system in Karachi and Uber cab might be too expensive for a certain class of daily commuters.

Question 8

10 Marks(2.5x3 +2.5)

Define the terms defensive publishing, non-disclosure agreement and cross-licensing agreement. Also distinguish between industrial espionage and competitive intelligence.

Defensive Publishing

Inventors sometimes employ a tactic called defensive publishing as an alternative to filing for patents. Under this approach, a company publishes a description of its innovation in a bulletin, conference paper, or trade journal, or on a Web site. Although this obviously provides competitors with access to the innovation, it also establishes the idea's legal existence as prior art. Therefore, competitors cannot patent the idea or charge licensing fees to other users of the technology or technique. This approach costs mere hundreds of dollars, requires no lawyers, and is fast.

Non-disclosure agreement

Employees are the greatest threat to the loss of company trade secrets—they might accidentally disclose trade secrets or steal them for monetary gain. Organizations must educate employees about the importance of maintaining the secrecy of corporate information. Trade secret information should be labeled clearly as confidential and should only be accessible by a

limited number of people. Most organizations have strict policies regarding nondisclosure of corporate information. Because organizations can risk losing trade secrets when key employees leave, they often try to prohibit employees from revealing secrets by adding nondisclosure clauses to employment contracts. Thus, departing employees cannot take copies of computer programs or reveal the details of software owned by the firm.

Cross Licensing Agreement

Many large software companies have cross-licensing agreements in which each party agrees not to sue the other over patent infringements. This strategy to obtain the rights to technologies that it might use in its products provides a tremendous amount of development freedom to Microsoft without risk of expensive litigation.

Competitive Intelligence

Competitive intelligence is legally obtained information that is gathered to help a company gain an advantage over its rivals. An effective competitive intelligence operation requires the continual gathering, analysis, and evaluation of data with controlled dissemination of useful information to decision makers. Competitive intelligence is often integrated into a company's strategic plan and decision making.

Industrial Espionage

Competitive intelligence is not the same as industrial espionage, which employs illegal means to obtain business information not available to the general public.

Question 9
Marks(2X5)

10

Explain following social network advertisement strategies briefly. State benefits of each.

Viral marketing

Encourages individuals to pass along a marketing message to others, thus creating the potential for exponential growth in the message's exposure and

influence as one person tells two people, each of those two people tell two or three more people, and so on. The goal of a viral marketing campaign is to create a buzz about a product or idea that spreads wide and fast. A successful viral marketing campaign requires little effort on the part of the advertiser; however, the success of such campaigns can be very difficult to predict.

Company-owned social networking Web site

Company to form its own social networking website.

Users can talk about what new products, services, or improvements they would like to see

A variation on the above approach is for a company to form its own social networking Web site. Dell created its own social networking Web site, IdeaStorm, as a means for its millions of customers in more than 100 countries to talk about what new products, services, or improvements they would like to see Dell develop. Since its launch in February 2007, the Dell community has suggested 11,996 ideas and posted

Indirect advertising through groups

Interested users can join by becoming “fans”

These groups can quickly grow in terms of numbers of fans to become a very effective marketing tool for a company looking to market contests, promote new products, or simply increase brand awareness.

Advertising using an individual’s network of friends

People frequently make decisions based on input from their close group of friends

Extremely persuasive

Companies can use social networking Web sites to advertise to an individual’s network of contacts. When you sign on to your favorite social networking Web site, you might see a message saying, “Jared [your friend] just went to see Transformers II—awesome, he says!” This can be an extremely persuasive message, as people frequently make decisions to do something or purchase something based on input from their close group of friends. This might be a spontaneous message sent by Jared, or Jared might be getting paid by an online promotion firm to send messages about certain products. There are certainly ethical issues with this approach, as some

people consider this to be exploiting an individual's personal relationships for the financial benefit of a company

Direct advertising

Direct advertising involves placing banner ads on a social networking Web site. An ad can either be displayed to each visitor to the Web site or, by using the information in user profiles, be directed toward those members who would likely find the product most appealing.

Banner ads on social networking Web site

For each user or specific user by using their profiles