University of Rajshahi

Department of Computer Science and Engineering

B.Sc. (Engg.) Part-I Semester-I Examination-2014

Course: CSE-1111 (Computer Fundamentals)

Full Marks-52.5 Time: 3 hours

[N.B. Answer SIX questions taking any THREE from each part]

PART-A

1. (a) Define computer. Discuss analog, digital, and hybrid computers with applications 4.75
   (b) Draw the block diagram of the internal structure of a CPU and write its functions. 4

2. (a) Define computer memory. Why is RAM called primary memory and volatile memory? 3
   (b) Draw the architecture of a 64x4 RAM and discuss data read-write operation in it. 4
   (c) What are BIOS and flash memory? 1.75

3. (a) What is cache memory? Mention its importance and functions. 4
   (b) Discuss the functional mechanism of a hard disk drive during data read-write operation. 4.75

4. (a) Briefly discuss LCD monitor with their types and problems. 4
   (b) Write the differences between impact and non-impact printers. 1.75
   (c) Define and discuss computer buses. 3

PART-B

5. (a) What is software? Define operating system with its functions and types 4
   (b) Write the differences between DOS and Windows operating system. 2.75
   (c) Define language translator and driver software. 2

6. (a) What do you mean by data and information? Write the difference between them. 3
   (b) Define database and DBMS with example. 2.75
   (c) What is utility software? Mention its functions. 3

7. (a) Define computer network. Discuss the function of a bus network. 4
   (b) Discuss the operation of optical fiber as a communication media. 3
   (c) Define Internet, intranet, and extranet. 1.75

8. (a) What is a computer virus? What tasks can they perform? 2.75
   (b) How can you prevent viruses in a computer? Name some common antivirus software. 3
   (c) Discuss the following terms: (i) HTTP (ii) SMTP (iii) FTP 3

University of Rajshahi
Department of Computer Science and Engineering

B.Sc. (Engg.) Part-I Odd Semester Examination-2015

Course: CSE1111 (Computer Fundamentals)

Marks: 52.5 **Time**: 3 Hours

[Answer any six (06) questions taking three (03) from each part]

Part-A

1. a) What is a computer? Discuss different types of digital computers with their applications. 4
   b) What is meant by computer generation? Mention the technologies used in different generation of computers. 1.75
   c) Draw the block diagram of a digital computer and discuss how a program is executed by it. 3

2. a) What is CPU? Draw the internal block diagram of a CPU. 2.25
   b) Draw and discuss the data read-write mechanism of a 64x4 RAM. 3.5
   c) Define computer memory. Suppose your computer has 2 MB cache, 4 GB RAM and 500 GB hard drive. Explain your idea behind having 3 different types of memory instead of having just one. 3

3. a) Discuss how data is read from a compact disk. 4
   b) Explain, whether the touch screen of a tablet PC is an input or output device. 2.75
   c) What happens when you press a key on your computer's keyboard? 2

4. a) Compare CRT, LCD, and LED monitors. 2.75
   b) Discuss the printing mechanism of a laser printer. 3
   c) Define scanner, bar-code reader, and modem. 3

Part-B

5. a) What is software? Define system software and application software with examples. 3
   b) Discuss operating system with its types and functions. 3.75
   c) What are package program and user-written program? 2

6. a) What is language translator? Discuss different types of language translators. 4
   b) Define utility program. Mention some name of utility programs with their tasks. 3.75
   c) What do you mean by driver software? 1

7. a) What is meant by computer networks? List four benefits that computer networks provide to their users. 3
   b) What is network topology? Suppose in a lab of CSE department, all the computers and printers are connected to a network switch. Name and explain the topology that is used here. 3.75
   c) Why is the Internet sometimes described as a "network of networks"? 2

8. a) What do you mean by database and database management system? Are they same or different? How? 3
   b) What is computer virus? Mention some symptoms of virus for attacking a computer. 3.75
   c) Define anti-virus and computer hacker. 2

University of Rajshahi
Department of Computer Science and Engineering
B.Sc. (Engg.) Part-1 Odd Semester Examination-2016
Course: CSE-1111 (Computer Fundamentals)
Full Marks-52.5 Time-3:00 Hour

[N.B. Answer any SIX questions taking THREE from each part]

Part-A

1. (a) What is computer? Defines analog and digital computer. 3
   (b) Discuss mainframe and supercomputer with applications. 3
   (c) What is computer generation? Mention differentgeneration names with their used technologies. 2.75

2. (a) Draw the block diagram of a digital computer and discuss how a program is executed by it. 4
   (b) What is CPU? Draw the block diagram of the internal structure of CPU and write its functions. 4.75

3. (a) What is computer memory? How is it measured? 2
   (b) What are the differences between magnetic tape and magnetic disk? 2.75
   (c) Define the following terms in context of a disk storage: i) Access time 2
   ii) Latency iii) Seek time iv) Transfer rate
   (d) What is cache memory? What function does it perform? 2

4. (a) Discuss the functional mechanism of a hard disk drive during data read and write operation. 3.75
   (b) Discuss how data is read from a compact disk. 3
   (c) What is RAM? Shortly discuss about each type of RAM. 2

Part-B

5. (a) Discuss LCD monitor with their types and problems. 3
   (b) Discuss different evaluation criteria of a printer. 2.75
   (c) Discuss the functional mechanism of a laser printer. 3

6. (a) What is software? Define operating system with its types and functions. 3.75
   (b) What is utility program? Discuss some utility programs with their tasks. 3
   (c) Define user-written program and package program. 2

7. (a) Compare DOS and Windows as two operating systems. 2
   (b) What is database and database management system (DBMS)? What are the advantages of DBMS? 3
   (c) Define computer virus. Mention some symptoms and prevention of computer virus. 3.75

8. (a) What is computer network? Discuss different types of computer networks. 3
   (b) Define network topology. Discuss bus topology of computer network. 3.75
   (c) Define browser and search engine with examples. 2

University of Rajshahi
Dept. of Computer Science and Engineering
B.Sc. (Engg.), Part-I Odd Semester, Examination-2017
Course: CSE-1111 (Computer Fundamentals)

Full Marks-52.5 **Time: 3 hours**

[Answer any **SIX (06)** questions taking **THREE (03)** from each section]

Section-A

1. a) Define computer. Discuss different types of digital computers with their applications. 5
   b) Draw the block diagram of a digital computer and discuss how a program is executed by it. 3.75

2. a) What is CPU? Draw the block diagram of the internal structure of CPU and write its functions. 4
   b) Draw the architecture of a 64×4 RAM and discuss data read-write mechanism in it. 3
   c) Write differences between SRAM and DRAM. 1.75

3. a) Draw the architecture of a 64×4 RAM and discuss how data is read from and write into it. 4
   b) Briefly discuss the data read-write mechanism of a hard disk drive.
   c) A hard disk has 10 plates with 80 tracks of each surface. Each track is divided into 20 sectors and each sector contains 512KB of data. Calculate the capacity of the hard disk. 3 1.75

4. a) Compare CRT, LCD and LED monitors. 3
   b) Write the differences between impact and non-impact printers. 2
   c) What do you mean by system buses? Explain. 2
   d) What are the functions of BIOS? 1.75

Section-B

5. a) What do you mean by data and information? How does computer process data? 3
   b) What do you mean by database and database management system? Are they same or different? How? 2.75
   c) What is MODEM? Why it is used? 3

6. a) What is utility program? Mention some utility programs with their functions. 3
   b) What is language translator? Briefly discuss different types of language translator programs. 2.75
   c) Define the following types of software: 3
      (i) Driver software (ii) User-written program (iii) Package program.

7. a) What is operating system? What are the characteristics of the operating system? 3.5
   b) Define computer virus. Differentiate virus with malware, spyware and spam. 3.5
   c) Define anti-virus and computer hacker. 1.75

8. a) What is computer network? Write the major purposes to create a computer network. 2.75
   b) Define network topology and network protocol with examples. 2
   c) What is internet? Define the following terms related to internet: 4
      (i) Browser (ii) Search engine (iii) WWW.

University of Rajshahi
Department of Computer Science and Engineering
B.Sc. Engineering Part-1 Odd Semester Examination 2018
Course Code: **CSE1111** Course Title: **Computer Fundamentals**
Full Marks: 52.50 Time: 3 Hours

(According to syllabus 2016-2017)

[Answer Six (06) Questions taking any Three (03) Questions from each Section]

Section-A

1. (a) Define computer? Discuss different types of computers with their applications. 3
   (b) Explain computer generation. Mention the development technologies used in different generation of computers. 2.75
   (c) Draw the block diagram of a digital computer system and discuss the function of the different units of a computer system. 3

2. (a) What are the different forms to represent negative signed binary numbers? Explain them with example. 3
   (b) Evaluate the binary number 10001111 in base 10 under (i) Signed magnitude notation and (ii) Two's complement notation. 3
   (c) Convert the followings
   (i) $(510.125)_{10}=()_2$? (ii) $(AEF5)_{16}$ to binary and octal. 2
   (d) Perform the subtraction 11110111-10110111 using 2's complement method. 0.75

3. (a) Briefly describe the PC's system booting-up sequence. 3
   (b) Draw the block diagram of a digital computer and discuss how a program is executed by it. 4
   (c) Explain the functions of CPU. 1.75

4. (a) What is printer? Explain about the various criteria for evaluating a printer. 3
   (b) Explain impact printer and non-impact printer. 2
   (c) Describe the working principle of a Laser printer. 2.75
   (d) How does the bus width affect the overall speed of the computer system? 1

Section-B

5. (a) What is Memory? Draw the memory hierarchy according to their access speed. 2
   (b) Explain how data is transferred from an optical disc (i.e. CD-ROM) to the main memory. 5
   (c) A 6 platter hard disk has 600 tracks per surface. There are 10 sectors per track and 512 bytes per sector. What is the storage capacity of the disk? How many cylinders does the disk pack have? 1.75

6. (a) What is software? Define system software and application software with examples. 3
   (b) Discuss operating system with its types and functions. 3
   (c) Explain package program and user-written program with example. 2.75

7. (a) What is computer network? Compare among LAN, MAN and WAN. 3
   (b) Define network topology. Discuss bus topology used in a computer network. 3
   (c) How does a request from a computer sent over the Internet? Describe. 2.75

8. (a) Mention three utility programs with its purposes. 3
   (b) Define computer virus. Explain the characteristics of it. 2.5
   (c) How does virus infect and spread in a computer system? 2
   (d) Mention different types of viruses with examples. 1.25

Dept. Computer Science and Engineering
University of Rajshahi

Semester Final Examination, B.Sc. Engg. 2019, 1st year, Odd semester

Course ID: CSE 1111 Course Title: Introduction to Computer Systems/Computer Fundamentals

Total Time 3 Hours Total Marks 52.5

(Answer any six questions taking three from each section)

Section A

1(a)	What do you mean by system boot up? Briefly discuss the PC's booting up process.	3
(b)	What is meant by computer generations? Explain different generations of computers.	3.75
(c)	Expand ABC, ENIAC, EDVAC and EDSAC.	2
2(a)	What is motherboard? Write the functions of it. Also mention the main components on a motherboard.	3
(b)	Briefly discuss how a keyboard works.	3
(c)	Explain the internal structure of CPU with diagram	2.75
3(a)	How does the control unit assist the CPU in carrying out its operations? Explain.	3
(b)	What do you understand by machine cycle? Explain the main operations those are accomplished during the machine cycle.	3
(c)	How does the bus width affect the overall speed of the computer system? Define the three types of I/O buses.	2.75
4(a)	Define printer. Explain the various criteria to evaluate a printer.	3
(b)	Describe the LCD monitor with its advantages.	3
(c)	Explain the four areas created on a magnetic disk during formatting.	2.75

Section B

5(a)	What are difference between SRAM and DRAM? Why is a refreshing circuit needed for DRAM?	3
(b)	Write the characteristic of cache memory. What do you mean by L1, L2 and L3 cache?	2
(c)	Explain how data is stored on the surface of magnetic and optical disk	3.75
6(a)	Define the software. List and explain the types of software. Give two exaples of each category.	3
(b)	Explain three categories of operating systems with examples.	2.75
(c)	Define utility program. List a few names of utility programs with their tasks.	2
(d)	What is kernel?	1
7(a)	What is a computer network? Illustrate advantages of computer networks.	2.75
(b)	Explain the advantages and disadvantages of client-server and-peer-to-peer networks	3
(c)	Define network topology. Write down the advantages and disadvantages of bus, ring and star topologies.	3
8(a)	Define computer virus. How does computer virus work? Mention some notable computer viruses.	3
(b)	What is data processing? Define data and information.	2
(c)	Define Database Management System (DBMS). Explain the limitations of file based systems and write the advantages of DBMS.	3.75