

**COMMON PRE-BOARD EXAMINATION CHANDIGARH REGION 2020-21**

**CLASS: XII**

**SUBJECT: INFORMATION PRACTICES (065)**

**MAX. MARKS: 70**

**TIME: 3 HRS.**

**General Instructions:**

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
  - a. Section – I is short answer questions, to be answered in one word or one line.
  - b. Section – II has two case studies questions. Each case study has 4 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
  - a. Section-I is short answer questions of 2 marks each in which two questions have internal options.
  - b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
  - c. Section-III is very long answer questions of 5 marks each in which one question has question has internal option.

<b>PART-A</b>		
<b>SECTION-I</b>		
<b>Question No. 1-21 carries 1 mark each. Attempt any 15 questions from questions 1 to 21.</b>		
<b>1</b>	State whether True or False :  i. Phishing is a cybercrime in which target(s) is/ are contacted by email, telephone or text message by someone posing as a legitimate institution to lure individuals into providing sensitive data.  ii. Spamming is the use of electronic messaging systems to send messages over internet.	<b>1</b>

<p><b>2</b></p>	<p>Fill in the blanks :</p> <p>The command used to give labeling of horizontal axis of graph is _____</p> <p>a. plt.show()  b. plt.plot()  c. plt.xlabel()  d. plt.title()</p>	<p><b>1</b></p>								
<p><b>3</b></p>	<p>Write the output of the following SQL command. select round(79.88,-1);</p> <p>a. 79.88  b. 79.8  c. 79.0  d. 80</p>	<p><b>1</b></p>								
<p><b>4</b></p>	<p>Given a Pandas series called df, the command which will display the last 4 rows is _____.</p> <p>a. print(df.tail(4))  b. print(df.Tail(4))  c. print(df.tails(4))  d. print(df.Tails(4))</p>	<p><b>1</b></p>								
<p><b>5</b></p>	<p>A Series object S1 is created with the following details</p> <table border="1" data-bbox="337 1415 810 1642"> <tr> <td>A</td> <td>5</td> </tr> <tr> <td>B</td> <td>10</td> </tr> <tr> <td>C</td> <td>15</td> </tr> <tr> <td>D</td> <td>20</td> </tr> </table> <p>What will be the output of following command : S1[S1&gt;15]</p>	A	5	B	10	C	15	D	20	<p><b>1</b></p>
A	5									
B	10									
C	15									
D	20									

<b>6</b>	Using Python Matplotlib _____ can be used to count how many values fall into each interval. a. line plot b. bar graph c. histogram	<b>1</b>
<b>7</b>	_____ refers to arrangement of devices or elements in a computer network.	<b>1</b>
<b>8</b>	In a Data-Frame, Axis= 0 represents the elements along the _____ (row/column).	<b>1</b>
<b>9</b>	Which of the following is not a network topology : Star, Graph , Tree, Mesh , Bus	<b>1</b>
<b>10</b>	For web pages where the information is changed frequently, for example, stock prices, weather information which out of the following options would you advise ? a) Static web page b) Dynamic web page	<b>1</b>
<b>11</b>	The round() function in MySql is an example of _____. a. Math function b. Text function c. Date Function d. Aggregate Function	<b>1</b>
<b>12</b>	The practice of taking someone else's work or ideas and passing them off as one's own is known as _____	<b>1</b>
<b>13</b>	In Pandas the function used to display top 10 rows of DataFrame is _____	<b>1</b>
<b>14</b>	I can be software or hardware or both. I provide protection against outside cyber attackers by shielding computer or network from malicious or unnecessary network traffic. Who am I?	<b>1</b>

<b>15</b>	Which amongst the following is not an example of web-browser? a. Chrome b. Edge c. Avast d. Internet Explorer	<b>1</b>
<b>16</b>	Action of recording/logging the keys struck on keyboard, so that person using the keyboard is unaware that their actions are being monitored is called as _____	<b>1</b>
<b>17</b>	Bullying or Harassment using electronic means is termed as _____	<b>1</b>
<b>18</b>	Which SQL command can display the Structure of a table?	<b>1</b>
<b>19</b>	Which MySql command will you use to make “School” database as your working database	<b>1</b>
<b>20</b>	Which network device is known as an intelligent hub?	<b>1</b>
<b>21</b>	Receiving irrelevant and unwanted emails repeatedly is an example of _____.	<b>1</b>

**Continued next page.....**

**Section -II**

**Both the case study based questions (22 & 23 ) are compulsory. Attempt any four sub parts from each question. Each sub question carries 1 mark.**

**22** Consider the following table WORKERS and DESIG. Write SQL commands for the statements (i) to (iii) and give output for SQL queries (iv).

**WORKERS**

W_ID	FIRSTNAME	LASTNAME	ADDRESS	CITY
102	Sam	Tones	33 Elm St.	Paris
105	Sarah	Ackerman	440 U.S 110	New York
144	Manila	Sengupta	24 Friends Street	New Delhi
210	George	Smith	83 First Street	Howard
255	Mary	Jones	842 VineAve.	Lsantiville
300	Robert	Samuel	9 Fifth Cross	Washington
335	Henry	Williams	12 Moore Street	Boston
403	Ronny	Lee	121 Harrison St.	New York
451	Pat	Thompson	11 Red Road	Paris

**DESIG**

W_ID	SALARY	BENEFITS	DESIGNATION
102	75000	15000	Manager
105	85000	25000	Director
144	70000	15000	Manager
210	75000	12500	Manager
255	50000	12000	Clerk
300	45000	10000	Clerk
335	40000	10000	Clerk
403	32000	7500	Salesman
451	28000	7500	Salesman

**1X4 =4**

- (i) To Display the content of WORKERS table in ascending order of LASTNAME.
- (ii) To display the W\_ID, and Total Salary of all Clerks from the table DESIG , Where Total Salary is calculated as a Salary +Benefits.
- (iii) To display the Minimum salary for Managers and for Clerks from the table DESIG.
- (iv) SELECT COUNT (DISTINCT DESIGNATION) FROM DESIG;

<b>23</b>	<p>Consider the following DataFrame <b>df 1</b> and answer questions.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>C1</th> <th>C2</th> <th>C3</th> </tr> </thead> <tbody> <tr> <td>R1</td> <td>20</td> <td>30</td> <td>5</td> </tr> <tr> <td>R2</td> <td>40</td> <td>50</td> <td>10</td> </tr> <tr> <td>R3</td> <td>60</td> <td>70</td> <td>15</td> </tr> <tr> <td>R4</td> <td>80</td> <td>90</td> <td>25</td> </tr> </tbody> </table> <p>i. df1[['C1','C3']]  ii. df1.loc[['R1','R3'], 'C2']  iii. df1.iloc[0:2, 0:2]  iv. df1.loc['R1', 'C1':'C3']  v. df1['C1'].max()  vi. df.loc['R3'].min()  vii. df1.sum(axis=1)  viii. df1.sum(axis=0)</p>		C1	C2	C3	R1	20	30	5	R2	40	50	10	R3	60	70	15	R4	80	90	25	<p><b>(1/2)x8 =4</b></p>
	C1	C2	C3																			
R1	20	30	5																			
R2	40	50	10																			
R3	60	70	15																			
R4	80	90	25																			

**PART-B**

**SECTION-I**

**Question No. 24-33 carries 2 mark each.**

<b>24</b>	<p>Consider following structure of DataFrame df1</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>xyz</th> <th>mno</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>20</td> <td>30</td> </tr> <tr> <td>B</td> <td>40</td> <td>50</td> </tr> <tr> <td>C</td> <td>60</td> <td>70</td> </tr> </tbody> </table> <p>Write Python code to create df1 using only List and List of List.</p>		xyz	mno	A	20	30	B	40	50	C	60	70	<b>2</b>
	xyz	mno												
A	20	30												
B	40	50												
C	60	70												
<b>25</b>	<p>State any two differences between single row functions and multiple row functions.</p> <p style="text-align: center;">OR</p> <p>What is the difference between the order by and group by clause when used along with the select statement.Explain with an example.</p>	<b>2</b>												

26	<p>Consider the decimal number x with value 359.24. Write commands in SQL to:</p> <p>i. round it off to a whole number</p> <p>ii. round it to 2 places <b>before</b> the decimal.</p>	2												
27	<p>Consider a dictionary student contains {'name':['S1,S2,S3], 'age':[15,14,13], 'gender':['M','F','M']}</p> <p>and a list roll no = [11,12,13]</p> <p>i. Write Python code that create DataFrame where name, age and gender are columns and rollno are index using dictionary and rollno</p> <p>ii. Write Python code to print maximum age</p>	2												
28	<p>Explain the scenario when output of below queries may differ.</p> <p>Select count(*) from employee;</p> <p>Select count(commission) from employee;</p> <p>Assume table employee having fields : empno, name, department, commission.</p>	2												
29	<p>Consider the following SQL string: "Preoccupied"</p> <p>Write commands to display:</p> <p>a. "occupied"</p> <p>b. "occ"</p> <p style="text-align: center;"><b>OR</b></p> <p>Considering the same string "Preoccupied" Write SQL commands to display:</p> <p>a. the position of the substring 'occ' in the string "Preoccupied"</p> <p>b. the first 6 letters of the string.</p>	2												
30	<p>Consider the above given df1 and write Python code for the following</p> <table border="1" data-bbox="402 1241 1089 1430" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>C1</th> <th>C2</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>12</td> <td>11</td> </tr> <tr> <td>B</td> <td>16</td> <td>17</td> </tr> <tr> <td>C</td> <td>20</td> <td>21</td> </tr> </tbody> </table> <p>i. Add a new row D with elements 18 19</p> <p>ii Delete column C2 permanently from Dataframe.</p>		C1	C2	A	12	11	B	16	17	C	20	21	2
	C1	C2												
A	12	11												
B	16	17												
C	20	21												
31	<p>Expand the following terms related to Computer Networks:</p> <p>a. SMTP</p> <p>b. VoIP</p>	2												
32	<p>List any two health hazards related to excessive use of Technology.</p>	2												
33	<p>What is E-Waste? Write any 2 ways to manage e-waste.</p>	2												

**SECTION -II**  
**Question No. 34-37 carries 3 mark each.**

<b>34</b>	<p>Consider two objects x and y. x is a list whereas y is a Series. Both have values 10, 20, 30, 40.</p> <p>What will be the output of the following two statements considering that the above objects have been created already</p> <p>a. <code>print (x*2)</code> b. <code>print(y*2)</code></p> <p>Justify your answer.</p>	<b>3</b>
<b>35</b>	<p>What do you understand by cyber-crime? Write down any 2 cybercrimes. Write a short note on IT Act.</p> <p style="text-align: center;">OR</p> <p>What do you understand by Net Etiquettes? Explain any two such etiquettes.</p>	<b>3</b>
<b>36</b>	<p>Two lists given below related to marks scored by student in 5 subjects..</p> <p>Marks=[12,18,19,15,11]</p> <p>Subjects= ['English', 'Hindi', 'IP', 'Maths', 'Science'] .</p> <p>Write Python code to draw a Line chart that will depict marks on Y axis and subject on X axis. Assign labels "Marks" and "Subject" to y axis and x axis and give the title of chart "Student Performance".</p>	<b>3</b>

<b>37</b>	<p>A relation Vehicles is given below :</p> <table border="1" data-bbox="305 247 1089 657"> <thead> <tr> <th>V_no</th> <th>Type</th> <th>Company</th> <th>Price</th> <th>Qty</th> </tr> </thead> <tbody> <tr> <td>AW125</td> <td>Wagon</td> <td>Maruti</td> <td>250000</td> <td>25</td> </tr> <tr> <td>J0083</td> <td>Jeep</td> <td>Mahindra</td> <td>4000000</td> <td>15</td> </tr> <tr> <td>S9090</td> <td>SUV</td> <td>Mitsubishi</td> <td>2500000</td> <td>18</td> </tr> <tr> <td>M0892</td> <td>Mini van</td> <td>Datsun</td> <td>1500000</td> <td>26</td> </tr> <tr> <td>W9760</td> <td>SUV</td> <td>Maruti</td> <td>2500000</td> <td>18</td> </tr> <tr> <td>R2409</td> <td>Mini van</td> <td>Mahindra</td> <td>350000</td> <td>15</td> </tr> </tbody> </table> <p>Write SQL commands to:</p> <p>a. Display the total price of each type of vehicle having sum of quantity more than 30.</p> <p>b. Count the type of vehicles manufactured by each company.</p> <p>c. Display the minimum price of all the types of vehicles.</p>	V_no	Type	Company	Price	Qty	AW125	Wagon	Maruti	250000	25	J0083	Jeep	Mahindra	4000000	15	S9090	SUV	Mitsubishi	2500000	18	M0892	Mini van	Datsun	1500000	26	W9760	SUV	Maruti	2500000	18	R2409	Mini van	Mahindra	350000	15	<b>3</b>
V_no	Type	Company	Price	Qty																																	
AW125	Wagon	Maruti	250000	25																																	
J0083	Jeep	Mahindra	4000000	15																																	
S9090	SUV	Mitsubishi	2500000	18																																	
M0892	Mini van	Datsun	1500000	26																																	
W9760	SUV	Maruti	2500000	18																																	
R2409	Mini van	Mahindra	350000	15																																	
<b>SECTION -III</b> <b>Question No. 38-40 carries 5 mark each.</b>																																					
<b>38</b>	<p>Answer the following questions :</p> <p>a. Define the following terms in the context of RDBMS (i) Tuple (ii) Alternate Key</p> <p>b. Write any 2 differences between SQL drop and delete command.</p> <p>c. Give any two examples of DDL commands.</p>	<b>2+2+1=5</b>																																			
<b>39</b>	<p>Answer the following questions :</p> <p>i. What is the difference between primary key and candidate key?</p> <p>ii. Name the function used to search substring from any given string.</p> <p>iii. A table has 4 columns and 10 records, What will be the degree and cardinality of the table?</p> <p>iv. What is the difference between SQL and MySql ?</p> <p>v. Name the function used to display current date and time.</p>	<b>1X5=5</b>																																			

<p><b>40</b></p>	<p>A private company Sigma has 3 offices at the following locations cityA, cityB and cityC. The distance between 3 offices are :</p> <p>cityA to cityB is 1000 km  cityB to cityC is 1500 km  cityA to cityC is 700 km.</p> <p>Total number of computers in each offices are  cityA 100 computers  cityB 300 computers  cityC 60 computers</p> <p>Based on the above situation answer the following</p> <p>(i) Suggest the best and cost effective technology to connect all 3 offices of company.</p> <p>(ii) Choose the best communication medium to be used for high speed data transfer between the offices. Cost does not matter  Coaxial cable/Twisted Pair/Optical Fibre</p> <p>(iii) Choose the network type of company LAN/MAN/WAN/PAN</p> <p>(iv) Suggest which office of the company should be selected to place server of the company.</p> <p>(v) Company has appointed a person who usually try to guess the admin password and user name of other company's web site  He will be called  a. Programmer  b. Hacker  c. Cracker  d. Guest</p>	<p><b>1X5=5</b></p>
------------------	---	---------------------