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10 ශ්‍රේණිය - දෙවන වාර විභාගය - 2026
Grade 10 – Second Term Test - 2026

Information & Communication Technology	10	E	I	Time – One hour

- Answer all the questions.

Part – I

01. Read the statements carefully and chose the correct answer.
    A. Information is obtained after processing data.
    B. Raw marks of students are examples of information.
    C. A summary report generated from examination marks is information.
    D. Data can exist in text, image , audio and video formats.

    (1) A , C and D only
    (2) A and B only
    (3) B , C and D only
    (4) A , B , C and D

02. A supermarket scans products and records sales throughout the day. At the end of the day , a report showing total sales and profit is generated.

    The sales records are …….. while the final repot is …… .

    (1) Information , Data
    (2) Data , Information
    (3) Information , Information
    (4) Data , Data

03. A historian compares two computers :
    - Computer X occupied an entire room and generated excessive heat.
    - Computer Y was smaller , faster and more reliable because it used transistors.

    Computer X and Computer Y belong respectively to :

    (1) First Generation and Second Generation
    (2) Second Generation and Third Generation
    (3) Third Generation and Fourth Generation
    (4) First Generation and Fourth Generation

04. Why are modern computers significantly more power than first- generation computers ?
    A. Smaller electronic components allow more processing power
    B. Memory capacity has increased dramatically
    C. Processing speed has improved significantly
    D. Modern computers use more vacuum tubes.

    (1) A and B only
    (2) A , B and C only
    (3) B , C and D only
    (4) A , B , C and D

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05. Consider the following statements.
    A. ENIAC used vacuum tubes.
    B. IBM 360 used integrated circuit technology
    C. Apple II was designed as a personal computers
    D. Mark I used microprocessors

    Which statement is correct ?

    (1) A only (2) D only (3) B and D only (4) A and C only

06. Which of the following correctly matches the inventor with the invention ?

inventor	Invention
A. Joseph Jacquard	P. Analytical Engine Programming
B. Blaise Pascal	Q. Pascaline
C. Ada Lovelace	R. Mechanical Loom
D. Charles Babbage	S. Analytical Engine

    (1) A – P , B – R , C – Q , D – S
    (2) A – Q , B – R , C – S , D – P
    (3) A – R , B – Q , C – P , D – S
    (4) A – P , B – Q , C – R , D – S

07. A school principal uses last year's students attendance data to make decisions about this year's performance. This information lacks :
    (1) Accuracy (2) Timeliness (3) Relevance (4) Completeness

08. Which type of memory is designed to store frequently used data and programs to improve computer speed ?
    (1) RAM (2) ROM (3) Cache Memory (4) Hard Disk

09. Which of the following BEST describes the given statements ?
    "perform surgery on a patient in consultation with a specialist who is far away or in abroad using ICT"

    (1) Home health surgery
    (2) E – medicine
    (3) Telesurgery
    (4) Emergency telemedicine

10. Hybrid computers are commonly used in :
    (1) Hospitals and scientific laboratories
    (2) Social media apps
    (3) Word processing
    (4) Gaming consoles only

11. A computer user opens a large spreadsheet , edits it , but the system suddenly loses power before saving. Which memory primarily contained the unsaved changes ?
    (1) ROM (2) Cache Memory (3) RAM (4) SSD

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12. Read the followings and select the correct answer.

Assertion (A) : A bank processing thousands of transaction records daily may chose a line printer.
Reason (R) : The printing speed of a line printer is usually much higher than that of character printers.

(1) Both A and R are true , and R is the correct explanation of A
(2) Both A and R are true , but R is not the correct explanation of A
(3) A is true , but R is false
(4) A is false , but R is true

13. Which computer type is often used for simulation like climate prediction ?
(1) Micro Computer (2) Super Computer (3) Laptop (4) Embedded System

14. A school system records student attendance and produces reports. The system ensures that when correct data is entered, the reports generated are always correct and error-free. Which computer feature is mainly demonstrated here ?
(1) Automation (2) Accuracy (3) Storage (4) Diligence

15. A hospital patient monitoring system continuously measure heartbeat using sensors and converts the signals into digital values for display and analysis. Which type of computer technology is mainly used in this system ?
(1) Analog Computer
(2) Digital Computer
(3) Hybrid Computer
(4) Mechanical Computer

16. Consider the following statements and select the most correct answer
P. HDMI can carry audio and video signals.
Q. USB ports support data transfer
R. Ethernet ports are used for network communication

(1) P only (2) P and Q only (3) Q and R only (4) P , Q and R all

17. A company uses the following communication systems :

X – Digital Display Board showing announcement
Y – Security Guards communicating through radios
Z – Customer Service Call Center

Which sequence correctly identifies the transmission mode used by each system ?

(1) Simplex , Half-Duplex , Full-Duplex
(2) Full-Duplex , Half-Duplex , Simplex
(3) Half-Duplex , Simplex , Full-Duplex
(4) Simplex , Full-Duplex , Half-Duplex

18. A rural area has no cable infrastructure. Which transmission medium is most suitable for internet connectivity ?
(1) Coaxial cable
(2) Optical fiber
(3) Satellite communication
(4) Twisted pair cable

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19. Which of the following is TRUE about unguided media ?

(1) Uses physical cable
(2) Uses fiber strands
(3) Uses electromagnetic waves through air
(4) Always slower than guided media

20. A school computer lab has 30 computers connected using a hub. The network is very slow , and students notice frequent data collision. The ICT teacher suggest replacing the hub with a switch and adding a router for internet access.

Why is the network slow when using a hub ?

(1) Hub does not identify the destination device before forwarding data.
(2) Hub sends data only to the destination device.
(3) Hub broadcasts data to all devices causing collisions.
(4) Hub converts digital signals.

21. A school computer lab is connected to the internet. Recently unknown users have attempted to access files stored on the school's server. The ICT teacher recommends installing a firewall. Why is a firewall the most suitable solution ?

(1) It increases the speed of data transmission.
(2) It converts analog signals to digital signals.
(3) It monitors and filters network traffic to block unauthorized access.
(4) It stores backup copies of files.

22. Consider the following situations :

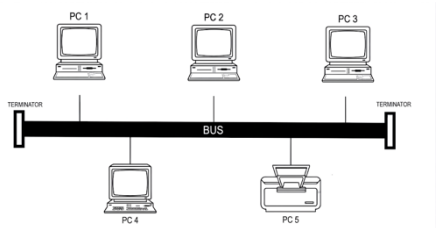
P – Connecting computers within a school laboratory
Q – Connecting personal devices such as a smartphone and smartwatch.
R – Connecting networks between different cities.
S – Connecting building within the same city.
The corresponding network types are :

(1) LAN , PAN , WAN , MAN
(2) PAN , LAN , WAN , MAN
(3) LAN , WAN , PAN , MAN
(4) MAN , PAN , WAN , LAN

23. Which of the following statements about network topologies is correct ?
(1) In a bus Topology , each devices is connected directly to every other device.
(2) In a Ring Topology, all devices connect to a central switch.
(3) In a Star Topology , all devices connect to a central device.
(4) In a Mesh Topology, all devices share a signal backbone cable.

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24. Observe the topology shown below and find which statement is true ?
    (1) Every device is connected to a central switch
    (2) Each devices is connected directly to every other device
    (3) All devices share a signal backbone cable
    (4) Data travels in a circular path



25. Which solution BEST reduces the risk of virus spread in a network ?
    (1) Remove all computers from the network
    (2) Increase RAM size
    (3) Install antivirus software and a firewall
    (4) Use only one computer

26. In the number 742.960 which digit is the MSD and LSD ?
    (1) MSD = 7 , LSD = 0
    (2) MSD = 1 , LSB = 0
    (3) MSB = 4 , LSD = 0
    (4) MSD = 7 , LSD = 9

27. In binary number 1000 , which statements in correct ?
    (1) MSB = 0 , LSB = 1
    (2) MSB = 1 , LSB = 0
    (3) MSB = 0 , LSB = 0
    (4) MSB = 1 , LSB = 1

28. If 1000010 represent ASCII “B” which of the following represent “G”
    (1) 1000111 (2) 1000101 (3) 1001000 (4) 1000011

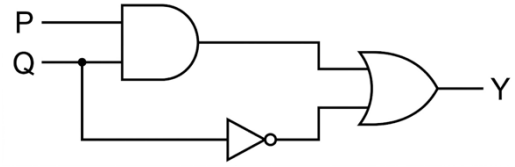
29. Which binary number is greatest ?
    (1) 1010 (2) 1110 (3) 1101 (4) 1001

30. Which statements is correct ?
    (1) $1010_2 = 12_{10}$ (2) $1100_2 = 14_{10}$ (3) $1111_2 = 15_{10}$ (4) $1001_2 = 11_{10}$

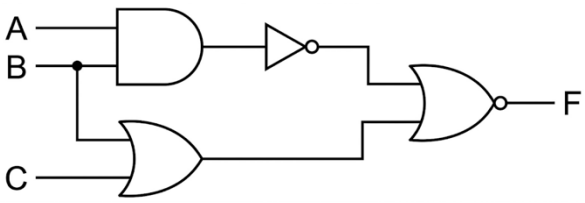
31. Consider the following logic circuit and select the most correct answer ?

    If P = 0 and Q = 1 , Output Y is ,

    (1) 0
    (2) 1
    (3) 2
    (4) 10



32. Which of the following is the correct Boolean expression that corresponds to output “F” ?
    (1) (A+B) . $\overline{(B \cdot C)}$
    (2) $\overline{(A+B)} \cdot$ (B+C)
    (3) $\overline{\overline{(A+B)} + (B+C)}$
    (4) $\overline{(A \cdot B) + (B+C)}$



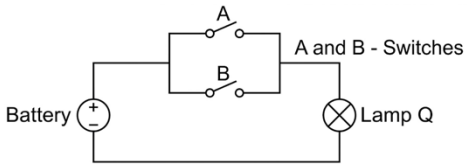
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33. Which octal value is equivalent to 1 F_{16} ?

(1) 35_8 (2) 37_8 (3) $3I_8$ (4) 41_8

34. What is the truth table depicted by the following circuit ?



I.

A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

II.

A	B	Q
0	0	1
0	1	0
1	0	0
1	1	0

III.

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1

IV.

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

35. Prof Dr.Saman is thinking of an online learning approach by which content providers links to information at other location and serves as a focal point a distance education experience. Which of the following should he use ?

(1) Computer – aided instruction
(2) Web – based instruction
(3) Self – paced program
(4) Tele conferencing

36. Select the correct ascending order of the following data storage devices based on their storage capacity ?

(1) Hard Disk , Register Memory , DVD , Flash Drive
(2) Flash Drive , Register Memory , DVD , Hard Disk
(3) DVD , Flash Drive , Register Memory , Hard Disk
(4) Register Memory , Flash Drive , DVD , Hard Disk

37. Select the correct descending order of the following storage devices based on their cost per unit of storage.

(1) Register Memory , Flash Drive , DVD , Hard Disk
(2) Hard Disk , DVD , Flash Drive , Register Memory
(3) DVD , Hard Disk , Register Memory , Flash Drive
(4) Flash Drive , Register Memory , Hard Disk , DVD

38. Which file extension is used for word documents (modern version)

(1) .pptx (2) .xlsx (3) .docx (4) .pdf

39. A school wants to admission letters to 200 selected students. Each letter must include the student's name , index number and selected course. Which feature of Microsoft Word is most suitable to complete this task efficiently?

(1) Word Art (2) Mail Merge (3) Track Changes (4) Smart Art

40. A company has separate computer network in its branches located across a city. The company needs to interconnect these networks while maintaining high-speed communication within the metropolitan area. Which type networks is most suitable purpose ?

(1) LAN (2) MAN (3) WAN (4) PAN

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10 ශ්‍රේණිය - දෙවන වාර විභාගය - 2026

Grade 10 – Second Term Test - 2026

Information & Communication Technology	10	E	I I	Time – Two hour

- Answer only five questions including first question and four others.
- First question carries 20 marks and each of other question carries 10 marks.

Part II

01.

1. A hospital receptionist enters a patient's details and appointment date into hospital management system. The system checks the doctor's availability and confirms the appointment. Write down one example each for a) input b) process c) output pf the system

2. Specify whether the sections labeled A to D below are True or False Write the label and state its veracity.

   A – A computer built using Integrated Circuits (ICs) and supporting multiprogramming is more likely to belong to the third generation than the second generation.
   B – If a computer system uses Artificial Intelligence applications but is physically built with microprocessor technology, it must be classified as a fifth-generation computer.
   C – The replacement of vacuum tubes by transistors improved reliability, reduced power consumption, and enabled computers to become smaller.
   D – The introduction of microprocessors had a greater impact on the widespread use of personal computers than the introduction of vacuum tubes.

3. Write the correct inventor for each invention.
   P. Abacus
   Q. Pascaline
   R. Mechanical Loom (Jacquard Loom)
   S. Analytical Engine

4. Each item in table A can be matched with an item in table B. Record the labels of the matching pair on your answer sheet.

Table A	Table B
I - Infrared	**P** - Unplugged media suitable for transmitting data over long distance.
J - Microwaves	**Q** - Use Copper wires to transmit data
K - Optical Fiber	**R** - Used in wireless remote controller, wireless keyboard and wireless mouse.
L - Twisted Pair	**S** - Use light in a glass to transmit data.

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5. A school is planning to automate several administrative activities. Identify the most suitable input technology (MICR, OCR, OMR, ATM, Barcode Reader or Flatbed Scanner) for each of the following tasks. Write the most suitable technology for each task.

   a) Processing multiple-choice examination answer sheets

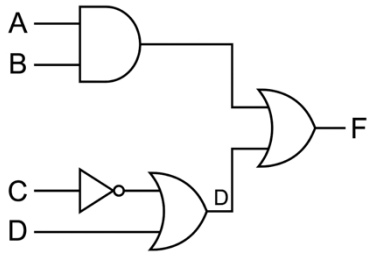
   b) Converting printed admission forms into editable digital text

   c) Verifying bank cheques received for school fee payments

   d) Creating digital copies of students' birth certificates, photographs, and signed documents for electronic record keeping

6. A radio station broadcasts music to listeners who cannot send data back. Identify the communication mode and explain why it is classified as such.

7. Write the Boolean expression for the output of the following logic circuit.



8. A) Convert the binary number 01011110101_2 to Hexadecimal. Show the steps in your calculations.

   B) Convert the Hexadecimal number $2B_{16}$ to Octal. Show steps in your calculations.

9. Some formatting options available in a word processing software are shown below

Option	12 ▾	**B**	*I*	U	~~abc~~	x_2	x^2
Label	P	Q	R	S	T	U	V

   Write down the labels of the options that have been used to do the following sentence formatting.

   Sentence before formatting: The secret to success is preparation.

   Sentence after formatting: *The **secret** to success is preparation*.

10. Write a device that can be connected to the following ports.

    P – HDMI Q – RJ45 R – Parallel Port S – Serail Port

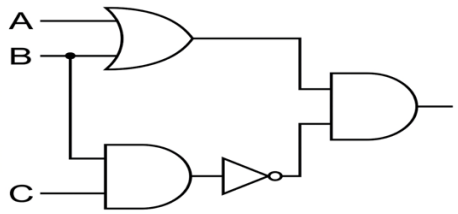
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02.

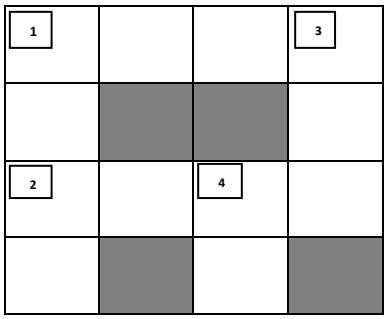
1. A fully automated smart building system controls safety and access across multiple zones. The system uses three inputs: building security mode, motion detection in restricted areas, and emergency override activation. The system is designed such that alarms will activate only when the building is in security mode and unauthorized motion is detected, but the system must immediately deactivate alarms when emergency override is activated.
   A. Write the Boolean expression. (1 mark)
   B. Complete the truth table. (3 marks)
   C. State the output when emergency override is ON. (2 marks)

2. Consider the following circuit diagram and provide answers to the questions given below.



   A. Write the Boolean expression for the above circuit. (1 mark)
   B. Draw the truth table for the above circuit diagram. (3 marks)

03. (1 ½ X 5 = 7 ½ marks)



Across	Down
1 13_{10} – Binary Value	**1** $4BA_{16}$ – Decimal Value
2 229_{16} – Octal Value	**3** 5_8 – Binary Value
	4 64_8 – Decimal Value

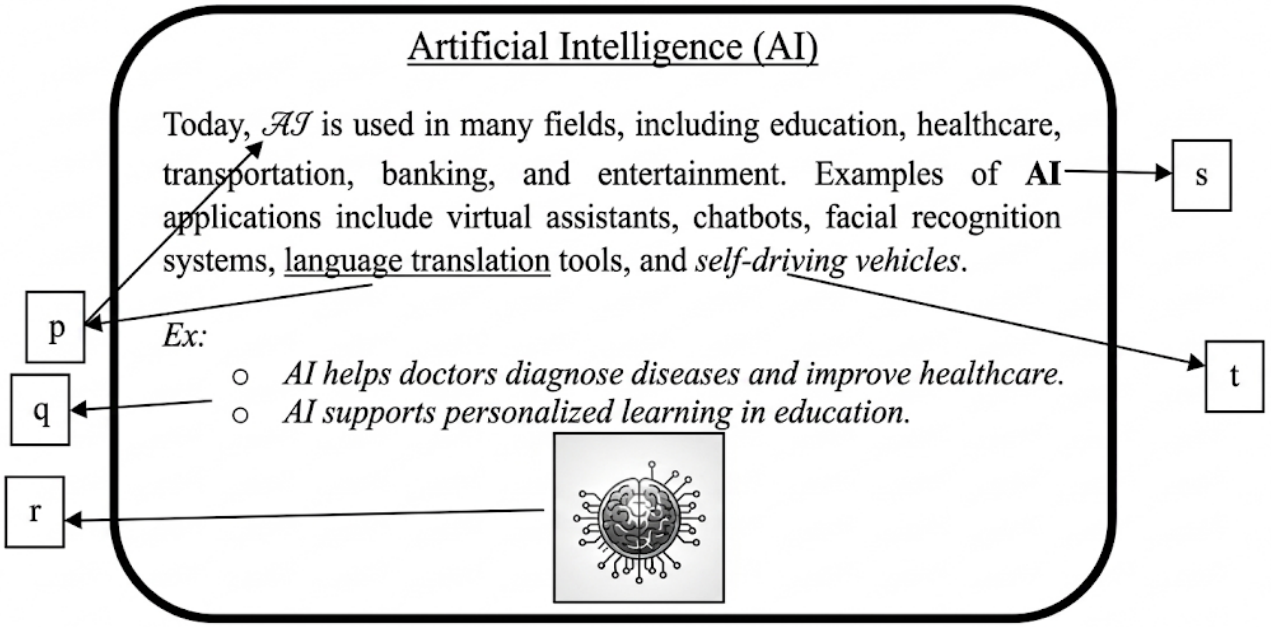
I. If the ASCII code 1000111 represents the character "G", write the ASCII codes for the word "Hi". (1 ½ marks)

II. Convert the 92_{10} into BCD code. (1 mark)

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04. The following document has been created using word processing software. Study the document and write the tools names to make the below document.



I. Write the tools names to make the above document. (Answer should write in label – Tool Name Format) (5 marks)

II. Write down the short cut keys used in the word processing software in front of the labels for each task A – E. (½ X 5 = 2 ½ marks)

(A) - Ctrl + P (B) - Ctrl + H (C) - Ctrl + E (D) - Ctrl + I (E) - Ctrl + A

III. State in your answer sheet whether the following statements are True (T) or False (F) (½ X 5 = 2 ½ marks)

1. It is possible to create a table in a document. ( )
2. By default, MS-Word aligns all the text as right aligned. ( )
3. Mail Merge can be used to create personalized letters for multiple recipients. ( )
4. Text can be formatted by changing its font, size, and color. ( )
5. Microsoft Word cannot create numbered or bulleted lists. ( )

05.

I. The Paragraph is about the different components of a computer system. Fill the labeled blanks (A to F) correctly. (Note: Follow the 'label – component' format) ($^1/_2$ X 6 = 3 marks)

A modern computer system follows the input-process-output-storage cycle. When a user enters data, it is accepted through an .... **A** .... The instructions required for processing are temporarily kept in the .... **B** .... The .... **C** .... contains the Arithmetic Logic Unit (ALU) and Control Unit, which are responsible for executing instructions. The final results are presented to the user using an .... **D** .... Large amounts of data and programs are saved permanently in .... **E** .... The .... **F** .... manages communication between different hardware components and controls the execution of instructions.

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II. A school plans to improve communication and resource sharing among its departments. The school consists of three sections: Administration Department, Examination Department, and Library Department. To exchange information quickly and share resources such as printers and files, the school decides to implement a computer network using a Star Topology.

A. Draw the relevant network diagram. (1 mark)

B. Write one advantage and one disadvantage of the star topology. (1 mark)

C. Apart from sharing information, write two other benefits the school can gain by implementing a computer network. (2 marks)

III. A. Explain the use of Firewall in two points. (1 mark)

B. Explain the two differences between Hub and Switch. (2 marks)

06.

I. A supermarket uses a printer to print receipts quickly. The printer operates silently and does not require physical contact between the printing mechanism and paper.

a) Identify the type of printer used. (1 mark)
b) State whether it is an Impact or Non-Impact printer. (1 mark)
c) Give one advantage of this type of printer. (2 marks)

II. A student wants to connect a laptop to a projector for a classroom presentation. The projector supports high-quality digital video and audio signals.

a) Name the most suitable port. (1 mark)
b) State whether the port transfers analog or digital signals. (1 mark)

III. Match the components of a Hard Disk with their functions. (4 marks)

Column A (Component)	Column B (Function)
A. Platter	**1**. Moves the read/write head across the platter
B. Read/Write Head	**2**. Stores data magnetically
C. Spindle	**3**. Reads and writes data on the platter
D. Actuator Arm	**4**. Rotates the platter

07. Select only 2 from the given questions and write a short description with examples.

I. Artificial Intelligence is an emerging technology used in many fields.
II. ICT plays an important role in the healthcare sector.
III. Information and Communication Technology (ICT) has changed the education sector.
IV. Computer networks are used to connect computers and share resources.
V. E-Government services use Information and Communication Technology to provide efficient services to citizens and organizations.

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