

O Level Question Paper January 2021 with Answers – M1-R4 IT Tools & Business Systems

The O Level Question Paper January 2021 for M1-R4: IT Tools & Business Systems is useful for students preparing for the NIELIT O Level examination. This solved paper includes the MCQs with all four options, correct answers, True/False questions, matching questions, fill-in-the-blanks, and descriptive questions with answers.

The original paper is bilingual (Hindi and English), has a 3-hour duration, and carries 100 marks. Part One contains objective questions for 40 marks, while Part Two contains subjective questions for 60 marks. Candidates were instructed to answer any four questions from Part Two.

O Level January 2021 Question Paper – Overview

Particular	Details
Examination	O Level January 2021
Module	M1-R4: IT Tools & Business Systems
Paper Code	M1-R4-01-21
Duration	3 Hours
Maximum Marks	100
Part One	Objective Type – 40 Marks
Part Two	Subjective Type – 60 Marks
Language	Hindi & English

Download: Original O Level M1-R4 January 2021 Question Paper

Part One – Objective Questions**Section 1 – Multiple Choice Questions**

Each question has four options. The correct answer is given below each question.

1.1 Numbers in base 16 are called:

- (A) Octal System
- (B) Hexadecimal System
- (C) Decimal System
- (D) Binary System

Answer: (B) Hexadecimal System

Explanation: The hexadecimal number system has a base of 16 and uses digits 0–9 and letters A–F.

1.2 The formula in cell A2 is =B2+C3. On copying this formula in cell C2, the formula will be:

- (A) =D3+E4
- (B) =D2+E3
- (C) =D2+E4
- (D) =D3+E3

Answer: (B) =D2+E3

Explanation: When the formula is moved from A2 to C2, the relative references move two columns to the right.

1.3 Which of the following file extensions indicates a file created in Paint?

- (A) BMP
- (B) DOC
- (C) STK
- (D) PPT

Answer: (A) BMP

Explanation: BMP is a bitmap image format commonly associated with Paint.

1.4 Which of the following is an input device?

- (A) Screen
- (B) Speakers
- (C) Keyboard
- (D) Printer

Answer: (C) Keyboard

Explanation: A keyboard is an input device because it is used to enter data and commands into a computer.

1.5 The cost of storing a bit is minimum in:

- (A) Cache
- (B) RAM
- (C) Register
- (D) Magnetic Disk

Answer: (C) Register

1.6 _____ is known as a high-level language.

- (A) Windows 7
- (B) Operating System
- (C) Java
- (D) Apple

Answer: (C) Java

Explanation: Java is a high-level programming language.

1.7 ROUND(1363.45, -2) returns:

- (A) -1364
- (B) 1400
- (C) 1363.45
- (D) 1300

Answer: (B) 1400

Explanation: A negative second argument rounds the number to the corresponding position to the left of the decimal point. Here, -2 rounds to the nearest hundred.

1.8 Which of the following is a tool to send letters to many recipients in MS-Word?

- (A) What-if
- (B) Mail Merge
- (C) Goal Seeking
- (D) Sorting

Answer: (B) Mail Merge

Explanation: Mail Merge is used to create multiple personalized copies of a document for different recipients.

1.9 Airline reservation system is a typical example of:

- (A) Batch Processing
- (B) Online Processing
- (C) Real Time Processing
- (D) None of the above

Answer: (C) Real Time Processing

Explanation: An airline reservation system needs information such as seat availability and booking status to be processed immediately.

1.10 To create a copy of files in the event of system failure, you create a:

- (A) Restore File
- (B) Firewall
- (C) Backup
- (D) Redundancy

Answer: (C) Backup

Explanation: A backup is a copy of important files that can be used to recover data after loss or system failure.

Section 2 – True or False

The True/False statements appear on page 4 of the original paper.

2.1 The language that the computer can understand is called Machine Language.

Answer: True

2.2 The Recycle Bin is a folder that provides a convenient place to store frequently used documents, graphics and other files.

Answer: False

Explanation: The Recycle Bin temporarily stores deleted files; it is not meant for storing frequently used files.

2.3 Paperless office & Virtual office are same.

Answer: False

Explanation: A paperless office aims to reduce the use of paper documents, whereas a virtual office refers to an arrangement in which work can be performed using digital communication and technology without requiring a traditional physical office.

2.4 PowerPoint Presentation can be embedded with sound, video clips and animations.

Answer: True

2.5 A byte is the smallest unit of storage.

Answer: False

Explanation: A bit is the smallest unit of digital data. One byte consists of 8 bits.

2.6 The worksheet tabs carrying the default labels Sheet1, Sheet2, Sheet3 etc. cannot be renamed.

Answer: False

Explanation: Spreadsheet worksheet tabs can be renamed.

2.7 Cache Memory is faster than Main Memory.

Answer: True

2.8 Floppy Disk is a plug and play device.

Answer: False

2.9 Machine Language is machine independent while Higher Level Languages are machine dependent.

Answer: False

Explanation: Machine language is machine dependent. High-level languages are generally designed to be more machine independent and portable.

2.10 If you enter 345A in a cell it will be treated as number in the electronic spreadsheet as it starts with digit.

Answer: False

Explanation: 345A contains a letter, so it is treated as text rather than a pure numeric value.

Section 3 – Match the Following

Match the statements in Column X with the appropriate word or phrase in Column Y. The matching section appears on page 6 of the paper.

Question Column X	Answer
3.1 A set of rules for solving a problem in a given number of steps	(B) Algorithm
3.2 The first screen that appears after the computer is switched on	(F) Desktop
3.3 Software to translate HLL to Machine Code	(G) Interpreter
3.4 It is used to create Curriculum Vitae	(H) MS-Word
3.5 Symbol used in email address	(M) @
3.6 A set of programs used to accomplish a specific task	(A) Application Software
3.7 A hidden error in a computer program	(D) Bug
3.8 In the year 1969, Department of Defense of the United States started a network called	(C) ARPANET
3.9 Specialist in one area of computer programming or a generalist who writes code for many kinds of software	(E) Programmer
3.10 The number of distinct pixels in each dimension that can be displayed	(I) Resolution

Section 4 – Fill in the Blanks

The following answers correspond to the word/phrase choices provided in the original question paper.

4.1 _____ is a short-cut to align all the selected sentences in center of the page.

Answer: Ctrl+E

4.2 The _____, also called the "brains" of the computer, is responsible for processing data.

Answer: CPU

4.3 The 1 KB equals _____ bytes.

Answer: 1024

4.4 _____ is a device that takes optical images, printed text, handwriting, or an object and converts it to a digital image.

Answer: Scanner

4.5 _____ is an electronic page in a presentation.

Answer: Slide

4.6 _____ is known as a primary memory.

Answer: RAM

4.7 _____ Unix command is used to change ownership of the file.

Answer: Chown

4.8 _____ is a gallery of ready-made graphics available in presentation software.

Answer: Clip Art

4.9 _____ function displays row data in a column or column data in a row.

Answer: Transpose

4.10 _____ is a device to convert digital signal to analog & vice versa.

Answer: Modem

Part Two – Subjective Questions with Answers

The original paper instructs candidates to answer any four questions from Part Two.

Questions 5 to 9 cover Linux, word processors, application software, Excel, PowerPoint, computer functional units, databases, multimedia, Internet technology, storage devices and financial information systems.

For practice, answers to all five questions are provided below.

Question 5

5(a) Explain the following terms in the context of Linux Operating System:

(i) Kernel

The kernel is the core part of the Linux operating system. It manages communication between computer hardware and software.

It performs important functions such as:

- Process management
- Memory management
- Device management
- Hardware resource management
- Providing services to application programs

(ii) System Library

A system library is a collection of pre-written functions and routines that programs can use to perform common operations and access operating-system services.

(iii) Shell

A shell is a command interpreter that provides an interface between the user and the operating system. A user can enter commands through the shell to perform operations such as creating files, moving between directories and running programs.

5(b) List and explain any 8 features of Word Processor.

A word processor is software used to create, edit, format, save and print documents.

Eight important features are:

1. Text Editing – Allows users to enter, modify and delete text.
2. Text Formatting – Allows changes to font, size, style and alignment.
3. Spell Check – Helps identify spelling mistakes.
4. Find and Replace – Searches for particular text and replaces it with another text.
5. Copy, Cut and Paste – Allows text to be copied or moved within a document.
6. Mail Merge – Helps prepare personalized letters and other documents for multiple recipients.
7. Tables – Allows information to be arranged in rows and columns.
8. Printing – Allows documents to be printed.
9. Page Setup – Provides options for margins, paper size and page orientation.
10. Insert Objects – Allows objects such as pictures and other elements to be inserted.

The question asks for any eight features.

Question 6

6(a) What is Application Software? What are the different types of application software?

Application software is software designed to help users perform particular tasks or activities.

Examples include word processors, spreadsheets, presentation software and accounting applications.

Types of Application Software

1. General-Purpose Application Software

These programs are designed to perform commonly required tasks.

Examples:

- Word processors
- Spreadsheets
- Presentation software
- Web browsers

2. Special-Purpose Application Software

This software is designed for a particular task or specific application.

Examples include:

- Payroll software
- Billing software
- Reservation systems
- Inventory software

3. Customized Application Software

This software is developed according to the specific requirements of an organization or user.

6(b) How do we hide columns in a worksheet? How do we adjust row height in MS-Excel?

To Hide a Column

1. Select the column that you want to hide.
2. Right-click the column heading.
3. Select Hide.
4. The selected column will become hidden.

To Adjust Row Height

1. Select the required row.
2. Right-click the row heading.
3. Select Row Height.
4. Enter the required height.
5. Click OK.

The row height can also be adjusted by dragging the boundary between two row headings.

6(c) How is slide transition used inside a PowerPoint presentation?

A slide transition is the visual effect used when one slide changes to another during a PowerPoint presentation.

To apply a slide transition:

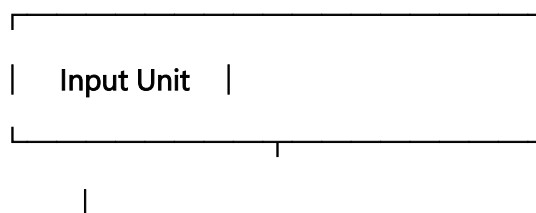
1. Open the PowerPoint presentation.
2. Select the slide.
3. Open the Transitions option.
4. Select the required transition effect.
5. Set the effect options if available.
6. Adjust the duration.
7. Select whether the slide should advance on mouse click or automatically after a specified time.
8. Apply the transition to other slides if required.

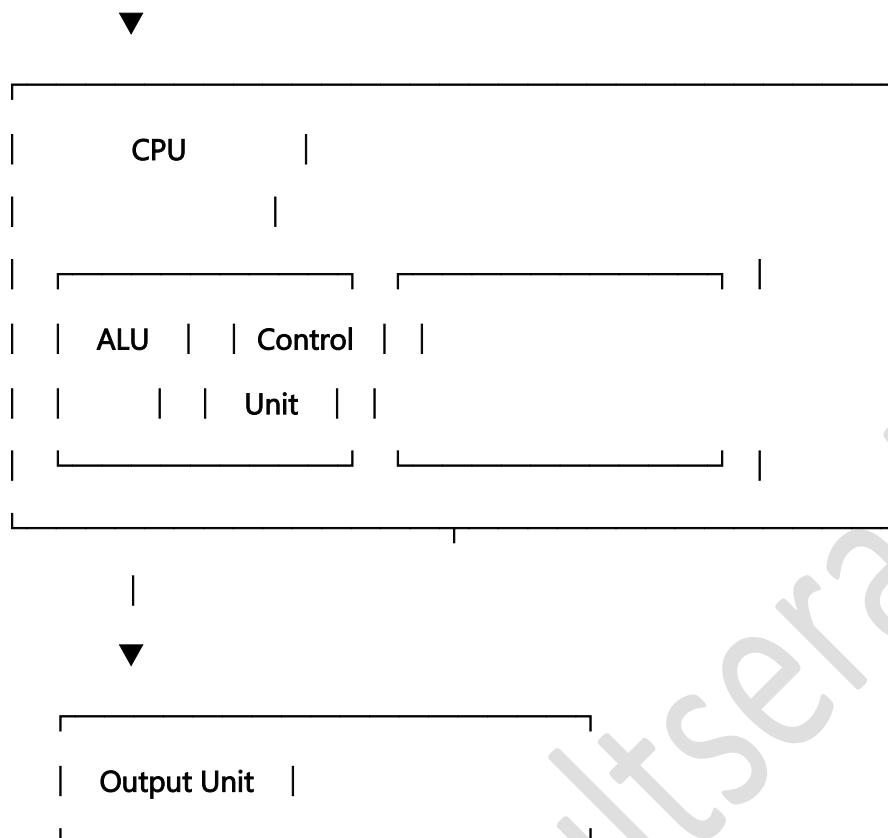
Slide transitions can make a presentation more visually organized and smooth.

Question 7

7(a) Draw a block diagram depicting the four functional units of a computer system.

The four basic functional units can be represented as:





The Input Unit accepts data and instructions. The CPU processes the data using components such as the ALU and Control Unit. The Output Unit presents the processed results to the user.

7(b) What is Referential Integrity? Explain cascading update and cascading delete with an example.

Referential integrity is a database rule that helps maintain consistency and validity between related tables.

For example, suppose a database contains a Student table and a Marks table.

Student Table

Student ID Name

101 Ravi

102 Amit

Marks Table

Student ID Marks

101 85

Student ID Marks

102 78

Here, Student ID in the Marks table refers to a student in the Student table.

Cascading Update

A cascading update automatically updates related values when the referenced value in the parent table is changed.

For example, if Student ID 101 is changed to 201, the related Student ID in the Marks table can also be changed to 201.

Cascading Delete

A cascading delete automatically deletes related records when the corresponding parent record is deleted.

For example, if student 101 is deleted from the Student table, the related marks record can also be deleted.

7(c) Define Multimedia. How can multimedia be used in education?

Multimedia refers to the use of multiple forms of media together, such as:

- Text
- Images
- Graphics
- Audio
- Video
- Animation

Uses of Multimedia in Education

Multimedia can be used for:

1. Digital lessons
2. Educational presentations
3. Video lectures
4. Interactive learning materials
5. Simulations
6. Digital textbooks

7. Online courses
8. Educational demonstrations
9. Interactive quizzes
10. Computer-based training

Multimedia can help present educational concepts through a combination of visual, audio and textual information.

Question 8

8(a) Explain in detail the diverse applications of Internet technology in various domains.

Internet technology is used in many different areas of modern life.

Education

The Internet is used for:

- Online classes
- E-learning
- Digital study materials
- Online examinations
- Educational websites

Banking

Internet technology enables:

- Internet banking
- Online fund transfers
- Bill payments
- Account management

Business

Businesses use the Internet for:

- E-commerce
- Online marketing
- Customer communication
- Digital transactions
- Online customer support

Communication

Internet-based communication includes:

- Email
- Instant messaging
- Video conferencing
- Social networking

Healthcare

The Internet can be used for:

- Telemedicine
- Online appointments
- Remote consultation
- Sharing health information

Government Services

Government organizations use Internet technology for:

- Online applications
- Digital services
- Online forms
- Public information
- Citizen services

Entertainment

The Internet is also used for:

- Online videos
- Music
- Games
- Digital content

8(b) Write a short note on storage devices of computer.

Storage devices are hardware devices used to store data, programs and information.

Some common storage devices are:

Hard Disk Drive

A hard disk drive uses magnetic storage technology and is used for storing large amounts of data.

Solid State Drive

An SSD uses flash memory and provides fast data access.

USB Flash Drive

A USB flash drive is a small portable storage device connected through a USB port.

Memory Card

Memory cards are small removable storage devices commonly used in electronic devices.

Optical Disc

CDs, DVDs and Blu-ray discs are examples of optical storage media.

Magnetic Tape

Magnetic tape can be used for backup and archival storage.

8(c) Explain the terms resolution, aspect ratio and refresh rate.

Resolution

Resolution refers to the number of pixels displayed horizontally and vertically on a screen.

For example, 1920 × 1080 represents a display resolution of 1920 pixels horizontally and 1080 pixels vertically.

Aspect Ratio

Aspect ratio is the relationship between the width and height of an image or display.

For example, 16:9 is a common widescreen aspect ratio.

Refresh Rate

Refresh rate is the number of times a display refreshes its image per second. It is measured in Hertz (Hz).

For example, a 60 Hz display refreshes the screen 60 times per second.

Question 9

9(a) What is Financial Information System (FIS) and what are its functions?

A Financial Information System (FIS) is an information system used to collect, process, store and provide financial information for an organization.

Functions of FIS

The major functions include:

1. Collecting financial data
 2. Processing financial transactions
 3. Maintaining financial records
 4. Preparing financial reports
 5. Supporting budgeting
 6. Supporting financial planning
 7. Providing financial information for decision-making
 8. Monitoring financial performance
-

9(b) What is a Database System? What are its features?

A Database System is a system used to store, organize, manage and retrieve data efficiently. It generally includes a database and software for managing the data.

Features of a Database System

1. Data Storage

Stores organized data for future use.

2. Data Retrieval

Allows users to search and retrieve required information.

3. Data Security

Helps protect data from unauthorized access.

4. Data Integrity

Helps maintain accuracy and consistency of data.

5. Data Sharing

Allows authorized users to share and access data.

6. Reduced Data Redundancy

Helps reduce unnecessary duplication of information.

7. Backup and Recovery

Helps protect data and recover it when required.

8. Concurrent Access

Allows multiple authorized users to access data under appropriate controls.

9(c) What are the various data models available for Database Systems?

A data model describes the way data is organized and how relationships between different pieces of data are represented.

1. Hierarchical Data Model

In this model, data is arranged in a tree-like structure using parent-child relationships.

2. Network Data Model

The network model represents data using records and relationships and can represent more complex connections between records.

3. Relational Data Model

In the relational model, data is stored in tables consisting of rows and columns. Relationships between tables can be established using keys.

4. Object-Oriented Data Model

This model represents information using objects, classes and relationships and is associated with object-oriented programming concepts.

O Level January 2021 Answer Key – Quick Revision**MCQ Answer Key****Question Answer**

- 1.1 B – Hexadecimal System
- 1.2 B – =D2+E3
- 1.3 A – BMP
- 1.4 C – Keyboard
- 1.5 C – Register
- 1.6 C – Java
- 1.7 B – 1400
- 1.8 B – Mail Merge
- 1.9 C – Real Time Processing
- 1.10 C – Backup

True/False Answer Key

Question Answer

- 2.1 True
- 2.2 False
- 2.3 False
- 2.4 True
- 2.5 False
- 2.6 False
- 2.7 True
- 2.8 False
- 2.9 False
- 2.10 False

Match the Following – Answer Key**Question Answer**

- 3.1 B – Algorithm
- 3.2 F – Desktop
- 3.3 G – Interpreter
- 3.4 H – MS-Word
- 3.5 M – @
- 3.6 A – Application Software
- 3.7 D – Bug
- 3.8 C – ARPANET
- 3.9 E – Programmer
- 3.10 I – Resolution

Fill in the Blanks – Answer Key**Question Answer**

- 4.1 Ctrl+E

Question Answer

4.2 CPU

4.3 1024

4.4 Scanner

4.5 Slide

4.6 RAM

4.7 Chown

4.8 Clip Art

4.9 Transpose

4.10 Modem

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