ROLL NUMBER

Answer Sheet No._____

Sign. of Candidate _____

Sign. of Invigilator _____

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. **Do not use lead pencil.**

COMPUTER SCIENCE
HSSC–I
SECTION – A (Marks 15)
Time allowed: 20 Minutes

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Fill the relevant bubble against each question:

ہر سوال کے سامنے دیے گئے درست دائرہ کو پر کریں۔

#	Question	A	B	C	D
1.	Which of the following is an example of embedded computing device?	Keyboard	Digital Washing Machine	Mouse	Trackball
2.	Which of the following is used to process complex calculations and designing of complicated machines?	Mini computer	Micro computer	Personal computer	Super computer
3.	Which of the following types of optical disks can store more than 100 GB of data?	Blu-ray disk	Digital video disk	Compact disk	Floppy disk
4.	A type of memory that needs frequent power refreshing to retain its charge is called:	Programmable ROM	Magneto resistive RAM	Dynamic RAM	Static RAM
5.	The part of computer system that can hold data temporarily during processing is called:	Register	ROM	Optical disk	Hard disk
6.	Which of the following registers holds program instruction that are fetched from the memory for execution?	Memory Address Register	Memory Buffer Register	Program Counter Register	Instruction Register
7.	The expansion card which is required to run multimedia application on a computer is:	Gigabit card	Network interface card	Video graphic card	Modem card
8.	An interface or connection point through which peripheral devices connect to the computer is called:	Expansion slots	Port	Modem	System Bus
9.	TCP and UDP protocols are used at the following layer:	Session layer	Application layer	Network layer	Transport layer
10.	To setup a computer lab of 25 computers which class of IP address is suitable?	Class A	Class B	Class C	Class D
11.	Which of the following satellite systems is located above Low Earth Orbit and Below Geostationary Earth Orbit?	Geostationary Earth Orbit	High Earth Orbit	Medium Earth Orbit	Low Earth Orbit
12.	A Radio Frequency (RF) communication system consists of two components known as:	Transmitter and receiver	Transmitter and medium	Transmitter and transceiver	Receiver and medium
13.	Which of the following database languages is uses to insert, update and delete data in database?	DDL	DML	DCL	DXL
14.	The maximum number of an instance of one entity associated with each instance of related entity is called:	Unary relationship	Modality	Cardinality	Relational schema
15.	Which type of query is used to extract data from tables based on specified criteria?	Action query	Select query	Update query	Insert query

––––1HA-I 2212-7121 (HA) ––––

COMPUTER SCIENCE HSSC–I

Time allowed: 2:40 Hours **Total Marks Sections B and C: 60**

NOTE: The Questions of sections B and C are to be answered on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 36)

Q. 2 **Answer any TWELVE parts. All parts carry equal marks.** (12 x 3 = 36)

(i) Briefly explain any two types of system software with examples.

(ii) Write down any two differences between hardware and software with examples.

(iii) What is printer? Briefly explain Laser Printer.

(iv) Write down two advantages and one disadvantage of flash memory.

(v) Briefly explain the Sequential and Direct Access Memory.

(vi) Identify the role of Database Administrator (DBA).

(vii) Briefly describe CISC and RISC CPU architectures with one example each.

(viii) Write down the purpose of following ports:
a) Fire wire port b) Serial Port c) USB Port

(ix) Write down any two differences between Synchronous and Asynchronous Transmission with the help of diagram.

(x) If a college wants to setup a computer lab, which topology is best and why? Support your answer with two reasons.

(xi) Write down the protocol and its purpose used on following layers of OSI Model.

Sr. No.	Layers of OSI Model	Protocol Used	Function/Purpose of Protocol
i	Data Link Layer		
ii	Network Layer		
iii	Session Layer		

(xii) Write down one advantage and two disadvantages of wireless communication.

(xiii) What is Infrared (IR)? Write its importance in wireless communication.

(xiv) Observe the E-R diagram and answer the following questions:

COUNTRY —— has —— CAPITAL

a) Identify the cardinalities b) Identify the modality c) Identify the degree of relationship

(xv) Transform the following E-R diagram to the Relational Schema.

COLLEGE —— has —— PRINCIPAL

a) Transform Entities b) Transform Relationship

(xvi) Briefly describe the following types of Form Layouts:
a) Tabular b) Columnar

SECTION – C (Marks 24)

Note: **Attempt any THREE questions. All questions carry equal marks.** (3 x 8 = 24)

Q. 3 Describe the following Motherboard components: (2+2+2+2)
i) BIOS ii) Ports
iii) PCI Expansion Slot iv) Cooling system

Q. 4 **a)** Write down any three differences between static and dynamic RAM. (2+2)
b) Compare the TCP suite with OSI model. (04)

Q. 5 **a)** What is the difference between data bus and address bus? (2+2)
b) Describe instruction cycle with the help of diagram. (3+1)

Q. 6 **a)** A company has a number of employees. Each employee may be assigned to one or more projects. A project must have at least one employee assigned and may have several employees assigned.
i) Draw an ER Diagram ii) Identify cardinalities iii) Identify modalities (2+1+1)
b) Elaborate primary and Alternate key with the help of pictorial example. (2+2)