

**KENDRIYA VIDYALAYA SANGATHAN REGIONAL OFFICE LUCKNOW**  
**PRE-BOARD EXAMINATION 2025-26**

**CLASS: XII**  
**TIME: 3 HOURS**

**SUBJECT: INFORMATICS PRACTICES**  
**M. MARKS: 70**

**General Instructions:**

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- The paper is divided into 5 Sections - A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 marks.
- Section C consists of 4 questions (29 to 32). Each question carries 3 marks.
- Section D consists of 2 questions (33 to 34). Each question carries 4 marks.
- Section E consists of 3 questions (35 to 37). Each question carries 5 marks.
- All programming questions are to be answered using Python language only.
- In case of MCQ, text of the correct answer should also be written.

<b>Q No</b>	<b>Section-A (21x1 = 21 marks)</b>	<b>Mark s</b>
1	(b) S[2]	1
2	(c) 3	1
3	(b) Star	1
4	(b) ORDER BY	1
5	(b) IT Act 2000	1
6	(c) matplotlib	1
7	(b) width	1
8	(b) nlin	1
9	(b) to_csv()	1
10	(b) Plagiarism	1
11	(b) NOW()	1

12	c. VoIP	1						
13	(a)D1.T	1						
14	(a)Copyright	1						
15	(b) pd.Series()	1						
16	(c) LEN()	1						
17	(a).drop()	1						
18	(b) plot()	1						
19	(c) PAN	1						
	<p>Q-20 and Q-21 are Assertion (A) and Reason (R) Type questions. Choose the correct option as:</p> <p>(A) Both A and R are True, and R correctly explains A.  (B) Both A and R are True, but R does not correctly explain A.  (C) A is True, but R is False.  (D) A is False, but R is True.</p>							
20	<b>(D) A is False, but R is True.</b>	1						
21	<b>(C) A is True, but R is False.</b>	1						
	<b>Section - B (7x2 = 14 marks)</b>							
22	<p>a) S1.head(10)  b) S1.tail()</p> <p style="text-align: center;">OR</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;"><b>Series</b></th> <th style="text-align: left; padding: 5px;"><b>DataFrame</b></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Is a <b>1-dimensional</b> data structure, similar to a single column or list.</td> <td style="padding: 5px;">is a <b>2-dimensional</b> data structure, like a table with rows and columns.</td> </tr> <tr> <td style="padding: 5px;">contains a single list of data, which can be of heterogeneous types.</td> <td style="padding: 5px;">is a collection of multiple Series, organized into rows and columns, allowing for more complex data</td> </tr> </tbody> </table>	<b>Series</b>	<b>DataFrame</b>	Is a <b>1-dimensional</b> data structure, similar to a single column or list.	is a <b>2-dimensional</b> data structure, like a table with rows and columns.	contains a single list of data, which can be of heterogeneous types.	is a collection of multiple Series, organized into rows and columns, allowing for more complex data	2
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contains a single list of data, which can be of heterogeneous types.	is a collection of multiple Series, organized into rows and columns, allowing for more complex data							
23	<p>Give two examples of responsible e-behaviour.</p> <ol style="list-style-type: none"> <li>1. Respecting Others' Opinions</li> <li>2. Maintaining Privacy</li> </ol>	2						

	(or any other correct examples)	
24	(a) <b>SELECT CONCAT("We","are","Indians");</b> (b) <b>SELECT SUBSTR( 'abc/ur7/367/109',10,2);</b>	2
25	(a) Firewall : A firewall is a network security device that separates a trusted internal network from an external network (b) FOSS: FOSS means <b>Free and Open Source Software</b> . It doesn't mean the software is free of cost. It means that the software's source code is open for all and anyone is free to use, study and modify the code.  OR A protocol is a formal description of message formats and the rules that two or more machines must follow to exchange those messages. <b>HTTP (Hyper Text Transfer Protocol)</b> is used to search information from Internet using an Internet browser.	2
26	A Primary Key is a unique identifier for each record in a database table, while a Candidate Key is any attribute or set of attributes that can uniquely identify records, with only one being chosen as the Primary Key.	2
27	Intellectual Property Rights (IPR) are legal protections for creations of the mind, crucial for fostering innovation and creativity in the digital landscape	2
28	<pre>import pandas as pd D1 = {'Name': 'Rakshit', 'Age': 25} D2 = {'Name': 'Paul', 'Age': 30} D3 = {'Name': 'Ayesha', 'Age': 28} data = [D1,D2,D3] df = pd.DataFrame(data) print(df)</pre> OR <b>Code:</b> <pre>import _pandas_____ as pd data = ['Chennai','_Lucknow_', 'Imphal'] indx = ['Tamil Nadu','Uttar Pradesh','Manipur'] s = pd.Series(data_, indx) print(_s_)</pre>	2
<b>Section - C (4x3 = 12 marks)</b>		
29	i. cyber bullying ii. IT act 2000 iii. Need to be careful while befriending unknown people on the internet.	3
30	i. Genre [ ' Num_Copies ' ] = [300,290,450,760] ii. Genre.loc[ len (Genre) ] = [ 'Folk Tale', "FT" ]	3

	<p>iii. Genre.rename(columns={'Code':'Book_Code'})</p> <p>OR</p> <p>-10 -20 -30</p> <p>-20 -40 -60</p> <p>-10 -20</p>	
31	<p>CREATE DATABASE FOOD USE FOOD CREATE TABLE Nutrients (FOD_ITEM VARCHAR(20) Primary Key, Calorie int);</p>	3
32	<p>i. SELECT AVG(QT1) FROM CAR_SALES GROUP BY FUEL; ii. SELECT MAX(QT2) FROM CAR_SALES GROUP BY segment; iii. SELECT * FROM CAR_SALES ORDER BY QT2 DESC;</p> <p>OR</p> <p>i.LEFT(SEGMENT,2) Co MU SU Se</p> <p>ii "AVG SALE"  27000 12000</p> <p>iii. "TOT SALE" 67000</p>	3
<b>Section - D (2x4 = 8 marks)</b>		
33	import matplotlib.pyplot as plt	4

	<pre> Height_cms = [145, 141, 142, 142, 143, 144, 141, 140, 143, 144] plt.hist(Height_cms) plt.title('Distribution of Heights of Eighth Grade Students') plt.xlabel('Height (cm)') plt.ylabel('Frequency') plt.savefig('heights_histogram.png') plt.show() </pre>																		
34	<ul style="list-style-type: none"> <li>i. SELECT POW(3,4); or SELECT POWER(3,4);</li> <li>ii. SELECT NOW();</li> <li>iii. SELECT ROUND( -34.4567 , 2);</li> <li>iv. SELECT LENGTH('FIFA World Cup');</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>i. INSERT INTO exam VALUES(6,'Khushi','CS',85);</li> <li>ii. DELETE FROM exam WHERE marks &lt;30;</li> <li>iii. ALTER TABLE exam ADD( grade char(5));</li> <li>iv. SELECT * FROM exam WHERE subject="Informatics Practices";</li> </ul>	4																	
<b>Section - E (3x5 = 15 marks)</b>																			
35	<ul style="list-style-type: none"> <li>i. BLOCK Z2. It contains maximum number of computers.</li> <li>ii. STAR</li> </ul> <div style="text-align: center;"> </div> <ul style="list-style-type: none"> <li>iii. (a) between Z2 to Z4. (b) in all blocks</li> <li>iv. Voice over Internet Protocol</li> <li>v. WAN. Network between two cities having long distance.</li> </ul>	5																	
36	<ul style="list-style-type: none"> <li>i. a. 15</li> <li>b. <table style="margin-left: 20px;"> <thead> <tr> <th>Store</th> <th>Qtr1</th> <th>Qtr2</th> <th>Qtr3</th> <th>Qtr4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Store2</td> <td>350</td> <td>340</td> <td>403</td> <td>210</td> </tr> <tr> <td>2</td> <td>Store3</td> <td>250</td> <td>180</td> <td>145</td> <td>160</td> </tr> </tbody> </table> </li> <li>ii. df=df.drop(2) OR df.drop(2,axis=0)</li> <li>iii. df["total"]=df["Qtr1"]+df["Qtr2"]+df["Qtr3"]+df["Qtr 4"]</li> </ul>	Store	Qtr1	Qtr2	Qtr3	Qtr4	1	Store2	350	340	403	210	2	Store3	250	180	145	160	5 (2+1+2)
Store	Qtr1	Qtr2	Qtr3	Qtr4															
1	Store2	350	340	403	210														
2	Store3	250	180	145	160														
37	<ul style="list-style-type: none"> <li>(a) sum(MARKS) 193</li> <li>(b) max(MARKS)+min(MARKS) 195</li> </ul>	5																	

	<p>(c ) avg(MARKS) 93.75</p> <p>(d) length(SNAME) 6</p> <p>(e) avg(MARKS) 97.5 96.5 91</p>	
	OR	
	<p>a) count(*) 7</p> <p>b) count(*) 3 2 2</p> <p>c) count(MARKS) 6</p> <p>d) max(MARKS)+min(MARKS) 182</p> <p>e) S1006      Saurav      Science      CS      NULL</p>	