

Patna High Court Technical Assistant Sample Paper

Q1. Which tense is used to express an action completed in the immediate past?

- (a) Past indefinite tense
- (b) Present indefinite tense
- (c) Present perfect tense
- (d) Past perfect tense

Q2. Complete the sentence using the appropriate option.

Joey _____ from the vacation just now.

- (a) Has returned
- (b) Had returned
- (c) Had been returning
- (d) returns

Q3. Select the most appropriate option to change the sentence from direct speech to indirect speech.

Direct: "She must apply for the job," he said.

Indirect: He said that _____ apply for the job.

- (a) She had to
- (b) He has to
- (c) They have to
- (d) I have to

Q4. Select the most appropriate option to change the sentence from direct speech to indirect speech.

Direct: Hari said, "The concert ended yesterday"

Indirect: Hari said that the concert _____ the _____.

- (a) Has ended/yesterday
- (b) had ended/day before
- (c) was ended/day after
- (d) will end/coming day

Q5. Pick out the Non-finite verb/verbs in the sentence given below.

All the teachers have gone to the picnic together.

- (a) Have
- (b) Gone
- (c) To
- (d) Together

Q6. Pick out the Non-Finite verbs in the given sentence.

I had to ask the boys to stop playing.

- (a) Had
- (b) Boys
- (c) Playing
- (d) To stop, playing

Q7. Identify the Passive Voice of the given sentence.

We expected good news.

- (a) Good news is expected.
- (b) Good news were expected.
- (c) Good news was expected.
- (d) Good news were expected by you.

Q8. Which punctuation mark is used to express sudden change in feelings or emotion?

- (a) Semicolon
- (b) question
- (c) Comma
- (d) Exclamation mark

Q9. What is the purpose of the Comma in a sentence?

- (a) To end a sentence
- (b) To set of less important details
- (c) To ask a question
- (d) To separate items in a list

Q10. Fill up the blank, with the correct option.

The sun gives us light _____ the day.

- (a) During
- (b) With
- (c) Within
- (d) From

Q11. Fill up the blank, with the correct option.

The fruits have fallen _____ this tree.

- (a) behind
- (b) from
- (c) at
- (d) with

Q12. Fill in the blanks with the correct connector.

The students ran to the field _____ they heard that there was a Nescafe truck giving away free ice cold coffee.

- (a) despite
- (b) when
- (c) then
- (d) unless

Q13. Select the correct cohesive device to complete the sentence.

_____ You watch the television, you need to finish your work first

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- (a) After
- (b) Although
- (c) Before
- (d) First

Q14. Select the alternative which best expresses the meaning of the idioms/phrase.

A man of letters

- (a) An educated man
- (b) An intelligent person
- (c) A literary person
- (d) A postman

Q15. Select the alternative which best expresses the meaning of the idioms/phrase.

A nine day's wonder

- (a) A short-lived sensation
- (b) Wonderful achievement
- (c) A clear-cut idea
- (d) A wise decision

Q16. What is the value of $\frac{\frac{3}{4} \div \frac{9}{64} + \frac{7}{11} \times \frac{121}{4} - \frac{9}{13} \times \frac{65}{36}}{\frac{1}{2} \div \frac{4}{5} + \frac{3}{4} \times \frac{16}{15}}$?

- (a) 1150/171
- (b) 1169/143
- (c) 1216/141
- (d) 1413/157

Q17. A person goes to his office by scooter at the speed of 80 km/hr and reaches 60 minutes earlier. If he goes at the speed 50 km/hr, then he reaches 48 minutes late. Which will be the speed of the scooter to reach on the usual time?

- (a) 66 km/hr
- (b) 62 km/hr
- (c) 64 km/hr
- (d) 60 km/hr

Q18. In a school there are total 414 students. The ratio of boys and girls is 5 : 4. If 46 more boys gets admitted into the school, then what will be the new ratio of boys and girls?

- (a) 5 : 2
- (b) 3 : 2
- (c) 3 : 1
- (d) 4 : 3

Q19. P is 20 percent more than Q and Q is 30 percent less than R. If P is 420, then what is the value of R?

- (a) 600
- (b) 625
- (c) 500
- (d) 700

Q20. An article is sold for Rs.1,260 after giving a discount of 40%. What is the marked price of this article?

- (a) Rs.2,000
- (b) Rs.2,100
- (c) Rs.1,800
- (d) Rs.2,200

Q21. Arrange the given words in the sequence in which they occur in the dictionary.

1. Maternity
2. Mundane
3. Maternal
4. Motor
5. Mother

- (a) 3,1,5,4,2
- (b) 1,4,5,2,3
- (c) 3,1,4,2,5
- (d) 3,2,4,5,1

Q22. Select the option that is related to the fifth number in the same way as the first number is related to the second number and the third number is related to the fourth number.

7 : 512 :: 11 : 1728 :: 10 : ?

- (a) 1397
- (b) 2197
- (c) 1133
- (d) 1331

Q23. In the following question, four number pairs are given. In each pair the number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule /Relation. Three pairs are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives. (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.13 - Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

- (a) 169 - 7912
- (b) 289 - 3194
- (c) 225 - 5733
- (d) 361 - 9786

Q24. In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.

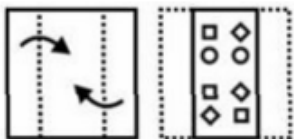
Statements:

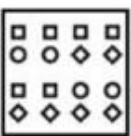
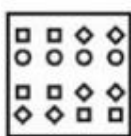
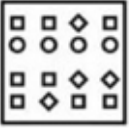
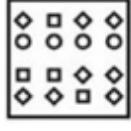
- I. No R is T.
- II. All T are H.

Conclusions:

- I. No T is R.
 - II. No H is T.
 - III. No R is H
- (a) Only conclusion I follows
 - (b) All conclusion follows
 - (c) Only conclusion II follows
 - (d) Only conclusion III follows

Q25. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?



- (a) 
- (b) 
- (c) 
- (d) 

Q26. What does DDL stand for in databases?

- (a) Data Definition Language
- (b) Database Development Language
- (c) Data Duplication Language
- (d) Data Design Language

Q27. What does Entity Integrity refer to in a database?

- (a) Integrity of users
- (b) Integrity of the database administrator
- (c) No duplicate rows in a table
- (d) No null values in a primary key

Q28. In FoxPro, what command is used to create a new table?

- (a) CREATE TABLE
- (b) NEW TABLE
- (c) DEFINE TABLE
- (d) BUILD TABLE

Q29. Which of these is a key feature of Oracle Database for ensuring data recovery?

- (a) Flashback Technology
- (b) Data Pump
- (c) Virtual Private Database
- (d) Automatic Storage Management

Q30. What does ergonomics in an office setting primarily focus on?

- (a) Environmental friendliness
- (b) Aesthetic appeal
- (c) Employee comfort and safety
- (d) Cost-saving

Q31. Which of these is a common feature of office automation systems?

- (a) Manual data entry
- (b) Automated workflows
- (c) Paper-based filing
- (d) Personalized customer service

Q32. Which of these is not a type of queue?

- (a) Circular Queue
- (b) Priority Queue
- (c) Double-Ended Queue
- (d) Random Queue

Q33. How can the number of rows in a two-dimensional array `arr` be determined in C++?

- (a) `sizeof(arr) / sizeof(arr[0])`
- (b) `sizeof(arr[0]) / sizeof(arr)`
- (c) `length(arr)`
- (d) `arr.length`

Q34. What is OCR in the context of electronic capture?

- (a) Optical Character Recognition
- (b) Online Connectivity Requirement
- (c) Operational Capture Routine
- (d) Official Certification Record

Q35. Which format is often used to store electronically captured documents?

- (a) .exe
- (b) .mp3
- (c) .pdf
- (d) .ppt

Q36. Which file system is primarily used in Windows operating systems for data storage?

- (a) ext4
- (b) HFS+
- (c) NTFS
- (d) FAT32

Q37. What is the primary advantage of using an SSD over an HDD?

- (a) Larger storage capacity
- (b) Longer lifespan
- (c) Faster data access speeds
- (d) Cheaper cost

Q38. In GUI design, what is the purpose of a slider control?

- (a) To display a list of items
- (b) To enter text
- (c) To select from a range of values
- (d) To navigate between different pages

Q39. What does anti-aliasing refer to in digital graphics?

- (a) Smoothing out jagged edges in digital images
- (b) Reducing the file size of images
- (c) Protecting against data loss
- (d) Increasing image resolution

Q40. What does the term VAN stand for in the context of EDI?

- (a) Variable Access Network
- (b) Value Added Network
- (c) Virtual Area Network
- (d) Visual Audio Network

Q41. In EDI terminology, what is an Interchange?

- (a) A software tool for data analysis
- (b) The actual transmission of a set of EDI messages
- (c) A type of network connection
- (d) A data storage system

Q42. What is the function of headers and footers in a document?

- (a) To add background color to a document
- (b) To display repetitive information on every page
- (c) To increase the margin size
- (d) To highlight text

Q43. What is the purpose of using Styles in a word processor?

- (a) To check for plagiarism
- (b) To correct grammar mistakes
- (c) To apply a consistent format to text elements
- (d) To track changes

Q44. Which function in spreadsheets is best used for finding the average value in a range of cells?

- (a) MEDIAN
- (b) AVERAGE
- (c) MODE
- (d) SUM

Q45. In Excel, what does a Macro enable you to do?

- (a) Increase the file size
- (b) Automate repetitive tasks
- (c) Connect to the internet
- (d) Draw graphs

Q46. What feature in electronic presentation tools helps to emphasize or highlight key points?

- (a) Slide numbering
- (b) Bullet points and lists
- (c) Hyperlinks
- (d) Watermarks

Q47. OpenOffice Calc is similar to which Microsoft Office application?

- (a) Word
- (b) Excel
- (c) PowerPoint
- (d) Access

Q48. Which of these is a feature of OpenOffice Writer?

- (a) Spreadsheet formulas
- (b) Presentation templates
- (c) Text document creation
- (d) Database management

Q49. In OpenOffice, what is the purpose of Base?

- (a) Word processing
- (b) Spreadsheet calculations
- (c) Database management
- (d) Graphic design

Q50. In the context of Indian language computing, what is the role of ISCII?

- (a) A programming language
- (b) A software development kit
- (c) An earlier standard for Indian language scripts
- (d) A type of Unicode font

Q51. How does the use of Unicode fonts in productivity tools aid in cross-platform compatibility?

- (a) By reducing file sizes
- (b) By standardizing character representation across different operating systems
- (c) By enhancing security features
- (d) By improving processing speed

Q52. Which command is used to copy files in Unix?

- (a) copy
- (b) cp
- (c) mv
- (d) ls

Q53. What does Unicode primarily facilitate?

- (a) Data encryption
- (b) File compression
- (c) Consistent encoding of text
- (d) File transfer

Q54. What type of network uses a single cable to connect all network devices in sequence?

- (a) Star network
- (b) Mesh network
- (c) Bus network
- (d) Ring network

Q55. Which network topology has each node connected to exactly two other nodes, forming a single continuous pathway for signals?

- (a) Star
- (b) Ring
- (c) Mesh
- (d) Tree

Q56. Which network topology is responsible for describing the geometric arrangement of components that make up the LAN?

- (a) Complex
- (b) Physical
- (c) Logical
- (d) Incremental

Q57. The Absorption Law in Boolean Algebra states that:

- (a) $A \text{ AND } (A \text{ OR } B) = A$
- (b) $A \text{ OR } (A \text{ AND } B) = A$
- (c) Both (a) and (b)
- (d) None of the above

Q58. Which type of attack involves flooding a server with traffic to make it unavailable?

- (a) Phishing
- (b) Malware
- (c) DDoS
- (d) SQL injection

Q59. In cybersecurity, what does confidentiality refer to?

- (a) Ensuring data is not altered
- (b) Ensuring only authorized access to data
- (c) Ensuring data is available when needed
- (d) Ensuring safe data transmission

Q60. What is the primary difference between a LAN and a MAN?

- (a) Speed of data transfer
- (b) The type of data transmitted
- (c) Geographical area covered
- (d) The protocol used

Q61. If $A = 0$ and $B = 1$, what is the result of the expression $(A \text{ AND } B) \text{ OR } (\text{NOT } A \text{ AND } \text{NOT } B)$ according to the closure property?

- (a) 0
- (b) 1
- (c) A
- (d) B

Q62. What is the function of cookies on the internet?

- (a) Tracking user activity for marketing
- (b) Speeding up internet connection
- (c) Protecting against viruses
- (d) Improving website loading times

Q63. Which protocol is used for secure data transmission over the Internet?

- (a) HTTP
- (b) FTP
- (c) TCP
- (d) HTTPS

Q64. What is a crawler in the context of search engines?

- (a) A tool for creating websites
- (b) A program that browses the web and collects data
- (c) A type of malware
- (d) A user interface element

Q65. What does 'CC' stand for in email terminology?

- (a) Carbon Copy
- (b) Creative Content
- (c) Critical Communication
- (d) Compact Code

Q66. Which feature in email allows you to automatically organize messages and manage incoming mail?

- (a) Filters and Rules
- (b) CC and BCC
- (c) Attachments
- (d) Signatures

Q67. What is an example of B2C e-commerce?

- (a) A business selling software to another business
- (b) An individual selling handmade crafts online
- (c) A consumer purchasing clothes from an online retailer
- (d) Two companies trading raw materials

Q68. What does the term Mobile Banking refer to in e-banking?

- (a) Banking in moving vehicles
- (b) Using a mobile phone for banking transactions
- (c) Portable bank branches
- (d) ATM transactions

Q69. Which e-learning method combines both online and face-to-face learning elements?

- (a) Synchronous learning
- (b) Asynchronous learning
- (c) Blended learning
- (d) Distance learning

Q70. Which of the following is a customer relationship management (CRM) software?

- (a) Antivirus software
- (b) Database management system
- (c) Salesforce
- (d) Text editor

Q71. Which of the following is an example of a storage device?

- (a) Printer
- (b) Monitor
- (c) DVD drive
- (d) Mouse

Q72. Which of the following is an example of a processing device?

- (a) Printer
- (b) Keyboard
- (c) CPU
- (d) Monitor

Q73. Which area of AI focuses on the interaction between computers and human languages?

- (a) Robotics
- (b) Neural Networks
- (c) Natural Language Processing
- (d) Expert Systems

Q74. What is the primary characteristic of mobile computing?

- (a) High-speed internet connectivity
- (b) Portability and wireless communication
- (c) Large storage capacity
- (d) High-resolution displays

Q75. How does virtualization contribute to Green Computing?

- (a) By increasing data processing speeds
- (b) By reducing the physical hardware requirements
- (c) By enhancing user interface designs
- (d) By improving software compatibility

Q76. Which of the following file systems is used by Linux?

- (a) NTFS
- (b) FAT32
- (c) ext4
- (d) HFS+

Q77. Which of the following is a shell in Unix/Linux?

- (a) Bash
- (b) PowerShell
- (c) Command Prompt
- (d) None of the above

Q78. What is the correct HTML element for inserting a line break?

- (a)

- (b) <lb>
- (c) <break>
- (d) <line>

Q79. Which HTML element is used to display a big heading?

- (a) <h6>
- (b) <heading>
- (c) <h1>
- (d) <head>

Q80. What is the correct syntax for referring to an external script called "script.js"?

- (a) <script src="script.js">
- (b) <script href="script.js">
- (c) <script link="script.js">
- (d) <script file="script.js">

Q81. Two-factor authentication in online banking typically includes:

- (a) Password and username
- (b) Password and a mobile OTP
- (c) Two different passwords
- (d) Username and email verification

Q82. The dual of the Boolean property $A + 1 = 1$ is represented by:

- (a) $A * 1 = 1$
- (b) $A * 0 = 0$
- (c) $A + 0 = 0$
- (d) $A * A = A$

Q83. The minimum number of NAND gates required to implement $A + A'BC$ is:

- (a) 0
- (b) 1
- (c) 2
- (d) 3

Q84. What is the output of the NOR operation for the inputs $A=0$ and $B=0$?

- (a) 0
- (b) 1
- (c) A
- (d) B

Q85. What is the output of the XNOR operation for the inputs $A=1$ and $B=0$?

- (a) 0
- (b) 1
- (c) A
- (d) B

Solutions

S1. Ans.(c)

Sol. The correct answer is (c) Present perfect tense.

Explanation:

- The **present perfect tense** is used to describe an action that has been **just completed** in the **immediate past** and still has relevance to the present.
- This tense often includes adverbs like **just, already, recently, yet** to emphasize immediacy.
- **Correct sentence example: I have just finished my homework.** (The action was completed a short time ago.)

Grammatical Rule Used (English):

- **Structure: Subject + has/have + past participle (V3) + object.**
- **Usage:**
 - To express an action completed recently.
 - To describe past actions with present relevance.

व्याकरणिक नियम (Hindi):

- **संरचना: विषय + has/have + क्रिया का तीसरा रूप (V3) + कर्म।**
- **उपयोग:**
 - हाल ही में पूरी हुई क्रिया को दर्शाने के लिए।
 - ऐसी घटनाएँ जिनका वर्तमान से संबंध हो।
- **उदाहरण:**
 - ✓ मैंने अभी-अभी खाना खाया है। (I have just eaten food.)

Meanings of other options:

(a) **Past indefinite tense:** Used for actions completed in the past with no connection to the present.

- **Example:** He visited the park yesterday.
- **Structure:** Subject + V2 + object.

(b) **Present indefinite tense:** Used for general facts, habits, and routines.

- **Example:** She goes to school every day.
- **Structure:** Subject + V1 (+s/es for third-person singular) + object.

(d) **Past perfect tense:** Used when one past action happened before another past action.

- **Example:** He had left before I arrived.
- **Structure:** Subject + had + past participle (V3) + object.

S2. Ans.(a)

Sol. The correct answer is (a) **Has returned.**

Explanation:

- The phrase "**just now**" indicates that the action has been completed **very recently**.
- The **Present Perfect Tense (has/have + past participle)** is used to describe **recently completed actions with relevance to the present**.
- **Correct sentence:** Joey has returned from the vacation just now.

Grammatical Rule Used (English):

- **Structure:** Subject + has/have + past participle (V3) + object.
- **Usage:**
 - To describe **actions completed in the immediate past**.
 - To **connect a past event to the present situation**.

व्याकरणिक नियम (Hindi):

- **संरचना:** विषय + has/have + क्रिया का तीसरा रूप (V3) + कर्म।
- **उपयोग:**
 - हाल ही में समाप्त हुई क्रियाओं के लिए।
 - ऐसी घटनाएँ जो वर्तमान से जुड़ी होती हैं।

S3. Ans.(a)

Sol. The correct answer is (a) **She had to.**

Explanation:

- The **modal verb "must"** changes to "**had to**" in indirect speech when expressing obligation.
- **Correct sentence:** He said that she had to apply for the job.

Grammatical Rule Used (English):

- **When reporting a statement with "must" (obligation), change "must" to "had to" in indirect speech.**
- **Structure:**

Direct speech → Subject + must + verb + object.

Indirect speech → Subject + had to + verb + object.

व्याकरणिक नियम (Hindi):

- जब "**must**" (अनिवार्यता) को अप्रत्यक्ष कथन में बदला जाता है, तो इसे "**had to**" में परिवर्तित किया जाता है।

• संरचना:

सीधा वाक्य → विषय + must + क्रिया + कर्म।

अप्रत्यक्ष वाक्य → विषय + had to + क्रिया + कर्म।

S4. Ans.(b)

Sol. The correct answer is (b) had ended/day before.

Explanation:

- The sentence is in the **Past Indefinite Tense ("ended")** in direct speech.
- In **indirect speech**, Past Indefinite Tense changes to **Past Perfect Tense ("had ended")**.
- **The time reference "yesterday" changes to "the day before"** in indirect speech.
- **Correct sentence: Hari said that the concert had ended the day before.**

Grammatical Rule Used (English):

- **When reporting past events, the Past Indefinite Tense changes to Past Perfect Tense.**
- **Time expressions change as follows:**
 - Yesterday → The day before
 - Today → That day
 - Tomorrow → The next day

व्याकरणिक नियम (Hindi):

- अप्रत्यक्ष कथन में, भूतकाल (Past Indefinite) को भूत पूर्ण काल (Past Perfect) में बदला जाता है।
- समय-सम्बंधित शब्द बदलते हैं, जैसे:
 - Yesterday → The day before (एक दिन पहले)
 - Today → That day (उस दिन)
 - Tomorrow → The next day (अगले दिन)

S5. Ans.(b)

Sol. The correct answer is (b) Gone.

Explanation:

- A **Non-Finite Verb** is a verb that does **not change according to the subject or tense**.
- In this sentence, "**gone**" is the **past participle** of "go", which is a **Non-Finite Verb** because it does not change based on the subject.
- **Correct identification: "Gone" is a past participle (Non-Finite Verb).**

Grammatical Rule Used (English):

- **Non-Finite Verbs include:**
 - **Infinitives (to + V1)** → Example: *to run, to eat*.
 - **Gerunds (V1 + ing used as a noun)** → Example: *Swimming is fun*.
 - **Participles (V3 or V1 + ing as an adjective)** → Example: *A broken chair*.

व्याकरणिक नियम (Hindi):

- अससीमित क्रियाएँ (Non-Finite Verbs) वे क्रियाएँ होती हैं जो किसी विशेष काल (Tense) या कर्ता (Subject) के अनुसार नहीं बदलतीं।
- प्रकार:
 - साधारण क्रियाएँ (Infinitives): *to dance, to write*
 - गेरंड (Gerund): *Swimming, Running*
 - विशेषण क्रियाएँ (Participles): *Broken, Eating*

S6. Ans.(d)

Sol. The correct answer is (d) To stop, playing.

Explanation:

- "To stop" is an **infinitive (to + verb)**, which is a **Non-Finite Verb**.
- "Playing" is a **gerund (V1 + ing)**, also a **Non-Finite Verb** as it functions as a noun.
- **Correct identification: Both "to stop" (infinitive) and "playing" (gerund) are Non-Finite Verbs.**

Grammatical Rule Used (English):

- **Non-Finite Verbs include:**
 - **Infinitives (to + V1)** → Example: *to write, to sleep*
 - **Gerunds (V1 + ing as a noun)** → Example: *Writing is fun.*

व्याकरणिक नियम (Hindi):

- "To stop" एक **Infinitive (अनंत क्रिया)** है क्योंकि यह "to + V1" के रूप में आता है।
- "Playing" एक **Gerund (संज्ञाकारक क्रिया)** है, जो "V1 + ing" के रूप में प्रयुक्त होता है।

S7. Ans.(c)

Sol. The correct answer is (c) Good news was expected.

Explanation:

- **Active Voice: We expected good news.**
 - **Subject:** We
 - **Verb:** Expected
 - **Object:** Good news
- In **Passive Voice**, the **object (Good news)** becomes the **subject**, and the verb form is changed to "**was expected**" to match the tense.
- **Correct sentence: Good news was expected.**

Grammatical Rule Used (English):

- **Active to Passive Voice Conversion Formula:**
Object + was/were + past participle (V3) + (by subject, optional).
- Since "good news" is **singular**, we use "**was**" instead of "were".

व्याकरणिक नियम (Hindi):

- **प्रभावी वाक्य (Active Voice) को निष्क्रिय वाक्य (Passive Voice) में बदलते समय:**
 - **वस्तु (Object) को कर्ता (Subject) बना दिया जाता है।**
 - **क्रिया (Verb) को "was/were + V3" में बदला जाता है।**
- **संरचना:**
वस्तु + was/were + क्रिया का तीसरा रूप (V3) + (कर्ता)।

S8. Ans.(d)

Sol. The correct answer is (d) Exclamation mark.

Explanation:

- The **exclamation mark (!)** is used to indicate **strong emotions, excitement, surprise, urgency, or sudden change in feelings**.
- It is commonly used in **interjections, exclamatory sentences, and commands**.
- **Correct sentence example: Wow! That was an amazing performance.**

Grammatical Rule Used (English):

- Structure:

Sentence expressing emotion + !

- Uses of Exclamation Mark (!):
 - To show excitement → *I won the competition!*
 - To express surprise → *Oh no! I forgot my wallet.*
 - To give strong commands → *Stop right now!*

व्याकरणिक नियम (Hindi):

- विस्मयादिबोधक चिह्न (!) का उपयोग आश्चर्य, भावना, खुशी, गुस्सा या अचानक बदलाव को व्यक्त करने के लिए किया जाता है।

- संरचना:

भावनात्मक वाक्य + !

- उदाहरण:

✓ वाह! यह बहुत अच्छा था।

✓ Wow! That was great.

Meanings of the other given options:

Semicolon (;):

- Meaning: Used to connect two closely related independent clauses.
- Semicolon in Hindi: अर्धविराम।
- Example: I have a big test tomorrow; I can't go out tonight.

Question Mark (?):

- Meaning: Used at the end of a question.
- Question Mark in Hindi: प्रश्नवाचक चिह्न।
- Example: Where are you going?

Comma (,):

- Meaning: Used to separate items in a list or indicate a pause.
- Comma in Hindi: अल्पविराम।
- Example: I bought apples, bananas, and oranges.

S9. Ans.(d)

Sol. The correct answer is (d) To separate items in a list.

Explanation:

- A comma (,) is a punctuation mark used to separate elements in a sentence, especially items in a list, clauses, and additional information.
- Correct sentence example: I bought apples, bananas, oranges, and grapes.

Grammatical Rule Used (English):

- Structure for lists:

Item 1, Item 2, Item 3, and Item 4.

- Uses of a Comma (,):

- To separate items in a list → *She bought milk, bread, eggs, and butter.*
- Before conjunctions in compound sentences → *I wanted to go, but it was raining.*
- To set off introductory words or phrases → *After dinner, we went for a walk.*

व्याकरणिक नियम (Hindi):

- अल्पविराम (Comma) का उपयोग सूचीबद्ध चीजों को अलग करने, उपवाक्यों को विभाजित करने और व्याकरणिक स्पष्टता प्रदान करने के लिए किया जाता है।
- संरचना:
वस्तु 1, वस्तु 2, वस्तु 3, और वस्तु 4।
- उदाहरण:
 - ✓ मैंने सेब, केले, संतरे और अंगूर खरीदे।
 - ✓ I bought apples, bananas, oranges, and grapes.

Meanings of the other given options:

To end a sentence (Full Stop/Period "."):

- **Meaning:** Used at the end of a declarative sentence.
- **Full Stop in Hindi:** पूर्ण विराम।
- **Example:** She loves reading books.

To set off less important details:

- **Meaning:** This refers to the use of parentheses () or dashes — rather than a comma.
- **Example:** My brother (who is in college) loves football.

To ask a question (Question Mark "?"):

- **Meaning:** Used at the end of an interrogative sentence.
- **Question Mark in Hindi:** प्रश्नवाचक चिह्न।
- **Example:** What is your name?

S10. Ans.(a)

Sol. The correct answer is (a) **During**.

Explanation:

- The preposition "during" is used to indicate **when something happens within a specific period of time**.
- Here, "during the day" means **throughout the daytime**.
- **Correct sentence:** The sun gives us light during the day.

Grammatical Rule Used (English):

- **Preposition of Time ("During"):** Used when an action happens within a specific period.
- **Structure:** During + time period.

व्याकरणिक नियम (Hindi):

- "During" (के दौरान) किसी विशेष समय अवधि के भीतर होने वाली घटना को दर्शाने के लिए उपयोग किया जाता है।
- संरचना: During + समय अवधि।
- उदाहरण:
 - ✓ सूरज हमें दिन के दौरान रोशनी देता है।
 - ✓ The sun gives us light during the day.

Meanings of other given options:

With: Used to indicate association. (Example: He went with his friends.)

Within: Used to indicate something happening inside a boundary. (Example: He will return within an hour.)

From: Used to indicate a starting point. (Example: The shop is open from 9 AM.)

S11. Ans.(b)

Sol. The correct answer is **(b) from**.

Explanation:

- The **preposition "from"** is used to indicate the **source or origin** of something.
- **"Fallen from"** means that the fruits started at the tree and moved downward.
- **Correct sentence: The fruits have fallen from this tree.**

Grammatical Rule Used (English):

- **Preposition "From":** Used to indicate **movement or origin**.
- **Structure: Verb + from + noun.**

व्याकरणिक नियम (Hindi):

- **"From" (से)** किसी वस्तु की उत्पत्ति, स्रोत या दिशा परिवर्तन को दर्शाने के लिए प्रयोग किया जाता है।

- **संरचना: क्रिया + from + संज्ञा।**

उदाहरण:

- ✓ फल इस पेड़ से गिर चुके हैं।
- ✓ The fruits have fallen from this tree.

Meanings of other given options:

Behind: Indicates something at the back of another. (Example: The car is behind the building.)

At: Indicates a specific location. (Example: She is at the market.)

With: Indicates association. (Example: He came with his brother.)

S12. Ans.(b)

Sol. The correct answer is **(b) when**.

Explanation:

- The conjunction **"when"** is used to indicate **the time something happened**.
- The sentence means that the students started running **at the moment they heard about the Nescafe truck**.
- **Correct sentence: The students ran to the field when they heard that there was a Nescafe truck giving away free ice-cold coffee.**

Grammatical Rule Used (English):

- **"When" is a time conjunction** that connects an action with the time it happens.
- **Structure: Main Clause + when + Subordinate Clause.**

व्याकरणिक नियम (Hindi):

- **"When" (जब)** किसी क्रिया के होने के समय को जोड़ने के लिए प्रयोग किया जाता है।

- **संरचना: मुख्य वाक्य + when + उपवाक्य।**

उदाहरण:

- ✓ छात्र मैदान की ओर भागे जब उन्होंने सुना कि वहाँ मुफ्त कॉफी मिल रही है।
- ✓ The students ran to the field when they heard that there was a Nescafe truck giving away free ice-cold coffee.

Meanings of other given options:

Despite: Used to show contrast. (Example: Despite the rain, they played.)

Then: Used for sequence of events. (Example: She ate dinner, then went to bed.)

Unless: Used to express conditions. (Example: You will fail unless you study.)

S13. Ans.(c)

Sol. The correct answer is (c) **Before**.

Explanation:

- The **conjunction "before"** is used to indicate **one action must be completed before another action begins**.
- The sentence means that the person **must finish their work first before watching TV**.
- **Correct sentence: Before you watch the television, you need to finish your work first.**

Grammatical Rule Used (English):

- **"Before"** is a **time conjunction** used to show that one event happens **prior** to another.
- **Structure: Before + subject + verb, main clause.**

व्याकरणिक नियम (Hindi):

- **"Before" (पहले)** का उपयोग तब किया जाता है जब कोई कार्य दूसरे कार्य से पहले किया जाना चाहिए।
- **संरचना: Before + विषय + क्रिया, मुख्य वाक्य।**

उदाहरण:

- ✓ टीवी देखने से पहले, तुम्हें अपना काम खत्म करना होगा।
- ✓ **Before you watch the television, you need to finish your work first.**

Meanings of other given options:

After: Indicates sequence. (Example: After dinner, we went out.)

Although: Used for contrast. (Example: Although he was tired, he kept working.)

First: Used for ordering steps. (Example: First, mix the flour with water.)

S14. Ans.(c)

Sol. The correct answer is (c) **A literary person**.

A Man of Letters:

Meaning: A person who is well-versed in literature or scholarly works.

A Man of Letters in Hindi: एक साहित्यिक व्यक्ति।

Example: Rabindranath Tagore was truly a man of letters, known for his literary genius.

Other Related Idioms:

1. **Bookworm** → **Meaning:** A person who loves reading books.
Example: My brother is a bookworm; he reads all day.
2. **By the book** → **Meaning:** To follow rules strictly.
Example: The lawyer did everything by the book.
3. **Turn over a new leaf** → **Meaning:** To change one's behavior for the better.
Example: After his studies, he turned over a new leaf and became a scholar.
4. **Pen is mightier than the sword** → **Meaning:** Writing has more power than violence.
Example: Many revolutions started because people believed that the pen is mightier than the sword.

S15. Ans.(a)

Sol. The correct answer is (a) **A short-lived sensation**.

A Nine Day's Wonder:

Meaning: Something that gains sudden popularity but is soon forgotten.

A Nine Day's Wonder in Hindi: अल्पकालिक सनसनी।

Example: The viral video became a nine-day's wonder, but people soon forgot about it.

Other Related Idioms:

- Flash in the pan** → **Meaning:** A temporary success.
Example: His first book was a flash in the pan; he never wrote anything great again.
 - Here today, gone tomorrow** → **Meaning:** Something that does not last long.
Example: Fame is here today and gone tomorrow.
 - Fifteen minutes of fame** → **Meaning:** A brief moment of popularity.
Example: The reality show contestant enjoyed her fifteen minutes of fame.
- Burn bright, fade fast** → **Meaning:** To be famous quickly and then disappear.
Example: Many internet celebrities burn bright and fade fast.

S16. Ans.(a)

Sol.

$$\begin{aligned} & \frac{3}{4} \div \frac{9}{64} + \frac{7}{11} \times \frac{121}{14} - \frac{9}{13} \times \frac{65}{36} \\ & \frac{1}{2} \div \frac{4}{5} + \frac{3}{4} \times \frac{16}{15} \\ & = \frac{3}{4} \times \frac{64}{9} + \frac{11}{2} - \frac{5}{4} \\ & \frac{1}{2} \times \frac{5}{4} + \frac{4}{5} \\ & = \frac{16}{3} + \frac{17}{4} = \frac{64 + 51}{12} = \frac{115}{12} \\ & \frac{5}{8} + \frac{4}{5} = \frac{25 + 32}{40} = \frac{57}{40} \\ & = \frac{115 \times 40}{12 \times 57} = \frac{1150}{171} \end{aligned}$$

S17. Ans.(d)

Sol.

Let the actual time taken to reach the office = t
& speed of Scooter to reach the officer on time be V.

ATQ,

$$80(t - 60) = 50(t + 48)$$

$$\Rightarrow 80t - 4800 = 50t + 2400$$

$$\Rightarrow 30t = 7200$$

$$\Rightarrow t = 240 \text{ min}$$

$$\text{Distance travelled} = 80 \times \frac{240 - 60}{60}$$

$$= 80 \times \frac{180}{60} = 240 \text{ km}$$

$$N = \frac{240}{\frac{240}{60}} = 60 \text{ km/hr}$$

∴ The speed of the Scooter of reach on the usual time is 60 km/hr.

S18. Ans.(b)

Sol.

$$\text{Total students} = 414$$

$$\text{Ratio of boys to girls} = 5:4$$

$$\text{Number of boys admitted} = 46$$

$$\text{Total parts} = 5 + 4 = 9$$

$$\text{Boys Initially} = \frac{5}{9} \times 414 = 230$$

$$\text{Girls} = 414 - 230 = 184$$

$$\text{New total Boys} = 230 + 46 = 276$$

$$\text{New ratio of Boys to Girls} = 276 : 184 = 3 : 2$$

S19. Ans.(c)

Sol.

$$P = 1.2Q$$

$$Q = \frac{P}{1.2} = \frac{420}{1.2} = 350$$

$$Q = 0.7R$$

$$R = \frac{Q}{0.7} = \frac{350}{0.7} = 500$$

S20. Ans.(b)

Sol.

$$SP = 1,260$$

$$\text{Discount} = 40\%$$

$$MP = \frac{SP}{1 - \frac{\text{Discount}}{100}} \Rightarrow MP = \frac{1260}{1 - \frac{40}{100}} = \text{Rs. } 2100$$

S21. Ans.(a)

Sol.

Dictionary order \Rightarrow

Maternal, Maternity, Mother, Motor, Mundane

Ans. 3, 1, 5, 4, 2

S22. Ans.(d)

Sol.

$$7 : 512 \quad :: \quad 11 : 1728 \quad :: \quad 10 : ?$$

\downarrow

\downarrow

\downarrow

$$(7+1)^3 = 512 \quad (11+1)^3 = 1728 \quad (10+1)^3 = \boxed{1331}$$

S23. Ans.(d)

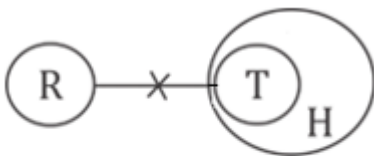
Sol.

1. $169 - 7912 \Rightarrow \sqrt{169} = 13^3 = 2197 \leftrightarrow 7912$
2. $289 - 3194 \Rightarrow \sqrt{289} \Rightarrow 17, 17^3 \Rightarrow 4913 \leftrightarrow 3194$
3. $225 - 5733 \Rightarrow \sqrt{225} \Rightarrow 15, 15^3 \Rightarrow 3375 \leftrightarrow 5733$
4. $361 - 9786 \Rightarrow \sqrt{361} \Rightarrow 19, 19^3 \Rightarrow 6859 \leftrightarrow 9586 \neq 9786$

Ans. 361 - 9786 is odd one

S24. Ans.(a)

Sol.



- Con. I. \checkmark
 II. X
 III. X

Ans. - Only I follow

S25. Ans.(b)

Sol.

Option - b

S26. Ans.(a)

Sol. DDL stands for **Data Definition Language**, which is used to define or modify database schema.

S27. Ans.(d)

Sol. Entity integrity ensures that there are **no null values in the primary key** field of any table in the database.

S28. Ans.(a)

Sol. The **CREATE TABLE command** in FoxPro is used to create a new table, similar to standard SQL syntax.

S29. Ans.(a)

Sol. Oracle's **Flashback Technology** provides a set of features for viewing and reverting data back in time, which is crucial for data recovery and analysis.

S30. Ans.(c)

Sol. Ergonomics is concerned with designing the workplace and **job tasks for comfort, efficiency, safety, and productivity.**

S31. Ans.(b)

Sol. Office automation systems typically include **automated workflows** to streamline and improve efficiency.

S32. Ans.(d)

Sol. **Random Queue** is not a standard queue type in data structures.

S33. Ans.(a)

Sol. In C++, the number of rows in a two-dimensional array can be found **by dividing the total size of the array by the size of the first row.**

S34. Ans.(a)

Sol. OCR stands for **Optical Character Recognition**, a technology used to convert different types of documents, such as scanned paper documents or PDFs, into editable and searchable data.

S35. Ans.(c)

Sol. **PDF (Portable Document Format)** is a popular format for storing electronically captured documents, maintaining the formatting across various devices and platforms.

S36. Ans.(c)

Sol. **NTFS (New Technology File System)** is the standard file system of Windows, known for its improved support for metadata and advanced data structures.

S37. Ans.(c)

Sol. SSDs provide significantly **faster data access speeds** than HDDs due to their lack of moving parts and ability to retrieve data electronically.

S38. Ans.(c)

Sol. A slider is a GUI control **used for selecting a value** or adjusting settings within a predetermined range by sliding an indicator.

S39. Ans.(a)

Sol. Anti-aliasing is a technique used in digital graphics to **reduce visual distortion or jagged edges of images** by averaging the colors at the boundaries.

S40. Ans.(b)

Sol. **VAN, or Value Added Network**, refers to a private network provider that assists in the exchange of EDI transactions between businesses.

S41. Ans.(b)

Sol. An 'Interchange' in EDI refers to the **complete set of transmitted EDI messages** during a single transmission between two parties.

S42. Ans.(b)

Sol. Headers and footers are used **to display repetitive information like page numbers, titles, or author names** on each page for consistency and ease of navigation.

S43. Ans.(c)

Sol. Styles in word processing are used **to apply a set of formatting choices consistently throughout a document, ensuring uniform appearance of headings, paragraphs, and other elements.**

S44. Ans.(b)

Sol. The **AVERAGE function** is specifically designed to calculate the mean value of a range of cells.

S45. Ans.(b)

Sol. Macros are sequences of instructions that **automate repetitive tasks**, enhancing efficiency in data manipulation and analysis.

S46. Ans.(b)

Sol. **Bullet points and lists** organize information clearly, making key points stand out and easier to follow for the audience.

S47. Ans.(b)

Sol. Calc is a spreadsheet application, making it similar to **Microsoft Excel.**

S48. Ans.(c)

Sol. Writer is a word processing application, used primarily for **creating text documents.**

S49. Ans.(c)

Sol. Base is used for **database management** in OpenOffice.

S50. Ans.(c)

Sol. ISCII (Indian Script Code for Information Interchange) was **an earlier standard for encoding various Indian scripts** before the advent of Unicode, playing a crucial role in early Indian language computing.

S51. Ans.(b)

Sol. Unicode provides **a universal character set that standardizes the representation of text, ensuring that documents retain their formatting and content integrity across different operating systems and platforms.**

S52. Ans.(b)

Sol. The **'cp'** command is used for copying files in Unix/Linux.

S53. Ans.(c)

Sol. Unicode provides **a unique number for every character**, enabling consistent text representation across platforms.

S54. Ans.(c)

Sol. In a **bus network topology**, all devices are connected to a single central cable, or bus, and the data from the source travels in both directions to all machines on the network.

S55. Ans.(b)

Sol. In a **ring network**, each node connects to exactly two other nodes, forming a ring for the signals to travel around. Each packet of data travels through the ring until it reaches its destination.

S56. Ans.(b)

Sol. **Physical topology** describes the way computers connect with the help of cables within a LAN.

S57. Ans.(c)

Sol. The Absorption Law in Boolean Algebra states that **$A \text{ AND } (A \text{ OR } B) = A$** and **$A \text{ OR } (A \text{ AND } B) = A$** .

S58. Ans.(c)

Sol. **DDoS(Distributed Denial of Service) attacks** overwhelm a system with traffic, causing it to become unresponsive.

S59. Ans.(b)

Sol. Confidentiality in cybersecurity means **ensuring that data is accessible only to those authorized.**

S60. Ans.(c)

Sol. The primary difference is the **geographical area covered**; LANs cover smaller areas like a building, while MANs (Metropolitan Area Networks) cover larger areas like a city.

S61. Ans.(a)

Sol. According to the closure property, the AND, OR and NOT operations on any Boolean variables will always result in a Boolean variable. Here, **$(0 \text{ AND } 1) \text{ OR } (\text{NOT } 0 \text{ AND } \text{NOT } 1)$ results in 0.**

S62. Ans.(a)

Sol. Cookies are small data files stored on a user's computer, **mainly used to track browsing activity** and user preferences for marketing and personalization purposes.

S63. Ans.(d)

Sol. **HTTPS (Hypertext Transfer Protocol Secure)** is used for secure communication over a computer network within a web browser, ensuring data integrity and confidentiality.

S64. Ans.(b)

Sol. A crawler, also known as a spider or bot, **browses the web to collect and index web page data.**

S65. Ans.(a)

Sol. 'CC' stands for **Carbon Copy**. It is used to send a copy of an email to one or more recipients alongside the main recipients.

S66. Ans.(a)

Sol. Email **filters and rules** enable users to automate the organization of incoming emails, such as moving emails to specific folders based on sender, subject, or other criteria.

S67. Ans.(c)

Sol. B2C (Business-to-Consumer) e-commerce involves **transactions between businesses and consumers, such as online retail shopping.**

S68. Ans.(b)

Sol. Mobile banking refers to the **use of a smartphone or tablet to perform online banking tasks** such as monitoring account balances, transferring funds, and paying bills.

S69. Ans.(c)

Sol. Blended learning is an approach that integrates online educational materials and opportunities for interaction online with traditional place-based classroom methods.

S70. Ans.(c)

Sol. Salesforce is a popular CRM software used for managing customer relationships, sales, and marketing activities.

S71. Ans.(c)

Sol. A **DVD drive** is an example of a storage device used to read and write data on optical discs.

S72. Ans.(c)

Sol. The **CPU (Central Processing Unit)** is an example of a processing device that performs calculations and executes instructions.

S73. Ans.(c)

Sol. Natural Language Processing (NLP) is a branch of AI that deals with the interaction between computers and human (natural) languages, enabling machines to read, understand, and derive meaning from human language.

S74. Ans.(b)

Sol. Mobile computing is defined by **its portability and the ability to communicate wirelessly**, enabling computing tasks on the move.

S75. Ans.(b)

Sol. Virtualization allows multiple systems to operate on a single physical machine, **reducing the need for multiple hardware units** and thereby saving energy.

S76. Ans.(c)

Sol. The **ext4 (fourth extended filesystem)** is a journaling file system for Linux.

S77. Ans.(a)

Sol. **Bash (Bourne Again SHell)** is a Unix shell and command language.

S78. Ans.(a)

Sol. The **
** tag inserts a single line break.

S79. Ans.(c)

Sol. The **<h1>** tag in HTML is used to define the most important heading, which is usually the largest.

S80. Ans.(a)

Sol. The correct syntax for referring to an external script in JavaScript is **<script src="script.js">**.

S81. Ans.(b)

Sol. Two-factor authentication combines **something you know (password)** with **something you have (mobile OTP)**.

S82. Ans.(b)

Sol. The dual of $A + 1 = 1$ is obtained by swapping + with *, 1 with 0, and 0 with 1. The dual of the Boolean property $A + 1 = 1$ is represented by $A * 0 = 0$

S83. Ans.(d)

Sol. To implement $A + A'BC$ using NAND gates, we need **three gates**: one for $A'BC$, one for A , and one for the final output.

S84. Ans.(b)

Sol. The NOR operation outputs 1 only when both inputs are 0. So, with inputs $A=0$ and $B=0$, the output is 1.

S85. Ans.(a)

Sol. The XNOR operation outputs 1 when both inputs are the same. So, with inputs $A=1$ and $B=0$, the output is 0.