



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్  
भारतीय प्रौद्योगिकी संस्थान हैदराबाद  
Indian Institute of Technology Hyderabad

Advt. No. IITH/2023/NF/15

Question Paper Code: 108

Application Number of the Candidate

Name of the Applicant with signature:

Name of the Post: Junior Technician, Liberal Arts

Pay Level: 03

Date & Time of the Exam: Dec 13, 2023 (10.00 to 11.30 am)

Duration: 01 hr. 30 min

Scheme of the Exam: Written

Maximum Marks: 100

Topic	Number of Questions	Marks
General English (Communication Skills)	02	40
Web Designing and Programming Skills	01+10	40
General Arithmetic	05	10
General Knowledge and Liberal Arts related	05	10

Instructions for answering this exam:

1. Candidate must write his/her application number and name in the designated space in the answer sheet.
2. This question paper consists of four sections, A to D, with many subsections. Write the question number carefully as you answer, especially for essay type questions
3. Each answer sheet must be signed by the invigilator
4. For multiple choice type questions, only one response is to be selected & marked. In case more than one response is marked for a single question or there is no response, no marks will be awarded for that question.
5. Please put a clear tick mark (✓) on the correct option for the MCQs
6. There is no negative marking
7. Candidates must use a Blue/Black ball point pen to fill his/her responses.
8. Candidates can use the last 2 page(s) of the question booklet for the purpose of rough work.

Invigilator's Signature

**A. GENERAL ENGLISH/ COMMUNICATION SKILLS (Write the answers after section D):**

1. Imagine that you are a staff member who is in-charge of the office of the department of Liberal Arts at an IIT. As the in-charge, write an email inviting an eminent professor who is visiting the institute from a prestigious North American university. Your email must contain all details of dates, logistics, and provisions of stay. It should also include details you are seeking from this visitor such as her/his preferred itinerary, the proof of identity, and any other relevant information. You may include any other detail you believe may be relevant for such a piece of communication. **(Max. 500 words; 20 marks)**
2. Imagine that you are a staff member who is in-charge of the office of the department of Liberal Arts at an IIT. As the in-charge, write a report on the department's budget which will be submitted to the HoD and then to the institute's administration for approval. Please provide specific details of various items in the budget along with proper justification. **(Max. 500 words; 20 marks)**

**B. WEB DESIGNING AND PROGRAMMING SKILLS (Write the answer after section D):**

3. Imagine that you have been asked to design the website of the Department of Liberal Arts, IIT Hyderabad. What will be the key elements of your strategy, content, design and execution for a successful website? **(Max. 500 words; 20 marks)**
4. **Multiple choice type questions: Tick the correct option (2X10=20 marks)**
  - I. Which of the following is a type of computer network?
    - a. Local Area Network (LAN)
    - b. Wide Area Network (WAN)
    - c. Metropolitan Area Network (MAN)
    - d. All of the above
  - II. \_\_\_\_\_ is the process of finding errors and fixing them within a program.
    - a. Compiling
    - b. Executing
    - c. Debugging
    - d. Scanning
  - III. Header files in C language are \_\_\_\_\_
    - a. Procedures
    - b. Functions
    - c. Routines
    - d. Libraries

IV. The language that the computer can understand and execute is called

- a. Low-level machine language
- b. High-level language
- c. Assembly Language
- d. None of the above

V. In programming, what does the acronym "API" stand for?

- a. Application Programming Interface
- b. Advanced Program Interaction
- c. Automated Programming Interface
- d. Application Process Integration

VI. Which of the following is not a valid variable name in most programming languages?

- a. myVariable
- b. 123Variable
- c. Variable123
- d. my\_variable

VII. What is the purpose of a loop in programming?

- a. To execute a set of instructions a specified number of times.
- b. To terminate the program.
- c. To print output to the console.
- d. To declare variables.

VIII. How do you create a hyperlink in HTML?

- a. <link>
- b. <url>
- c. <a>
- d. <href>

IX. Which HTML tag is used to create an ordered list?

- a. <ol>

- b. <ul>
- c. <li>
- d. <dl>

X. Which of the following is an example of a conditional statement?

- a. for loop
- b. if statement
- c. switch statement
- d. while loop

### C. General Arithmetic

5. Multiple choice type questions: Tick the correct option (2X5=10 marks)

- I. Today is Vijetha's birthday. After one year, she will be twice as old as he was 12 years ago. What is the present age of Vijetha?
  - a. 20 years
  - b. 22 years
  - c. 25 years
  - d. 27 years
- II. Rakesh's grandfather's brother is the father of Susant's father. How is Rakesh related to Susant?
  - a. Brother
  - b. Cousin
  - c. Father
  - d. Uncle
- III. Sagar sells an item for ₹555 and receives a profit of 11%. What will be his profit or loss in case he sells the item for ₹455?
  - a. Profit of 1%
  - b. Loss of 2%
  - c. Profit of 6%

- d. Loss of 9%
- IV. If 5 is subtracted from both the numerator and the denominator of a fraction, the value of the fraction becomes  $\frac{1}{2}$ . If 2 is added to both the numerator and the denominator, the value of the fraction becomes  $\frac{2}{3}$ . The fraction is:
- a.  $\frac{12}{19}$
  - b.  $\frac{5}{9}$
  - c.  $\frac{15}{17}$
  - d.  $\frac{14}{19}$
- V. A cyclist goes 30 km to the North and then turning to the East he goes 40 km. Again, he turns to his right and goes 20 km. After this he turns to his right and goes 40 km. How far is he from his starting point ?
- a. 25 km
  - b. 40 km
  - c. 20 km
  - d. 10 km

**D. GENERAL KNOWLEDGE AND LIBERAL ARTS RELATED QUESTIONS:**

**6. Multiple choice type questions: Tick the correct option (2X5=10 marks)**

- I. If a student approaches you with difficulties in using Excel, what initial steps would you take to understand their specific challenges?
- a. Direct them to online tutorials
  - b. Ask them to figure it out independently
  - c. Offer to sit down with them and discuss their concerns
  - d. Suggest they seek help from classmates
- II. When tasked with drafting an official email to inform colleagues about a change in laboratory procedures, what key elements would you include in your message?
- a. Brief and general information

- b. Detailed explanation of the change
- c. Attach relevant documents for reference
- d. All of the above

III. If multiple students in the lab report slow internet connectivity, how would you approach identifying and resolving the issue?

- a. Assume it's a temporary problem and wait for it to resolve
- b. Call the internet service provider for assistance
- c. Investigate the issue, check network settings, and contact IT support if necessary
- d. Advise students to use their mobile data for the time being

IV. Which of the following software is NOT used by researchers for core Econometric computations?

- a. Excel
- b. Power BI
- c. Stata
- d. EViews

V. Suppose a researcher is working on a big data set on the computer. Suddenly the computer software stops responding due to insufficient system resources and improper resource allocation. You are called to resolve the issue with the following options in hand:

- I. Press Ctrl + Alt + Del to open the Close Program or Task Manager window
- II. Use the System File Checker (SFC) command to check the system files
- III. Uninstall and reinstall the program
- IV. Press Alt + F4 to Shut down the computer

Which of the above is/are the most logical and suitable options:

- a. Only I
- b. I, II and III
- c. I and IV
- d. III and IV