JK

Roll No. _____

Question Booklet Number

O.M.R. Serial No. :

BCA VI Semester (NEP Back Paper) Examination, 2025-26

Internet of Things

Paper Code						
B	C	A	6	0	0	2

Question Booklet Series
B

Time : 1 : 30 Hours] **[Maximum Marks : 75**

Instructions to the Examinee :

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. **All** questions carry equal marks.
3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.
4. Four alternative answers are mentioned for each question as – A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

(Remaining instructions on the last page)

परीक्षार्थियों के लिए निर्देश :

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। **सभी** प्रश्नों के अंक समान हैं।
3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गये हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।
4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर- A, B, C तथा D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छाँटना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

(शेष निर्देश अन्तिम पृष्ठ पर)

Rough Work

रफ कार्य

1. Raspberry Pi is:
   (A) Sensor
   (B) Embedded computing platform
   (C) Actuator
   (D) Network cable
2. Embedded systems usually include:
   (A) Microcontroller
   (B) Memory
   (C) Input/Output interfaces
   (D) All of the above
3. Digital sensors provide:
   (A) Continuous signals
   (B) Binary output
   (C) Analog output
   (D) No output
4. Which component processes data in embedded systems?
   (A) Sensor
   (B) Actuator
   (C) Microcontroller
   (D) Battery
5. IoT hardware platforms are designed for:
   (A) Gaming
   (B) Real-time data processing
   (C) Only storage
   (D) Only printing
6. Which communication is used in WSN?
   (A) Wired
   (B) Wireless
   (C) Manual
   (D) Optical only
7. A common IoT development board is:
   (A) Arduino Uno
   (B) Keyboard
   (C) Monitor
   (D) Printer
8. RFID tags are used for:
   (A) Data storage and identification
   (B) Data processing
   (C) Display
   (D) Printing
9. Embedded computing is important in IoT because:
   (A) It reduces automation
   (B) It enables smart device control
   (C) It increases manual work
   (D) It removes connectivity

10. Which of the following is NOT an IoT hardware component?
    (A) Sensor
    (B) Actuator
    (C) Microcontroller
    (D) Compiler
11. In IoT, MAC stands for:
    (A) Media Access Control
    (B) Machine Access Control
    (C) Memory Access Control
    (D) Mobile Access Channel
12. The MAC layer is responsible for:
    (A) Routing data
    (B) Controlling access to the transmission medium
    (C) Data storage
    (D) Data processing
13. Wireless medium access issues mainly include:
    (A) Collision
    (B) Interference
    (C) Bandwidth limitation
    (D) All of the above
14. Which protocol helps avoid data collision in wireless networks?
    (A) CSMA/CA
    (B) HTTP
    (C) FTP
    (D) SMTP
15. CSMA/CA stands for:
    (A) Carrier Sense Multiple Access with Collision Avoidance
    (B) Control System Multiple Access
    (C) Communication System MAC Algorithm
    (D) Carrier Signal Management Access
16. Routing protocols in IoT are used to:
    (A) Store data
    (B) Transfer data between nodes
    (C) Display data
    (D) Process data
17. Which of the following is a routing protocol used in IoT?
    (A) RPL
    (B) HTTP
    (C) HTML
    (D) FTP

18. RPL stands for:
    (A) Routing Protocol for Low-power and Lossy Networks
    (B) Remote Processing Layer
    (C) Reliable Packet Link
    (D) Routing Path Logic
19. Sensor deployment refers to:
    (A) Writing code
    (B) Placing sensors in a specific area
    (C) Removing sensors
    (D) Testing software
20. Node discovery is the process of:
    (A) Deleting nodes
    (B) Identifying and connecting nodes in a network
    (C) Programming nodes
    (D) Powering off nodes
21. In IoT, a node is:
    (A) A software program
    (B) A device connected to the network
    (C) A database
    (D) A cable
22. Wireless communication in IoT is preferred because:
    (A) It requires cables
    (B) It is flexible and scalable
    (C) It is slower
    (D) It is expensive
23. Which of the following is a common issue in wireless networks?
    (A) Signal fading
    (B) Noise
    (C) Interference
    (D) All of the above
24. Which topology is commonly used in IoT sensor networks?
    (A) Star
    (B) Mesh
    (C) Tree
    (D) All of the above
25. MAC protocols are designed to improve:
    (A) Data storage
    (B) Channel efficiency
    (C) Display quality
    (D) Printing speed

26. Energy efficiency in IoT networks is important because:
    (A) Devices are battery-powered
    (B) Devices are large
    (C) Devices are expensive
    (D) Devices are wired
27. Which factor affects routing in IoT?
    (A) Energy consumption
    (B) Network size
    (C) Link quality
    (D) All of the above
28. Node discovery is essential for:
    (A) Network formation
    (B) Data deletion
    (C) Software testing
    (D) Printing
29. Wireless sensor networks consist of:
    (A) Only computers
    (B) Sensors connected wirelessly
    (C) Only cables
    (D) Only servers
30. Which of the following improves communication reliability in IoT?
    (A) Error control
    (B) Routing protocols
    (C) MAC protocols
    (D) All of the above
31. Home automation in IoT refers to:
    (A) Manual control of devices
    (B) Automated control of home appliances
    (C) Only security systems
    (D) Only lighting
32. Which of the following is an example of home automation?
    (A) Smart lighting
    (B) Smart thermostat
    (C) Smart door lock
    (D) All of the above
33. IoT in industries is mainly used for:
    (A) Entertainment
    (B) Automation and monitoring
    (C) Gaming
    (D) Printing
34. Industrial IoT is also known as:
    (A) IoE
    (B) IIoT
    (C) IoS
    (D) IoP

35. Surveillance applications of IoT include:

(A) Smart cameras

(B) Motion detection

(C) Remote monitoring

(D) All of the above

36. Smart home devices are controlled using:

(A) Internet

(B) Remote access

(C) Mobile apps

(D) All of the above

37. Which of the following is a benefit of IoT in home automation?

(A) Increased manual work

(B) Energy efficiency

(C) No connectivity

(D) High cost only

38. IoT-based surveillance helps in:

(A) Improving security

(B) Reducing monitoring

(C) Removing cameras

(D) Manual checking

39. In industry, IoT helps in:

(A) Predictive maintenance

(B) Quality control

(C) Process automation

(D) All of the above

40. Smart CCTV cameras use:

(A) AI and IoT

(B) Only hardware

(C) Only cables

(D) Only software

41. Which of the following is an IoT application in agriculture?

(A) Smart irrigation

(B) Weather monitoring

(C) Soil sensing

(D) All of the above

42. IoT-based smart meters are used for:

(A) Entertainment

(B) Monitoring electricity usage

(C) Printing

(D) Gaming

43. Which application uses IoT for traffic management?

(A) Smart city

(B) Gaming system

(C) Printer

(D) Calculator

44. IoT in healthcare includes:

(A) Remote patient monitoring

(B) Wearable devices

(C) Smart medical devices

(D) All of the above

45. Surveillance IoT systems mainly rely on:

(A) Sensors and cameras

(B) Only software

(C) Only wires

(D) Only storage

46. Which of the following is NOT an IoT application?

(A) Smart home

(B) Smart city

(C) Manual typewriter

(D) Smart farming

47. Industrial IoT improves:

(A) Efficiency

(B) Productivity

(C) Safety

(D) All of the above

48. Smart locks in home automation provide:

(A) Manual control only

(B) Remote access and security

(C) No security

(D) Only alarms

49. IoT-based surveillance systems can send:

(A) Alerts and notifications

(B) Printed reports only

(C) No information

(D) Manual signals

50. The main purpose of IoT applications is:

(A) Increase manual work

(B) Improve automation and connectivity

(C) Reduce efficiency

(D) Remove devices

51. What does IoT stand for?

(A) Internet of Technology

(B) Internet of Things

(C) Integration of Technology

(D) Interface of Things

52. The main goal of IoT is to:

(A) Connect people

(B) Connect devices and objects

(C) Improve graphics

(D) Develop software only

53. Which of the following is a key component of IoT?

(A) Sensors

(B) Compiler

(C) Printer

(D) Monitor

54. IoT devices communicate mainly through:

(A) Manual input

(B) Internet connectivity

(C) Paper documents

(D) Telephone only

55. Which protocol is most commonly used for lightweight Communication between IoT/M2M devices?

(A) HTTP

(B) MQTT

(C) FTP

(D) SMTP

56. Which layer is responsible for data collection in IoT architecture?

(A) Application Layer

(B) Network Layer

(C) Perception Layer

(D) Transport Layer

57. The IoT architecture typically consists of how many layers?

(A) 2

(B) 3

(C) 5

(D) 7

58. Which of the following is an example of IoT?

(A) Smart Home

(B) Typewriter

(C) Calculator

(D) Notebook

59. The "brain" of an IoT system is:

(A) Sensor

(B) Cloud/Processing Unit

(C) Wire

(D) Switch

60. Which technology is commonly used in IoT for short-range communication?
    (A) Bluetooth
    (B) Satellite
    (C) Fiber optics
    (D) Telephone line
61. The term "Things" in IoT refers to:
    (A) Only computers
    (B) Physical objects with sensors
    (C) Only mobile phones
    (D) Only software
62. Which of the following is NOT a source of IoT data?
    (A) Sensors
    (B) Actuators
    (C) Social media
    (D) Keyboard
63. In IoT, data processing is mainly done in:
    (A) Cloud
    (B) Mouse
    (C) Keyboard
    (D) Printer
64. IoT enables:
    (A) Device isolation
    (B) Device communication
    (C) No connectivity
    (D) Manual work only
65. Which of the following is an IoT application area?
    (A) Healthcare
    (B) Agriculture
    (C) Smart Cities
    (D) All of the above
66. IoT devices use which protocol for communication?
    (A) HTTP
    (B) MQTT
    (C) CoAP
    (D) All of the above
67. The conceptual framework of IoT includes:
    (A) Devices, Connectivity, Data Processing
    (B) Only hardware
    (C) Only software
    (D) Only internet

68. Which of the following is a challenge in IoT?

(A) Security

(B) Privacy

(C) Data management

(D) All of the above

69. IoT is widely used in:

(A) Smart homes

(B) Smart vehicles

(C) Industrial automation

(D) All of the above

70. Which of the following best describes IoT vision?

(A) Connecting everything intelligently

(B) Only connecting computers

(C) Only internet browsing

(D) Only software development

71. M2M stands for:

(A) Man to Machine

(B) Machine to Machine

(C) Mobile to Mobile

(D) Machine to Mobile

72. The main difference between M2M and IoT is:

(A) IoT uses internet connectivity, M2M may not

(B) M2M uses cloud, IoT does not

(C) IoT is offline

(D) No difference

73. M2M communication is generally:

(A) Open and flexible

(B) Point-to-point

(C) Cloud-based

(D) Social-based

74. IoT architecture is more:

(A) Closed

(B) Scalable and flexible

(C) Manual

(D) Isolated

75. Which of the following is a key feature of IoT over M2M?

(A) Limited connectivity

(B) Use of internet protocols

(C) No data sharing

(D) No sensors

76. Building architecture in IoT focuses on:
    (A) Physical construction only
    (B) System design and structure
    (C) Only software
    (D) Only networking
77. A major design principle of IoT is:
    (A) Scalability
    (B) Isolation
    (C) Manual control
    (D) No connectivity
78. Which capability is essential for IoT systems?
    (A) Interoperability
    (B) Disconnection
    (C) Manual operation
    (D) Isolation
79. IoT architecture typically includes:
    (A) Only devices
    (B) Devices, network, and application layers
    (C) Only software
    (D) Only hardware
80. Reference architecture provides:
    (A) Exact implementation
    (B) General framework and guidelines
    (C) Only coding
    (D) Only hardware design
81. A reference model defines:
    (A) Physical devices
    (B) Concepts and relationships
    (C) Only network cables
    (D) Only sensors
82. Which organization contributes to IoT standards?
    (A) ISO
    (B) IEEE
    (C) ITU
    (D) All of the above
83. In IoT, interoperability means:
    (A) Devices cannot communicate
    (B) Devices can work together across platforms
    (C) Only one device works
    (D) No communication
84. IoT architecture must support:
    (A) High latency
    (B) Scalability
    (C) No data
    (D) Manual control

85. M2M systems are usually:

(A) Highly scalable

(B) Closed systems

(C) Internet-based

(D) Open systems

86. IoT systems use which type of communication?

(A) Only wired

(B) Only wireless

(C) Both wired and wireless

(D) No communication

87. Standardization in IoT ensures:

(A) Compatibility and interoperability

(B) Isolation

(C) No communication

(D) Manual processes

88. The IoT reference model helps in:

(A) Understanding system structure

(B) Only coding

(C) Only hardware

(D) Only networking

89. Which of the following is a limitation of M2M?

(A) High scalability

(B) Limited interoperability

(C) Open architecture

(D) Internet-based communication

90. IoT architecture is designed to handle:

(A) Small, isolated systems

(B) Large-scale distributed systems

(C) No systems

(D) Manual operations

91. A sensor is used to:

(A) Store data

(B) Convert physical parameters into signals

(C) Process data

(D) Display output

92. Which of the following is a digital sensor?

(A) Thermistor

(B) Analog temperature sensor

(C) DHT11

(D) LDR

93. An actuator is used to:

(A) Sense data

(B) Store data

(C) Convert signals into physical action

(D) Process data

94. Which of the following is an example of an actuator?

(A) Temperature sensor

(B) Motor

(C) Microphone

(D) Camera

95. RFID stands for:

(A) Radio Frequency Identification

(B) Remote Frequency Identification

(C) Radio Fast Identification

(D) Rapid Frequency Input Device

96. RFID system consists of:

(A) Tag and reader

(B) Sensor and actuator

(C) CPU and memory

(D) Keyboard and mouse

97. Wireless Sensor Networks (WSN) are:

(A) Wired systems

(B) Network of distributed sensors

(C) Only computers

(D) Only mobile devices

98. Participatory sensing involves:

(A) Only machines collecting data

(B) Humans contributing data using devices

(C) Only sensors

(D) Only servers

99. Embedded systems are:

(A) General-purpose computers

(B) Dedicated systems for specific tasks

(C) Only software

(D) Only hardware

100. Which of the following is an embedded platform?

(A) Arduino

(B) Microsoft Word

(C) Excel

(D) Printer

Rough Work

रफ कार्य

Example :

Question :

Q. 1 (A) (●) (C) (D)

Q. 2 (A) (B) (●) (D)

Q. 3 (A) (●) (C) (D)

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
6. All answers are to be given on OMR Answer Sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
9. There will be no negative marking.
10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
11. To bring and use of log-book, calculator, pager & cellular phone in examination hall is prohibited.
12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

Impt. On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question booklet, then after showing it to the invigilator, get another question booklet of the same series.

उदाहरण :

प्रश्न :

प्रश्न 1 (A) (●) (C) (D)

प्रश्न 2 (A) (B) (●) (D)

प्रश्न 3 (A) (●) (C) (D)

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
6. सभी उत्तर केवल ओ.एम.आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
7. ओ.एम.आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
9. निगेटिव मार्किंग नहीं है।
10. कोई भी रफ कार्य, प्रश्न-पुस्तिका में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
11. परीक्षा कक्ष में लॉग-बुक, कैल्कुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

महत्वपूर्ण : प्रश्न-पुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्न-पुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।