

**Higher National Diploma in Information Technology**  
**Second Year, Second Semester Examination – 2017**  
**HNDIT2403/IT4003 - Professional Issues in IT/IT and Society**  
**Model Answers**

**Instructions for Candidates:**  
Answer 4 Questions only  
All questions carry equal marks

No. of questions : 05  
No. of pages : 03  
Time: Two (02) Hours

**Question 01**

- i. Fill in the blank about milestone of Computer Technology (Use your booklet) (12 marks)

- a. Plankalkul
- b. John von Neumann
- c. Bit
- d. IBM 1301
- e. Shakey
- f. desktop

(02 marks x 6)

- ii. "Today the Internet has become the Second life of the humans ". Prove this statement using three (03) examples. (06 marks)

- E mail – sending electronic messages
- Face book or any social networks – connecting with family and friends
- Virtual environments – getting feel like real environment
- Chat rooms – sending instance messages
- Any suitable answer (02 marks for any correct answer x 3)

- iii. What are the challenges of evaluating correct Information on the Web? (03 marks)

- **Search engines find popular** web sites rather than correct content
- **Rating** the web site is not based on content always
- If **millions participate**, the results will be become useful even wrong content
- Any suitable answer (01 mark x 3)

- iv. Information Technology affects for Creation and Destruction of jobs.

- a. List two (02) jobs created by IT. (02 marks)

IT support, Systems Engineer, Systems Analyst, Network Administrator, Any correct IT related job

- b. List two (02) jobs being destructed by IT. (02 marks)

Telephone operators, Meter readers , Midlevel managers)

(Total 25 marks)

**Question 02**

i. Name three ethical views. (03 marks)

- Deontological
- Utilitarianism
- Natural rights

ii. What does it mean by "**Professional Ethics**"? (02 marks)

Professional ethics includes relationships with and responsibilities toward customers, clients, co-workers, employees, employers, others who use one's products and services, and others whom they affect.

iii. Briefly explain the purpose of *Intellectual Property Act No. 36 of 2003* in Sri Lanka. (05 marks)

Legal guidelines to **safeguard** intellectual creations, including compliance (accepted standards) obligations (legal agreement) for software and Information systems

It safeguards intellectual creations: Copyrights, Patents, Trademarks etc

iv. Explain three Broad Categories of Computer Crimes under *Computer Crime Act No. 24 of 2007* in Sri Lanka. (09 marks)

- **Computer related Crimes** – Computers used as a tool for criminal activity such as theft, fraud etc.
- **Hacking** – Affects integrity, availability and confidentiality of a computer system or network (also includes viruses, worms etc.)
- **Content related Cyber Crime** – Computers with internet used to distribute illegal data. E.g.: Internet based pornography, criminal, copyright violation

(03 marks x 3)

v. COPA and CIPA are two Acts protecting child in the Internet.

a. Expand these abbreviations

b. Mention how the child is protected by each Acts. (04 marks)

- **Child Online Protection Act of 1998 (COPA)**: Protects from harmful material web sites to minors

- Children's Internet Protection Act of 2000 (CIPA): Installs filtering software by schools and libraries (02 marks x 2),

(Total 25 marks)

### Question 03

- i. Briefly explain two forms of copy right. (04 marks)

- Economic rights: include the right to reproduce, sell, rent, distribute, communicate to the public, translate etc
- Moral rights: cover the right to claim the **authorship** and oppose distortion (alteration) or mutilation (deny) of the work (02 marks x 2)

- ii. How copy rights protect the author since he/she is an employee. Assume that the author has invented new software module for the project which is being handled by the company. (04 marks)

**Economic rights** are belonged to the **company**

**Moral** rights are belonged to the **employee**

- iii. A patent protects inventions from copying. List two (02) other benefits of a patent except protecting the inventions. (04 marks)

- Provides motivate to the creativity
- Encourages further inventions
- Promotes investments
- Encourage economic development
- Encourage technical development

- iv. NIPO of Sri Lanka offers protection for four (04) kinds of marks. Briefly explain them. (08 marks)

- Trademark: Trademark relates to goods
- Service mark: Service mark relates to service
- Certification marks: A certification mark is a mark which meets a defined standard of the goods or services as certified by the owner of the mark who **licenses** others to use it
- Collective marks: A collective mark is a mark serving to distinguish the origin or any other common characteristic of goods or services of different enterprises which use the mark **under the control** of the registered owner

(02 marks x 4)

v. Computer users face different types of health problems.

a. What does it mean by *Carpel Tunnel Syndrome*? (02 marks)

The physical pain occurs as a result of involving in the same task for a long period of time are called repetitive stress/strain injuries (*RSI*). The commonest RSI among computer users is the painful condition on the palm or wrist. This condition is called Carpel Tunnel Syndrome

b. State three (03) practices to avoid the *Carpel Tunnel Syndrome*. (03 marks)

- Use of keyboard and mice produced to health standards
- Use of a support to rest wrist
- Keeping palms and wrists straight when typing
- Taking a proper break

(Total 25 marks)

#### Question 04

i. Discuss high level causes of Computer System failures. (04 marks)

- Lack of clear, well thought out goals and specifications
- Poor management and poor communication among customers, designers, programmers, etc.
- Pressures that encourage unrealistically low bids, low budget requests, and underestimates of time requirements
- Use of very new technology, with unknown reliability and problems

(any 02 from above)

ii. State two (02) things done by *Silver Surfers* to decrease their depression (04 marks)

Use search engines, Online shopping, Use skype, Use facebook , Use e mails

iii. State three (03) factors which would affect reliability and safety of an information system. (06 marks)

- Design and development problems
- Misrepresentation, hiding problems and inadequate response to reported problems
- Insufficient market or legal incentives to do a better job
- Re-use of software without sufficiently understanding the code and testing it
  - Failure to update or maintain a database (any 3 from above)

- iv. Briefly describe the following terms. (08 marks)
- Invisible information gathering  
Collection of personal information about someone **without** the person's knowledge
  - Secondary use: Use of personal information for a purpose **other than** the one it was provided for
  - Data mining  
Searching and analyzing masses of data to **find patterns** and develop new information or knowledge
  - Computer matching  
Combining and comparing information from different databases (using social security number, for example, to match records) (02 marks x 4)
- v. "Young people put less value on privacy than previous generations in the Internet".
- Do you agree with this? (01 marks)
  - Explain your answer. (03 marks)
    - Publish personal data in **public profile**
    - Provide personal data to **blogs**
    - Store** personal files public
    - Share** personal files
- (Total 25 marks)

#### Question 05

- i. Explain given five moral principles in **Code of Ethics** by *American Counselling Association (ACA)*. (10 marks)
- Autonomy**: Refers to the concept of independence and the ability to make one's own decisions
  - Justice**: Treating each person fairly, but it does not mean treating each person the same way
  - Beneficence**: Beneficence refers to doing good or what is in the best interests of the client
  - No maleficence**: Doing no harm to others
  - Fidelity**: The concepts of loyalty, faithfulness, and honouring commitments (02 marks x 5)

ii. Mention the main responsibilities of following professional bodies. (04 marks)

- a. **BCS: Promotes wider** social and economic progress through the advancement of **information technology** science and practice (02 marks)
- b. **IEEE** :Promotes the **engineering process** of creating, developing, integrating, sharing, and applying knowledge about electro- and information technologies (02 marks)

iii. Describe the primary objectives of *Computer Society, of Sri Lanka (CSSL)*. (06 marks)

- To promote and develop the science of Information Technology
- Foster and maintain investigations
- Research into the best means and methods of developing
- Applying such science and to encourage, increase, disseminate and promote knowledge, education and training
- To provide an Organization for professionals in Information Technology
- Examinations and other methods of assessment to test the skills and knowledge (02 marks x 3)

iv. Write down the names of the international professional bodies denoted by following abbreviations. (05 marks)

- a. AITP - Association of Information Technology Professionals
- b. ISACA - Information Systems Audit and Control Association
- c. IIA - Institute of Internal Auditors
- d. AOMC - International Association of Medical Colleges
- e. AAT - Association of Accounting Technicians

(01 mark x 5)

**(Total 25 marks)**