## D.A.V. Centenary Public School, Chander Nagar

Pre-Board Yearly Examination ( 2020-21 )

Subject : … Informatics Practices . Class :……XII………… Max: Marks :70

**General instructions:**

1. Write only answers with correct question no.
2. Solve the below question in a register sheet/A4 size sheet. Clearly mention the name of student, subject, class ,section and date of examination on the top of paper.
3. Scan and Send on  [**onlineclasscomputer083@gmail.com**](mailto:onlineClassComputer083@gmail.com%20)  by **1:30 PM.**
4. Subject of your email must be– **SubjectName** –**date** - **StudentName - class and section**

**Instructions related to Question Paper**

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B havechoices.
3. Part-A has 2sections:
   1. Section-I is short answer questions, to be answered in one word or oneline.
   2. 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 5subparts.
4. Part-B is descriptivepaper.
5. Part-B has 3 sections:
   1. Section-I is short answer questions of 2 marks each in which two questionshave internaloptions.
   2. Section-II is long answer questions of 3 marks each in which two questions have internaloptions.
   3. Section-III is very long answer questions of 5 marks each in which one questionhas internaloption.
6. All programming questions are to be answered using Python Language only.

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|  | **PART -A** |  |
|  | **SECTION-I**  **Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.** |  |
| **1** | The function factorial () belongs to \_\_\_\_\_\_\_\_\_\_ module.  (a)pandas (b) statistics (c)math (d) None of the given option | **1** |
| **2** | What will be the value of the given expression?  10 + 20 % 15//3  (a)15 (b)11 (c)2 (d)14 | **1** |
| **3** | What will be the output of following code segment?  str = "funwithpython"  str [3 :6 ]  (a)with (b)fun (c)cthpy (d) thon | **1** |
| **4** | Write the name of function which is used to write data into a binary file. | **1** |
| **5** | A tuple is declared as  T1 = (5,3,2,5,9)  What will be the output of  print(sum(T1)) | **1** |
| **6** | Write the output of the following code:  lost=[10, 20,30,40,50,60]  print(lost[:2] + lost[2:]) | **1** |
| **7** | In MYSQL, What is the use of having keyword? | **1** |
| **8** | Identify the valid identifier name(s) from the following:  Roll.no, total income , smart\_boy, \_sum | **1** |
| **9** | Name the protocol which is used in send emails. | **1** |
| **10** | Expand the term HTTPS | **1** |
| **11** | What will be the value of the expression?  37 / 5  (a)7.4 (b)7 (c)7.0 (d)7.40 | **1** |
| **12** | Identify MYSQL DML command(s) from the following :  Update b) Alter c) commit d) rollback | **1** |
| **13** | Identify the valid data type of test: test=('Python' ,10, 'Good', 25.45)  (a)Tuple (b)Dictionary (c)List (d)String | **1** |
| **14** | In MYSQL, Which command is used to see the structure of a table? | **1** |
| **15** | Write a statement to declare a dictionary whose keys are 'Apple', 'Mango', 'Banana' and values are 100, 250, 60 | **1** |
| **16** | Divya Chaudhary want to connect her office with the another office of the same building. Identify the type of network formed out of PAN/LAN/MAN/WAN. | **1** |
| **17** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is knows as Intelligent hub. | **1** |
| **18** | Which of the following is the slowest media of data transfer?  (a)Co-axialCable (b) UntwistedWire (c) TelephoneLines (d) FibreOptic | **1** |
| **19** | Alter Table is a DML command.  True b)False | **1** |
| **20** | Name the topology which connects devices in linear/sequential order. | **1** |
| **21** | Identify aggregate function(s) from the following :  Count( ) (b)upper() (c)round() (d) curdate() | **1** |
|  | **SECTION-II**  **Both the case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark.** |  |
| **22** | A company TVS Motots wants to store the records of their Parts using MYSQL table. As a database administrator, Ayush has decided that:   * Name of the database:Parts * Name of the table : Parts * The attributes of Parts Tables are as follows:   partId -Numeric  partname - character of size 20  partPrice - Numeric  Date\_of\_manu -Date  Table : Parts   |  |  |  |  | | --- | --- | --- | --- | | partID | PartName | PartPrice | Date\_of\_manu | | 101 | Rim | 150 | 2020-12-24 | | 102 | Tube | 120 | 2019-08-17 | | 103 | Oil Filter | 260 | 2018-03-20 | | 104 | Air filter | 540 | 2018-05-12 |  1. Identify the column(s) that can serve as a primary key 2. What is the degree and cardinality of the above parts table 3. Write sql query to increase the parts price by 10% 4. Write sql query to add a new column category with data type varchar of size 30 5. Write query to show the current database | **5** |
| **23** | Sahej Kaur is writing a program to create a CSV file “books.csv” which will contain the book name and author name. She wants to display the details of all the books.   1. Name the module she should import in theprogram. 2. In which mode, she should open the file to read all thedata 3. Name the in-built function which is used to read the data from csv file 4. Sahej want to add a new record in the CSV file. Write the statement to help her in opening the file in correct mode. | **4** |
|  | **Part-B** |  |
|  | **Section-I** |  |
| **24** | Consider the following declaration and differentiate between the following commands:  L1=[12,34,55]   1. L1.append([66,77]) 2. L1.extend([66,77]) | **2** |
| **25** | Differentiate between hacker and cracker.  **OR**  Differentiate between Switch and Router | **2** |
| **26** | Expand the following terms:  a. CDMA b. ISP c.ARPANET d. GSM | **2** |
| **27** | Differentiate between Local and Global variable with the help of a suitable example.  **OR**  Differentiate between List and Tuple data type with the help of a suitable example. | **2** |
| **28** | Rewrite the following code in Python after removing all syntax error(s). Underline each correction(s).  Num=50  while Num>= 10:  if NUM =30:  BREAK  ElifNum>30:  print(Num)  else:  print(Num //10) | **2** |
| **29** | What are the possible output(s) of the following code? Also specify the maximum and minimum values that can be assigned to variable PICK.  import random as rd  PICK = rd.randint(0,3)  CITY= [1, 2,3,4,5]  for x in CITY:  print (x, end = ‘#’)   1. 1#2#3#4# 2. 2#3#4#5# 3. 1#2#3#   1#2 | **2** |
| **30** | Define the term Domain in terms of DBMS with the help of a suitable example. | **2** |
| **31** | Write the use of rowcount attribute of msql.connector with the help of a suitable example | **2** |
| **32** | What is use of ‘LIKE’ keyword in SQL? Explain with suitable example. | **2** |
| **33** | Find and write the output of the following Python code:  def fun(s):  k=len(s)  m=""  for i in range(0,k):  if s[i].isupper() and i%3==0 :  m=m+s[i].lower()  elifs[i].isalpha():  m=m+s[i].upper()  else:  m=m+'@'  print(m)  fun(‘BeFORe@You') |  |
|  | **SECTION-II** |  |
| **34** | Write a function Swap(num) in Python, which accepts a list ‘num’ of numbers. The function will store 999 in place of those numbers which ends with 9. For ex:  If the list‘num’contain: [191, 219, 31, 421, 531,619]  Output: [191, 999, 31, 421, 531,999] |  |
| **35** | Write a function word4() in Python that displays 4 letter words present in a text file‘myfile.txt’.  If the ‘myfile.txt’ stores:  We are here to learn python. Python has so many features which make it more comfortable interface.  Output: heremany make more  **OR**  Write a function count() in Python, which should count number of digits present in a given text file ‘Sample.txt’.  If the ‘Sample.txt’ contains:  14 November is celebrated as children’s day.  Then the output should be: 2 |  |
| **36** | Write the outputs of the SQL queries (i) to (iii) based on the following tables‘CAB’  and ‘Customer’:  **Table : CAB**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | C\_ID | C\_name | Color | Comp | Date\_pur | | 1 | Dezire | White | Maruti | 2020-02-02 | | 2 | Nano | Orange | TATA | 2015-01-21 | | 3 | WagonR | Silver | Suzuki | 2018-09-09 | | 4 | Ertiga | Black | Maruti | 2017-09-03 | | 5 | City | White | Honda | 2000-08-08 | | 6 | Fortuner | Silver | Toyota | 2019-04-09 |   **Table : Customer**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Cust\_id | C\_id | Cust\_name | Date\_booking | Charges | | 101 | 1 | Amita | 2020-09-09 | 2000 | | 102 | 1 | Sumita | 2020-10-01 | 3000 | | 103 | 2 | Vinita | 2016-09-19 | 2000 | | 104 | 6 | Rahul | 2018-09-02 | 5000 | | **3** |
| **37** | Write a function in Python PUSH(L1) to insert an integer element in the list as per stack methodology. After inserting the element, display the data of the stack.  **OR**  Write a function in Python POP(L1) to remove the element from the stack L1 and also display thedeleted value. | **3** |
|  | **SECTION-III** |  |
| **38** | Sanskar University of Himachal Pradesh is setting up a secured network for its campus at Himachal Pradesh for operating their day-to-day office & web based activities. They are planning to have network connectivit  y between four buildings. Answer the question (i) to (v) after going through the building positions in the campus & other details which are given below:    **Number of computers:-**  Main building 300  Finance 200  Admin 100  Academic 150  As a network expert, you are required to give best possible solutions for the given queries of the university administration: -   1. Suggest cable layout for the connections between the variousbuildings. 2. Suggest the most suitable building to house the server of the network of theuniversity. 3. Suggest the placement of following devices withjustification:    1. Switch/Hub 2.Repeater 4. Suggest the technology out of the following for setting-up very fast Internet connectivity among buildings of theuniversity    1. Optical Fiber 2. Coaxial cable 3. EthernetCable   The University is planning to connect its admission office in Haryana, which is more than 1000 KM from University. Which type of Network out of LAN, MAN or WAN will beformed? Justify youranswer. | **5** |
| **39** | **Consider the following tables STORE and SUPPLIERS and answer the following parts of the questions**  Table: Store   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ITEMNO | ITEM | SCODE | QTY | RATE | LASTBUY | | 2005 | Sharpener Classic | 23 | 60 | 8 | 2009/06/09 | | 2003 | Ball Pen 0.25 | 22 | 50 | 25 | 2010/02/02 | | 2002 | Gel pen premium | 21 | 150 | 12 | 2004/12/10 | | 2006 | Gel Pen Classic | 21 | 250 | 20 | 2011/03/19 | | 2001 | Eraser Small | 22 | 220 | 6 | 2019/11/09 | | 2004 | Eraser Big | 22 | 110 | 8 | 2002/12/20 | | 2009 | Ball Pen 0.5 | 21 | 180 | 18 | 2003/11/19 |   Table: Supplier   |  |  | | --- | --- | | SCODE | SNAME | | 21 | Premium Stationers | | 23 | Soft Plastics | | 22 | Tetra Supply |  1. To display details of all the items in the Store table in ascending orderof LastBuy. 2. To display Supplier name, ItemName of those items whose rate is more than 15rupees. 3. To display the details of those items whose Suppliers code(Scode) is 22or Quantity in Store(Qty) is more than 110 from the tableStore. 4. To display minimum rate of Items for each Supplier individually as perScode from the tableStore. 5. To increase the Rate of all the items by Rs. 10 | **5** |
| **40** | Consider a binary file “Employee.dat” which stores the records of employees in the  given format: [ eid, ename, designation, salary]   1. Write a user defined function AddData() which will add the details of one more employee(input details from user). 2. Write a user defined function Disp() to display the records of all those employees who are getting salariesbetween 30000 and50000.   **OR**  Consider a binary file “Employee.dat” which stores the records of employees in the  given format: [ eid, ename, designation, salary]  Write a user defined function copy() which will copy the details of those employee  who belongs to ‘Sales’ department from the file “Employee.dat” to “Sales.dat”. |  |