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| **B** | | | |
| **PB/CSAK/1220/A 09/10/2020** | | | |
| **PRE-BOARD EXAMINATION (2020-21)**  **ANSWER KEY** | | | |
| **SUBJECT: COMPUTER SCIENCE (PYTHON)**  **GRADE: XII** | | MAX. MARKS: 70TIME: 3 HRS | |
| **Qno** | **PART A** | | Mark |
|  | **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.** | b) 9\_Rno c) Class#12  ( ½ mark for each correct answer) | | 1 |
| **2.** | ['Python', 'Java', 32, [6, 7, 8]]  (1 mark for correct answer) | | 1 |
| **3.** | Flat file  (1 mark for correct answer) | | 1 |
| **4.** | b) % e) //  ( ½ mark for each correct answer) | | 1 |
| **5.** | c) print(T[5])  ( 1 mark for correct answer) | | 1 |
| **6.** | D={‘J’:’January’,’F’:’February’,’M’:’March’,’A’:’April’}  ( 1 mark for correct answer) | | 1 |
| **7.** | node  ( 1 mark for correct answer) | | 1 |
| **8.** | math.sqrt()  ( 1 mark for correct answer) | | 1 |
| **9.** | IRC (Internet Relay Chat)  ( 1 mark for correct answer) | | 1 |
| **10.** | Plagiarism  ( 1 mark for correct answer) | | 1 |
| **11.** | DISTINCT  ( 1 mark for correct answer) | | 1 |
| **12.** | UPDATE  ( 1 mark for correct answer) | | 1 |
| **13.** | d. Aggregate Function  ( 1 mark for correct answer) | | 1 |
| **14.** | Which of the following is a DML command?  b) ALTER c) DROP  ( ½ mark for each correct answer) | | 1 |
| **15.** | Fiber Optic Cable  ( 1 mark for correct answer) | | 1 |
| **16.** | a. dictionary  ( 1 mark for correct answer) | | 1 |
| **17.** | hon Programm 12  ( ½ mark for each correct answer) | | 1 |
| **18.** | SELECT MAX(SMARK) FROM STUD;  ( 1 mark for correct answer) | | 1 |
| **19.** | SMTP – Simple Mail Transfer Protocol  ( 1 mark for correct answer) | | 1 |
| **20.** | e) BOTH A & C  ( 1 mark for correct answer) | | 1 |
| **21.** | Firewall  ( 1 mark for correct answer) | | 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.** | 1. RollNo 2. Degree – 7 Cardinality - 5 3. UPDATE STUDENT SET MARKS=MARKS+5; 4. DELETE FROM STUDENT WHERE ROLLNO=3; 5. DESCRIBE STUDENT; (DESC STUDENT;)   (1 mark for each answer. 4 sub-questions to be answered) | | 4 |
| **23** | 1. import csv 2. append mode - f=open(' Country.csv','a') 3. f.close() 4. nFR = csv.reader(nFile) 5. India New Delhi   US Washington DC  France Paris  (1 mark for each answer. 4 sub-questions to be answered) | | 4 |
|  | **PART B** | |  |
|  | **SECTION - I** | |  |
| **24.** | 1. False 2. True   ( 1 mark for each answer) | | 2 |
| **25.** | Worms are stand-alone malicious programs that can self-replicate.  A trojan horse is a program that contains hidden malicious functions. They donot replicate.  (1 mark for each)  OR  A Media Access Control address (MAC address) is a unique identifier assigned to a network interface card (NIC) by its manufacturer.The network interface card is used to connect to the Ethernet network. Each NIC has its own unique MAC address.  The IP address is a number that is assigned to each device, such as a computer, a printer, etc.  It describes where on the internet your computer is located. An IP address is required by any device that participates in a computer network that uses the internet protocol for communication.  (1 mark for each) | | 2 |
| **26.** | a. ARPANET – ADVANCED RESEARCH PROJECT AGENCY NETWORK  b. VOIP – VOICE OVER INTERNET PROTOCOL  c. NIC – NETWORK INTERFACE CARD  d. PAN – PRIVATE AREA NETWORK  ( ½ mark for each) | | 2 |
| **27.** | Docstrings – Also called Documentation strings It helps you to document the program better and makes the program easier to understand. It is like a comment  Example:  def add(a,b):  ‘’’This adds 2 nos’’’ # This is the docstring  print(a+b)  (2 mark for correct answer)  OR  In Python, global keyword allows the programmer to modify the variable outside the current scope. It is used to create a global variable and make changes to the variable in local context. A variable declared inside a function is by default local and a variable declared outside the function is global by default. The keyword global is written inside the function to use its global value. Outside the function, global keyword has no effect.  Example  c = 10 # global variable  def add():  global c  c = c + 2 # global value of c is incremented by 2  print("Inside add():", c)  add()  c=15  print("In main:", c)  output:  Inside add() : 12  In main: 15  (2 mark for correct answer) | | 2 |
| **28.** | X=30  for i in range(0,X):  if X%4==0:  print (X\*4)  elif X%5==0:  print (X+3)  else:  print(X+10)  ( ½ mark for each correction done) | | 2 |
|  |  | |  |
| **29.** | Possible Options:-   1. ('White', 'Black')@('Purple', 'Indigo')@ 2. ('White', 'Black')@ 3. ('Blue', 'Yellow')@('White', 'Black')@   Maximum value of U – 3  Maximum value of L – 2  ( 1 mark for correct options . 1 mark for Maximum value of U and L) | | 2 |
| **30.** | A table may have more than one attribute/group of attributes that identifies a tuple  uniquely, all such attribute(s) are known as Candidate Keys. Out of the candidate key , one key is chosen as the Primary key. The attribute choosen as primary key will have unique and non-null values.   |  |  |  |  | | --- | --- | --- | --- | | SAdmno | SName | EmiratesIDno | Address | | S1023 | Mohan Kumar | 10537822822 | Dubai | | S1982 | Arun S | 47267526781 | Sharjah | | S1367 | Zeenat V | 73252563562 | Dubai |   In the above table , SAdmno and EmiratesIDno can be a candidate keys.  Out of these 2 candidate keys , SAdmno is chosen as the primary key.  (2 mark for correct answer) | | 2 |
| **31.** | fetchall() fetches all the rows of a query result. An empty list is returned if there is no record to fetch the cursor.  fetchone() method returns one row or a single record at a time. It will return None if no more rows / records are available.  Example:  s="select \* from book"  cur.execute(s)  results=cur.fetchone() -🡪 1 record fetched of a query  print(results)  con.close()  s="select \* from book"  cur.execute(s)  results=cur.fetchall() -🡪 All records fetched of a query  print(results)  con.close()  (2 mark for correct answer) | | 2 |
| **32.** | a) i) DBMS - DATABASE MANAGEMENT SYSTEM ii) SQL – STRUCTURED QUERY LANGUAGE  b) DML commands – UPDATE , DELETE  (1 mark for each) | | 2 |
| **33.** | 1B3E5xA7  (2 mark for correct output) | | 2 |
|  | **SECTION - II** | |  |
| **34.** | def arrange(l):  l1=[]  t=l[0]  l1.append(t)  for i in range(1,len(l)):  t=l[i-1]+l[i]  l1.append(t)  c=0  for i in l1:  print(c\*' '+'\*'+str(i))  c=c+1  (3 mark for correct program) | | 3 |
| **35.** | def fn():  f=open("Story.txt")  f1=open("Lower.txt",’w’)  f2=open("Upper.txt",’w’)  f3=open("Other.txt",’w’)  x=f.read()  for i in x:  if i.islower():  f1.write(i)  elif i.isupper():  f2.write(i)  else:  f3.write(i)  f.close()  f1.close()  f2.close()  f3.close()  (3 mark for correct program)  OR  def fn():  c=0  f=open("Story.txt")  x=f.read()  y=x.split()  for i in y:  if i[0]!='C' and i[0]!='A':  print(i)  c=c+1  f.close()  print(c)  (3 mark for correct program) | | 3 |
| **36.** | CATEGORY SALARY   1. MANAGER 122000   EXECUTIVE 115000  CLERK 75000   1. 65000 35000 2. E106 35000   E103 40000  E105 50000  E101 60000  E104 62000  E102 65000  ( 1 mark for each correct output) | | 3 |
| **37.** | def PUSH(A):  s=[]  for i in range(0,len(A)):  if A[i].islower():  s.append(A[i])  if len(s)==0:  print("Empty Stack")  else:  print(s)  ( 3 mark for correct program)  OR  def POP(A) :  if len(A)==0:  print("Underflow")  else:  L = len(A)  val=A[L-1]  print(“Deleted value is “ ,val)  A.pop(L-1)  ( 3 mark for correct program) | | 3 |
|  | **SECTION - III** | |  |
| **38.** | 1. Most suitable layout according to distance is Bus      1. Star topology 2. Broad band 3. a. Not required. Repeaters may be skipped as per above layout (because distance is less than 100 m)   b. In every wing  v. Radio waves  (1 mark for each) | | 5 |
| **39.** | 1. SELECT \* FROM ITEMS ORDER BY INAME; 2. SELECT TCODE , COUNT(\*) FROM ITEMS GROUP BY TCODE; 3. SELECT \* FROM ITEMS WHERE COMAPNAY=’SANTORA’; 4. SELECT INAME ,CODE,COMPANY FROM ITEMS WHERE PRICE BETWEEN 5000 AND 10000; 5. SELECT I.INAME , I.CODE , I.COMPANY,T.TNAME , T.CITY FROM ITEMS I ,TRADERS T WHERE I.PRICE>5000 AND I.TCODE=T.TCODE;   ( 1 mark for each correct SQL statement) | | 5 |
| **40.** | i) def CreateFile():  f=open("Item.dat",’ab')  lst=[]  ItemNo=int(input("Enter ItemNo"))  ItemName=input("Enter ItemName")  Qty=int(input("Enter Quantity"))  ppu=int(input("Enter Price per unit"))  lst.append(ItemNo , ItemName , Qty , ppu)  pickle.dump(lst,f)  f.close()  ii)def CalAmt(ItemName):  l=[]  f=open("Item.dat",'rb')  try:  while True:  lst=pickle.load(f)  if lst[1]==ItemName:  l=[lst[2] , lst[2]\*lst[3]]  return l  except:  f.close()  (2.5 marks for each function)  OR  i) def countrec():  f=open("Employee.dat")  try:  while True:  lst=pickle.load(f)  if lst[3]>5000:  print(lst[0],lst[1],lst[2],lst[3])  except:  f.close()  ii) def Deptrec(DName):  l=[]  try:  while True:  lst=pickle.load(f)  if lst[2]==DName:  l.append(lst[1])  return l  except:  f.close()  (2.5 mark for each function) | | 5 |

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