

POKHARA UNIVERSITY

Level: Bachelor

Semester: Fall

Year : 2016

Programme: BE

Full Marks : 100

Course: Social and Professional Issues in IT

Pass Marks: 45

Time : 3hrs

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Describe the role of various types of computer hardware in personal productivity and organizational productivity. 7
- b) How has technology impacted the society? Describe the importance of IT in Poverty Alleviation 5
2. a) Define a society and explain features of a society. State and explain any FOUR issues that are major concern to the Society and the Internet. 5
- b) There have been many professional bodies in the field of engineering and their code of ethics as well. But the central theme of all those code of ethics remains to be similar. Describe the main constituent of any one of those codes 7
3. a) Briefly explain the difference between the purpose of a Code of Conduct and a Code of Practice. 7
- b) How do you judge the ethical standard of Engineers in Nepal? Describe the role of Nepal Engineering Council in maintaining ethical standard of Nepalese Engineers. 8
4. a) When developing an app, sound privacy and security practices are keys to consumer confidence. Why has privacy of consumer considered important issue now a day? Explain. 8
- b) Compare and contrast the protection that copyright and trademarks can provide for the developer of software designed to provide real-time control data. 7
5. a) The trends of hacking and tampering of data has been on hike now a day. What are other similar criminal activities? List them and explain any three. 7

b) "Psycho-social factors are as important as the physical ergonomics of workstations and the work environment in influencing health and well-being of workers." Justify.	8
a) Compare Utilitarianism and Deontological theories in short	5
b) Write briefly on Social Context of Computing	5
<b>Case Study: Fraudsters Stole ¥1.4 Billion from 1,400 Japanese ATMs in Just 3 Hours</b>	15

Monday, May 23, 2016 Mohit Kumar

In an era where major data hacks are on the rise, it is no surprise breaches on individuals are also up.

In just three hours, over 100 criminals managed to steal ¥1.4 Billion (approx. US\$12.7 Million) from around 1,400 ATMs placed in small convenience stores across Japan.

The heist took place on May 15, between 5:00 am and 8:00 am, and looked like a coordinated attack by an international crime network.

The crooks operated around 1,400 convenience store ATMs from where the cash was withdrawn simultaneously in 16 prefectures around Japan, including Tokyo, Osaka, Fukuoka, Kanagawa, Aichi, Nagasaki, Hyogo, Chiba and Nigata, The Mainichi reports.

Many ATM incidents involve a long-established technique called 'ATM Skimming' in which criminals install devices to obtain card details via its magnetic stripe, or use ATM malware or from data breaches, and then work with so-called carders and money mules to pilfer cash at ATMs or make online purchases.

In this particular case as well, the heist was carried out using cloned credit cards that contained bank account details obtained from Standard Bank in South Africa.

The criminal gang of around 100 people believed to have withdrawn 100,000 yen (nearly US\$900) – the maximum amount allowed by cash machines – from each of the 14,000 ATMs.

No one has yet been arrested in connection with the heist. However, Japanese police are currently trying to identify the suspects by examining CCTV footage and are working with South African authorities to investigate how the information on credit cards was leaked.

This incident shows a sophisticated move by a group of criminals who stole the critical card data, but rather than using it immediately, it kept the data safe and used effectively when least suspected.

So, be cautious when you use any ATM and always look carefully at the teller machine before using it. If you found the machine tampered or its card slot looks damaged or scratched, DO NOT use the ATM.

Answer the following questions relating the above case study:

- a) From the ethical, moral and legal perspective how do you relate the above case? 7.5
- b) The trends of hacking and tampering of data has been on hike now a day. What are other similar criminal activities? List them and explain any three. 7.5

## POKHARA UNIVERSITY

Level: Bachelor      Semester: Fall      Year: 2017  
Programme: BE      Full Marks: 100  
Course: Social and Professional Issues in IT      Pass Marks: 45  
Time: 3 hrs

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

- |       |  |   |
|-------|--|---|
| 2)    | "Technology and Society evolves with each other." Justify the statement relating to the changes in IT sector.                | 8 |
| 3)    | How can IT facilitate health sector and education sector? Put your ideas.  | 7 |
| 2. a) | Government has issued Secure Password Practices. Describe its gist. Also put some light on objectives of IT policy of Nepal. | 8 |
| b)    | What are trademarks and trade secrets? How has GoN protected them? Explain in brief.   | 7 |
| 3. a) | Describe the evolution of high level programming languages.  | 7 |
| b)    | Cyber Terrorism has been a major issue in today's context. What do you think how to deal with this issue? Put your views.    | 8 |

**Case study: Trump Is President. Now Encrypt Your Email.**

*CreditMike McQuade*

In the weeks after Donald J. Trump won the election, a schism threatened to break my group of friends in two. Not a political argument brought about by the president-elect, or a philosophical fight over the future of the country, but a question of which app we should be using to chat: GroupMe or Signal?

On the one hand, GroupMe, a popular group-messaging app, had cartoons we could add to our conversations, and we'd been using it for years. On the other, Signal offered secure, encrypted communication, and we were facing the first term of a president who has said Edward J. Snowden should be executed, demanded a boycott of Apple when the company refused to crack the iPhone of the San Bernardino, Calif., gunman for the F.B.I., and openly admired the "power" of the

hackers who leaked emails from the Democratic National Committee. Sure, we were mostly plotting bars to meet at, not targets for terrorist attacks. But given the incoming administration's professed attitude, a little extra security couldn't hurt. Then again: GroupMe's cartoons were really fun.

We weren't the only people asking ourselves this kind of question. In the months since the hacking of the Democrats and Mr. Trump's election, information security has become a concern to a much larger group of people than the professionals, activists, journalists and paranoids you'd expect. (Even stalwart Trump supporters on Reddit and in the comments on Breitbart are expressing apprehension about a congressional vote on Tuesday that rolled back Obama-era privacy regulations governing the collection of user data by internet service providers.) Nowhere is this more clear than in consumer apps and services for secure communications.

Though it's still not challenging Facebook Messenger atop the most-downloaded rankings, Signal, an open-source secure-messaging service produced by Open Whisper Systems, had a 400 percent increase in downloads in the days after the election, an incredible spike for an app developed by a small team funded by grants and donations. "Millions of people used Signal before the election," Moxie Marlinspike, the founder of Open Whisper, told me recently, "but there has never before been a single event that resulted in such a dramatic and sustained day-over-day increase in new Signal users."

Signal isn't alone in its newfound popularity. ProtonMail, a -respected secure-email start-up based in Switzerland (a country with particularly strict privacy laws), has seen a sustained boost of new email sign-ups "in the ballpark of a 100 percent increase compared to before Trump," according to Andy Yen, the chief executive of ProtonMail's parent company. "Trump, and the U.S. election as a whole, was clearly a catalyst that brought the issue of email privacy to the forefront globally."

Eight years of a broadly likable president lulled liberals into information-security complacency, even as Barack Obama expanded the executive branch's surveillance powers—and made heavy use of them at home and abroad. We should have been paying closer

attention to how much of our data and our communications were exposed to the government, especially after the Snowden leaks revealed the scale and extent of the National Security Agency's surveillance. After those same leaks revealed the involvement of major private technology companies in government spying efforts, we should have been more careful in our use of them.

4. a) Taking the reference of the given case, with formation of new government in US, the ethical relativism can be clearly perceived. Describe what ethical relativism is, in this context. 5
- b) What do you think that, what was the ethical issues that created the need of the above scenario? 5
- c) What should be the role of professionals in dealing with the aforementioned condition? 5
5. a) What is conflict of interest? Describe its types. 5
- b) What is Netiquette? How should we behave while using emails? Explain. 5
- c) "Accuracy vs. Democracy" has been a raising concern in the internet. Which faction would you prefer? Put your views. 5
6. a) What is offensive speech and censorship? Explain the importance of censorship illustrating an example. 5
- b) What are malicious programs? Describe different types of such programs. 5
- c) What are rights? Does a professional have special rights? Describe in brief. 5
7. Write short notes on: (Any two) 2x3
  - a) Mark Zuckerberg
  - b) Safety in Critical Systems
  - c) E-governance and E-government systems

SPLIT

## POKHARA UNIVERSITY

Level: Bachelor	Semester: Spring	Year: 2017
Programme :BE	Full Marks: 100	Pass Marks: 45
Course: Social and Professional Issues In IT		Time: Three

*Candidates are required to give their answers in their own words, as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) State major role of Von Neumann and Lady Ada in the field of computing. Explain about the history of Operating System. 7
- b) Discuss in brief about the elements of a society. Explain about digital divide and governance of internet. 8
2. a) Define the terms ethics, moral and etiquette. Describe descriptive and Normative claims with example. 7
- b) What is digital divide and how it can be minimized? Explain Health related issues for IT Professionals 4+4
3. a) Explain Engineering and computing as profession. Explain code of ethics of Nepal Engineering Council. 8
- b) Define conflict of interest and whistleblowing. When is an engineer morally obligated to blow the whistle? 7
4. a) Explain about the Safety critical system. Define responsibility and accountability of computer users? Explain hardware design issues. 8
- b) What do you mean by privacy risk? Explain about offensive speech and censorship in cyberspace. 7
5. a) What is offensive speech and censorship? Illustrate with relevant example for the importance of censorship in cyberspace. 7
- b) What is the difference between trademarks, patents and copyrights? I often find good pictures or quotes on the Internet – can I use them in my own marketing materials? Does it make a difference if I make sure to give credit to the source? 8
6. Read the following case study and answer the questions below 15
 

Jan and Keith, both engineers, are faculty members at a major university. Both are seeking tenure from the university, and as part of the requirement,

they are required to publish original articles in scholarly and technical journals.

As a graduate student, Jan developed a paper that he had never published, but now feels would be an excellent topic to publish in a journal. Jan discusses this idea with Keith, and they agree to work together on revising the paper.

Jan does most of the work of revising the paper to bring it up to date. Keith's contributions are minimal, but Jan agrees to include Keith's name as co-author, so as to enhance Keith's chances of obtaining tenure. The article is accepted and later published in a scientific journal.

#### Questions:

- i. Is it ethically acceptable for Jan go back to his graduate work for an article to publish?
- ii. Should Jan's thesis supervisor be credited in some way, and if so, how?
- iii. How much should Jan and Keith have agreed upon at the start of their collaboration? Was it either unethical or unwise for Jan to include Keith's name as co-author?

7: Write short notes on: (Any two)

2×5

- a) IT policy of Nepal
- b) Phishing
- c) Pioneers of computing

#### POKHARA UNIVERSITY

Level: Bachelor	Semester: Fall	Year : 2018
Programme: BE	Full Marks: 100	Pass Marks: 45
Course: Social and Professional Issues in IT		Time : 3 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) State major contributions of Jon Von Neumann in the field of computing.  
b) Identify and explain issues about technology and social change that often underlie discussions of the social implications of computer and information technology.
2. a) Define descriptive and normative claims. Explain utilitarianism and deontological theories.  
b) Define the term whistle blowing. What are the advantages and disadvantages of whistle blowing? Explain steps to solve whistle blowing in an organization.
3. a) Define values in design. Explain accuracy and democracy in internet.  
b) What is personal privacy? How have computers affected privacy?
4. a) What do you mean by denial of service? Explain different types of malicious programs.  
b) Define:
  - i) Copyright
  - ii) Trademark
  - iii) Patent
  - iv) Trade Secret
5. a) Describe in short IT Policy of Nepal. Do you believe that the Government of Nepal should do more work on the field of cyber law? If yes, give your suggestion.  
b) Define society. Explain impact of technology in society.

6. Read the following case study and answer the questions below:

15

In 1998, the National Telecommunications and Information Administration (NTIA), an agency of the U.S. Department of Commerce, using data from the Census Bureau, reported the following.

The good news is that Americans are more connected than ever before. Access to computers and the Internet has soared for people in all demographics groups and geographic locations. At the end of 1998, over 40% of American households owned computers, and one-quarter of all households had Internet access. Accompanying this good news, however, is the persistence of the digital divide between the information rich (such as Whites, Asians/Pacific Islanders, those with higher incomes, those more educated, and dual-parent households) and the information poor (such as those who are younger, those with lower incomes and education levels, certain minorities, and those in rural areas or central cities). The 1998 data reveal significant disparities, including the following:

Households with incomes of \$75,000 and higher are more than twenty times more likely to have access to the Internet than those at the lowest income levels, and more than nine times as likely to have a computer at home.

Whites are more likely to have access to the Internet from home than Blacks or Hispanics have from any locations.

Black and Hispanic households are approximately one-third as likely to have home Internet access as households of Asian/Pacific Islanders descent, and roughly two-fifths as likely as White households.

Regardless of income level, Americans living in rural areas are lagging behind in Internet access. Indeed, at the lowest income levels, those in urban areas are more than twice as likely to have Internet access as those earning the same income in rural areas.

Questions:

- a) Why is access to the Internet important for democracy?
  - b) "Author does not focus exclusively on the Internet; often he refers simply to access to the technology" why? Explain.
  - c) What do you think will be the important ethical issues in the future of the Internet?
7. Write short notes on: (Any two)
- a) Digital Forensics
  - b) History of Networking
  - c) IEEE and ACM

2×5

## POKHARA UNIVERSITY

Level: Bachelor

Semester: Spring

Year 3014

Programme: BE

Full Marks: 100

Course: Social and Professional Issues in IT

Pass Marks: 45

Time: 3 hours

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Write an essay on prehistory of computing and programming.  
b) "Information Technology has a major impact on poverty Alleviation and women empowerment" Do you agree or disagree? Justify with your opinion.
2. a) What do you understand by digital divide and how can we bridge the digital divide? Explain.  
b) Define computer Ethics. Explain three different ways of organizing ethical issues.
3. a) Explain engineering and computing as a profession. List out the major responsibilities of an ICT Professional.  
b) Write a note on Hacker ethics and netiquette.
4. a) Suppose, you are a project manager in implementing a predictive modelling software to know the behaviors of teenagers. What could be possible risks and how will you resolve them.  
b) Privacy can still be maintained even when the individuals are exposed to social networking sites. Do you agree or disagree? Justify your opinion.
5. a) Cyber Crime has increased significantly with the increase in internet users. Elaborate this statement with reference to various types of crimes reported in Nepal.  
b) What is fishing? Mention Types of Computer Crimes?
6. a) What do you know about IT Related laws of Nepal? Explain highlighting the IT Policy of Nepal.

What do you understand by Intellectual Property Right? Discuss  
Trademark, patent, Design and Copyright.

8

Write short notes on: (Any Three)

- a) Code of Ethics of NEC
- b) Descriptive and Normative Claims
- c) E-Government
- d) Offensive speech and censorship in censorship in Cyberspace

3x5

## POKHARA UNIVERSITY

Level: Bachelor

Semester: Fall

Year : 2019

Programme: BE

Full Marks: 100

Course: Social and Professional Issues in IT

Pass Marks: 45

Time : 3 hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

1. a) Describe the contribution of Edward Dijkstra in the field of computing.  
b) How has society and technology affected each other? Discuss.

2. Case: Facebook-related crimes on rise: Police

Kathmandu, Dec. 13: Cyber crimes arising from the misuse of social networking sites like Facebook are on the rise, police said Monday. Police investigation shows that cases of phising, using fake Facebook accounts, email thieving, data hacking and blackmailing have increased.

Lately, the police arrested two Nepali Facebook defrauders - a male and a female - on alleged charges of cheating people through Facebook by promising valuable gift items. Fraudsters - Anilnath Boki Shrestha of Sundhara, Lalipur district and Anita Maharjan of Banasthali, Kathmandu - were arrested for illegally taking money from innocent people. According to the police, Shrestha and Maharjan, posing themselves as gentlemen, promised the people valuable gifts on condition that they first deposited a small amount in fees in the said bank accounts to obtain the gifts.

Nearly half a dozen victims had deposited their money in the bank accounts of the fraudsters after becoming a friend on Facebook. Superintendent of Police (SP) Meera Chaudhari of the Central Investigation Bureau (CIB) said that the Facebook defrauders had created fake Facebook identities. SP Chaudhari said that Shrestha was arrested from Thamel and Maharjan from her own home at Banasthali on Saturday. The swindlers had collected Rs. 500,000 from the victims, said the police. According to police statistics, over three to four years, the number of cybercrimes stood at 19 in 2013, which reached more than 130 by the end of 2016. There were 39 cyber crime cases in 2014 and 89 in 2015, the report stated. Two months ago, the Metropolitan Police Crime Division

7  
8

registered more than 90 cases of Facebook cheating that include financial and Facebook blackmailing. Cases of cyber crime are increasing fast with each passing year along with the rise in the number of internet and social media users.

The Nepal Police statistics show that the number of cyber crimes surged by 105 per cent during the last fiscal 2014-15. Prakash Jung Karki, spokesperson at the Metropolitan Police Crime Division of the Nepal Police, said that there was a need for a comprehensive cyber law, establishment of a Nepali Computer Incident Response Team (CIRT) and capacity building of all the stakeholders to combat cyber-crime. Till date, the Nepal Police have been handling cases related to cyber-crime under the Electronic Transaction Act 2006.

- a) Taking the reference of the given case, discuss the current status of issues related to IT in Nepalese society. Relate ethical issues with the scenario. 10
- b) What should be the role of professionals in dealing with the aforementioned condition? 5

1. Read the following case study and answer the questions below: 15

Many losses of skills are unintended side effects of computer but Microsoft made a conscious decision that has the effect of diminishing vocabulary and the richness and humor of languages. The thesaurus in Microsoft Word 2000 lists "trick" as the only synonym for "fool". It omits "clown", "blockhead", "idiot", "ninny", "dunderhead", "ignoramus" and others, all present in earlier versions.

Because of the popularity of Word and the ease of using its reference utilities, fewer people will consult standard references such as dictionaries and Roget's Thesaurus (which also contains "dupe" and "simpleton", for example).

Microsoft said that it eliminated words "that may have offensive uses".

**Questions:**

- a) Do producers of widely used reference works have an ethical responsibility to report the substance of their field accurately, or a social responsibility to remove potentially offensive words from the language?
- b) Should software engineers concern themselves with ethical issues any more than other individuals in society?

- c) Do computers and computer related technology really raise new ethical problems or do they just present old issues in a new form?
4. a) "Software risk is considered sensitive in case of life critical systems as the developer is the only person to blame if an accident occurs". Do you agree or disagree? Justify your opinion.
- b) Is it possible to enforce censorship in cyberspace? Justify your opinion with relevant example.
5. a) IPR (Intellectual Property Rights) have become a serious concern with the advancement in computing technology. What are some of the intellectual properties? Describe.
- b) What do you mean by digital forensics? Explain different cybercrimes. How would you prevent your computer from crime? Discuss.
6. a) Some people think that technology has made life easier; others claim the opposite. What is your opinion on this issue?
- b) Cyber Terrorism has been a major issue in today's context. What do you think how to deal with this issue? Put your views.
7. Write short notes on: (Any two)
- a) Contributions of Mark Zuckerberg
- b) Safety in Critical Systems
- c) Use of E-government systems in Nepal

## POKHARA UNIVERSITY

Level: Bachelor  
Programme: BE  
Course: Social and Professional Issues in IT

Semester: Spring      Year : 2019  
Full Marks: 100  
Pass Marks: 45  
Time : 3 hrs.

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*The figures in the margin indicate full marks.*

*Attempt all the questions.*

- |   |    |
|---|----|
| a) What do you mean by computing? Describe how the computing changes with the evolution in computer technology.   | 7  |
| b) Discuss in brief about the elements of a society. Explain about digital divide and governance of internet.   | 8  |
| c) State major role of Von Neumann and Lady Ada in the field of computing. Explain about the history of Operating System.   | 7  |
| d) What is digital divide and how it can be minimized? Explain Health related issues for IT Professionals   | 8  |
| e) a) Define the terms conflict of interest and whistleblowing. Explain the code of ethics of Nepal Engineering Council.<br>b) Government has issued Secure Password Practices. Describe its gist. Also put some light on objectives of IT policy of Nepal.   | 7  |
| f) a) Why is it important to focus continuously in safety of critical systems? Explain value centered design.<br>b) What do you mean by computer crimes and digital forgery? Describe current scenario and effect of online pornography on children and state best approaches to reduce cyber crime in cyber space. | 8  |
| g) a) Explain about the Safety critical system. Define responsibility and accountability of computer users? Explain hardware design issues.<br>b) What is offensive speech and censorship? Illustrate with relevant example for the importance of censorship in cyberspace.   | 8  |
| 6. Read the following case study and answer the questions below:<br><br>Jan and Keith, both engineers, are faculty members at a major university. Both are seeking tenure from the university, and as part of the requirement,  | 15 |

they are required to publish original articles in scholarly and technical journals.

As a graduate student, Jan developed a paper that he had never published, but now feels would be an excellent topic to publish in a journal. Jan discusses this idea with Keith, and they agree to work together on revising the paper.

Jan does most of the work of revising the paper to bring it up to date. Keith's contributions are minimal, but Jan agrees to include Keith's name as co-author, so as to enhance Keith's chances of obtaining tenure. The article is accepted and later published in a scientific journal.

Questions:

- i. Is it ethically acceptable for Jan go back to his graduate work for an article to publish?
  - ii. Should Jan's thesis supervisor be credited in some way, and if so, how?
  - iii. How much should Jan and Keith have agreed upon at the start of their collaboration? Was it either unethical or unwise for Jan to include Keith's name as co-author?
7. Write short notes on: (Any two) 2x5
- a) IT policy of Nepal
  - b) Trademark
  - c) Online Harassment

POKHARA UNIVERSITY

Level: Bachelor      Semester/Fall:      Year: 2020  
Programme: B.E.      Full Marks: 100  
Course: Social and Professional issues in IT      Pass Marks: 45  
Time: 3 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Discuss the contributions of Konrad Zuse in the field of computing. 7  
b) What is digital divide and how can you minimize or mitigate digital divide? How can technology be used for poverty alleviation? 3
2. a) Society evolves with time, and technology changes with social demand. How has technology impacted society and vice versa? Explain. 8  
b) Define computing? Describe how the programming languages change with the evolution in computer technology. 7
3. a) Describe the professional ethics for a software engineer. Explain descriptive and normative claims. 8  
b) What are professional rights and professional responsibilities? Explain in brief. Briefly explain how can we avoid whistleblowing? 7
4. a) Define the terms conflict of interest and whistleblowing? Explain values in design. 8  
b) Discuss the central theme of code of ethics of ACM. 7
5. a) What are the best ways to protect an individual's privacy in internet space? Explain different privacy risks in detail. 7  
b) Define the terms cyber crimes and digital forgery? Describe current scenario and effect of online pornography on children and state best approaches to reduce cyber crime in cyber space in the context of Nepal compared to rest of the world. 8
6. a) What are Intellectual Property and Intellectual Property Rights? List out the different types of IP and explain any two of them. 8  
b) Explain different acts related to IPR in Nepal. State in brief about Right to Information Act and Electronic Transaction Act in Nepal. 7

7. Write short notes on (Any two)

- a) Cyber terrorism
- b) Ethical Relativism
- c) Accuracy vs. Democracy in the Internet



## POKHARA UNIVERSITY

Level: Bachelor Semester: Fall Year: : 2021  
Programme: BE Full Marks: 100  
Course: Social and Professional Issues in IT Pass Marks: 45  
Time: : 3hrs.

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Attempt all the questions.*

- |  |   |
|--|---|
| 1. a) Discuss the contribution of Conrad Zuse in the field of computing.   | 8 |
| b) Discuss the relationship between society and the technology with real world examples.   | 7 |
| 2. a) Is "Gender Divide" making the Digital Divide even larger? Explain the cross-gender communication in the Internet.  | 8 |
| b) What are the common Legal and Moral issues faced by a Software Engineers. Explain with example.   | 7 |
| 3. a) Why is Engineering termed as a profession? Give reasons.   | 8 |
| b) What do you mean by a professional code of ethics? Explain the code of ethics of the Nepal Engineering Council.   | 7 |
| 4. a) "Software risks are considered critical in case of life critical systems as the developer is the only one to blame if an accident occurs." Do you agree or disagree? Justify your opinion. | 8 |
| b) Is whistleblowing a professional act? What are the conditions required to blow a whistle?   | 7 |
| 5. a) What do you mean by Intellectual Property Rights. Explain different types of Intellectual Property in detail.  | 8 |
| b) Cyber Terrorism has been increasing with the advancement of technology. Express your view on it with the measures that can be taken to control this issue.                                    | 7 |
| 6. a) What do you mean by Cyber crime and Digital Forgery? Discuss your view on current situation of online harassment and measures to prevent it.   | 5 |

- b) Read the following case study and answer the questions at the end.

### Virtual Class

"... In 1978 ..." "Like most people with real jobs, I had to travel a lot which meant that I was frequently out of town on the nights I was supposed to be teaching. So I had to develop some strategies for coping with this problem. One was to participate in the class via an audio conference. I would have someone set up a speakerphone in my classroom and call in from wherever I happened to be. I could give lectures and engage students in discussions. It worked quite well." "Another strategy was to ask colleagues to "cover" for me by going to the class and giving a guest lecture. I would pick out people with expertise on the topic to be taught so their contribution to the class was usually very worthwhile and enjoyed by the students. I found that having 5 or 6 guest lectures in a course made it much more interesting to the students than being taught by a single person." "The third strategy involved the use of computer bulletin board systems to provide a way for students to contact me and each other via email and online conferences. Not only was this useful for me, but it was helpful to the students as well since many of them also traveled a lot and this gave them a way to keep up to date with course work."

### Questions:

- In what aspects do you consider this class as a virtual one?
- Can you think of applying the online education in this context?  
How?
- Analyze the implications of technology on students and professor in this case.
- If you were the professor, what improvements would you make in this situation?