

INFORMATICS

Instruction: You are offered the test items with one correct answer from four proposed ones.

1. Leverages certificate-based ID to authenticate signer identity

- A) digital certificate
- B) digital signature
- C) electronic signature
- D) electronic certificate

2. 5 most important things to consider when buying a computer

I - CPU

II - Operating system

III - HDD or SSD

IV - Computer case

V - RAM

VI - Video Card

VII - Keyboard

VIII - Applications

IX - Utilities

X - Motherboard

A) II, III, V, VII, X

B) I, III, V, VI, X

C) I, III, V, IX, X

D) I, II, VI, IX, X

3. The device which serves as gateway to outside networks

A) router

B) modem

C) hub

D) switch

4. Select the correct formulas to find total price in cell D2 and total price with tax in cell E2 (tax is 12%)

	A	B	C	D	E
1	Item	Amount	Price	Total	Total with tax
2	Apple Pie	10	2000	20000	22400
3	Lemon Pie	12	2100		
4	Cup Cake	10	200		
5	Pan Cake	15	150		

- A) D2: =MAX(B2:C2) E2: =D2*12/100
- B) D2: =B2+C2 E2: =D2*12/100+D2
- C) D2: =B2*C2 E2: =tax(D2,12%)
- D) D2: =B2*C2 E2: =D2*12/100+D2

5. Which MySQL opportunity that supports most of ANSI SQL commands.

- A) speed
- B) functionality
- C) portability
- D) support

6. Choose correct SQL query to take table given below from country and city tables given above

Code	Name	Continent	Region	SurfaceArea
AFG	Afghanistan	Asia	Southern and Central Asia	652090.00
ALB	Albania	Europe	Southern Europe	28748.00
AND	Andorra	Europe	Southern Europe	468.00
ARE	United Arab Emirates	Asia	Middle East	83600.00
ARG	Argentina	South America	South America	2780400.00
ARM	Armenia	Asia	Middle East	29800.00
AUT	Austria	Europe	Western Europe	83859.00
AZE	Azerbaijan	Asia	Middle East	86600.00
BEL	Belgium	Europe	Western Europe	30518.00
BGD	Bangladesh	Asia	Southern and Central Asia	143998.00
BGR	Bulgaria	Europe	Eastern Europe	110994.00
BHR	Bahrain	Asia	Middle East	694.00
BIH	Bosnia and Herzego...	Europe	Southern Europe	51197.00

Table 1. Country

ID	Name	CountryCode	District	Population
3801	San Antonio	USA	Texas	1144646
2618	San Andrés Tuxtla	MEX	Veracruz	142251
3385	Sakarya (Adapazari)	TUR	Sakarya	190641
194	La Paz	BOL	La Paz	758141
2586	La Paz	MEX	México	213045
2589	La Paz	MEX	Baja California Sur	196708
99	José C. Paz	ARG	Buenos Aires	221754
2584	Cárdenas	MEX	Tabasco	216903
3567	Carúpano	VEN	Sucre	119639
4059	Cary	USA	North Carolina	91213
288	Caruaru	BRA	Pernambuco	244247
2287	Cartago	COL	Valle	125884
682	Cartagena	ESP	Murcia	177709

Table 2. City

Continent	Country_name	City_name
South America	Bolivia	La Paz
South America	Chile	Santiago de Chile
South America	Colombia	Santafé de Bogotá
South America	French Guiana	Cayenne
South America	Suriname	Paramaribo
South America	Venezuela	Caracas

```
select country.continent as Continent, country.name as Country_name, city.name as City_name
from country
on country.capital = city.id
```

- A)

```
where country.continent like 's%' and city.name like '_a%'
select country.continent as Continent, country.name as Country_name, city.name as City_name
from country
on country.capital = city.id
```
- B)

```
where country.continent like '%s' and city.name like '_a%'
select country.continent as Continent, country.name as Country_name, city.name as City_name
from country
right join city
on country.capital = city.id
```
- C)

```
where country.continent like 's%' and city.name like '_a%'
select country.continent as Continent, country.name as Country_name, city.name as City_name
from country
right join city
on country.capital = city.id
```
- D)

```
where country.continent like '%s' and city.name like '_a%'
```

7. Actuality of the information to a person or society

- A) availability
- B) reliability
- C) relevance
- D) completeness

8. NEURAL NETWORKS is NOT used today for

- A) replacement of all algorithms of other machine learning
- B) dream recognition
- C) image processing, style transfer
- D) object identification on photos and videos

9. Size of the text file with 2500 symbols in ASCII

- A) 18000 bits
- B) 20000 bits
- C) 12000 bits
- D) 16000 bits

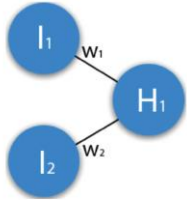
10. Software designed for video editing

- A) Google Chrome
- B) Microsoft Office
- C) Adobe Photoshop
- D) Sony Vegas

11. Key that consists of two or more attributes that uniquely identify any record in a table

- A) secondary
- B) composite
- C) primary
- D) alternative

12. Neural networks inputs: $I_1=1$, $I_2=1$, $w_1=-0.42$, $w_2=0.58$, calculate H_1



- A) -0.16
- B) 1
- C) 0.16
- D) -1

13. MySQL opportunity that selectively grant or revoke permissions to users.

- A) speed
- B) Permission Control
- C) support
- D) functionality

14. Complete the table according to Conjunction, Disjunction and Negation rules

A	B	(NOT (A AND B) OR (A AND B)) AND NOT A
TRUE	TRUE	
TRUE	FALSE	
FALSE	TRUE	
FALSE	FALSE	

- A) FALSE, TRUE, TRUE, TRUE
- B) TRUE, TRUE, TRUE, TRUE
- C) FALSE, FALSE, TRUE, TRUE
- D) TRUE, TRUE, FALSE, FALSE

15. Returns the lowest number

- A) count
- B) max
- C) min
- D) sum

16. Connection of computers and computer networks located far away from each other mostly using Internet connection is called

- A) LAN (Local Area Network)
- B) WAN (Wide Area Network)
- C) WLAN (Wireless Local Area Network)
- D) PAN (Personal Area Network)

17. The correct logical statement according to the truth table

A	B	C	F
0	0	1	0
0	1	0	1
1	1	0	1
1	1	1	0

- A) $F = (A \text{ AND } B) \text{ OR } C$
- B) $F = (A \text{ AND NOT } B) \text{ OR } C$
- C) $F = (A \text{ AND NOT } B) \text{ OR NOT } C$
- D) $F = (A \text{ AND } B) \text{ OR NOT } C$

18. Result of the equation given

$$10001101101_2 + 1752_8$$

- A) 2137_{10}
- B) 2135_{10}
- C) 2131_{10}
- D) 2133_{10}

19. The correct code for finding the total height of the tallest and the shortest students

```
list=[]
n=int(input())
for i in range(n):
    list.append(int(input()))
list.sorted()
```

A) `print(list[0]+list[n-1])`

```
list=[]
n=int(input())
for i in range(n):
    list.append(int(input()))
list.sort()
```

B) `print(list[1]+list[n])`

```
list=[]
n=int(input())
for i in range(n):
    list.append(int(input()))
list.sort()
```

C) `print(list[0]+list[n-1])`

```
list=[]
n=int(input())
for i in range(n):
    list.append(int(input()))
list.sorted()
```

D) `print(list[1]+list[n])`

20. Choose the logical condition which means “A is equal to B” in Python

A) `A=B`

B) `A>=B`

C) `A<B`

D) `A==B`

21. Clustering, unsupervised learning, nowadays is NOT used

A) To detect abnormal behavior

B) To merge close points on a map

C) For image compression

D) As recommender systems, risk management

22. What will be the result of program below, if grade=65

```
grade = int(input("How many percentages?"))
if grade >= 90:
    print("You get 5")
if grade >= 65:
    print("You get 4")
if grade >= 50:
    print("You get 3")
else:
    print("You get 2")
```

- A) You get 4
- B) You get 5
- C) You get 4
- You get 3
- D) You get 5
- You get 4
- You get 3

23. DBMS is stands for

- A) Database Monitoring Systems
- B) Database Management Systems
- C) Database Monitoring Software
- D) Data Base Management Software

24. Convert 1994_{10} to octal number system

- A) 3712_8
- B) 3722_8
- C) 3732_8
- D) 3702_8

25. Originally uses seven bits to encode each character that was later increased to eight

- A) ASCII
- B) Unicode
- C) MIME
- D) Uuencode

Instruction: You are offered the test items on the base of text with one correct answer from four proposed ones. Read the text attentively and do the items.

List of numbers

Teacher gives to Ali unique n natural numbers and asks to sort this sequence in descending order without using sort() and sorted() functions. He has written the following code. However, during the execution program did not show the result as intended. Help him to fix the code.

```
def sorting(list):
    for i in range(0, len(list)-1):
        for j in range(i, len(list)-1): #incorrect
            if list[i]<list[j]:
                temp = list[i]
                list[i] = list[j]
                list[j] = temp

list = []
n=int(input())
for i in range(n):
    list.append(int(input()))
sorting(list)
print(list)
```

26. Number of parameter(s) of the function

- A) 4
- B) 2
- C) 3
- D) 1

27. Data type used to create a sequence of numbers

- A) list
- B) long
- C) int
- D) float

28. Aim of the given fragment

```
temp = list[i]
list[i] = list[j]
list[j] = temp
```

- A) Sort elements
- B) Swap elements
- C) Find minimum
- D) Find maximum

29. The result according to the Ali's code when $n=5$ and sequence is 2 1 3 9 6

A) (9, 3, 2, 1, 6)

B) [9, 3, 2, 1, 6]

C) (2, 9, 6, 3, 1)

D) [2, 9, 6, 3, 1]

30. Fix the incorrect line in Ali's code

A) for j in range(i-1, len(list)-1):



B) for j in range(i+1, len(list)-1):

C) for j in range(i+1, len(list)):

D) for j in range(i-1, len(list)):

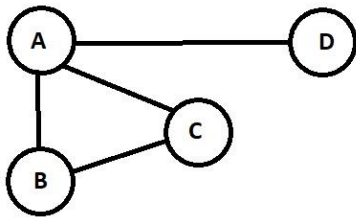
Instruction: You are offered test items to matching.

31. Match following memory types and pictures

A)		HDD
		ROM
		RAM
		Flash memory
B)		HDD
		ROM
		RAM
		Flash memory

32. Match the following logical functions with truth tables

A)	<table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>F</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>	A	B	C	F	0	0	0	0	0	0	1	1	0	1	0	0	0	1	1	1	1	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	F=(A AND B) AND C
	A	B	C	F																																		
	0	0	0	0																																		
	0	0	1	1																																		
	0	1	0	0																																		
	0	1	1	1																																		
	1	0	0	0																																		
	1	0	1	1																																		
1	1	0	1																																			
1	1	1	1																																			
	F=(A OR B) OR C																																					
	F=(A OR B) AND C																																					
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	A	B	C	F																																		
	0	0	0	0																																		
	0	0	1	0																																		
	0	1	0	0																																		
	0	1	1	1																																		
	1	0	0	0																																		
	1	0	1	1																																		
1	1	0	0																																			
1	1	1	1																																			
	F=(A OR B) OR C																																					
	F=(A OR B) AND C																																					
	F=(A AND B) OR C																																					



33.

In the graph above, match the following collection of vertices V, and collection of edges E (represented as ordered pairs of vertices (u, v)):

A)	E	(A,B) (A,C), (A,D), (B,D)
		(A,B) (A,C), (A,D), (B,C)
		A, B, C, D
		O, B, C, D
B)	V	(A,B) (A,C), (A,D), (B,D)
		(A,B) (A,C), (A,D), (B,C)
		A, B, C, D
		O, B, C, D

34. Find true statement about keywords in database

A)	DROP COLUMN column_name	Sorts the records in ascending order by default
		To sort the records in descending order, use DESCENDING keyword
		Alters table to add column
		Deletes column from a table
B)	ORDER BY	Sorts the records in ascending order by default
		To sort the records in descending order, use DESCENDING keyword
		Alters table to add column
		Deletes column from a table

35. Match the following JavaScript operations and results:

A)	<code>var x="Hello"+10+5</code>	15Hello
		105Hello
		Hello105
		Hello15
B)	<code>var x=10+5+"Hello"</code>	15Hello
		105Hello
		Hello105
		Hello15

Instruction: You are offered the test items with one or more correct answers.

36. Select script(s) where CSS internal method used

A) <style>

p {text-align: left;}

</style>

B) <style>

p {color:yellow}

</style>

C) <style>

p {font-size 40px; color:maroon}

</style>

D) <body>

<p> mystyle </p>

</body>

E) <link rel = "stylesheet" type = "text/css" href ="style.css">

F) <link rel = "stylesheet" type = "text/css" href ="ownstyle.css">

37. Choose the example(s) of a formula used in Spreadsheet

A) B1=A3*B8+12

B) =A2:C3+7F

C) A2+C3/f7=

D) =B3+E2\$*F5

E) =A\$6+\$C3/F7

F) =SUM(A2:C3/F7)

38. Define function “start()” that will ask a player for his name and outputs “Hello (name) !!! Your adventure starts here!”

Select the lines of code with mistakes

```
1 print("What is your name?")
2 name = int(input())
3
4 def start():
5     print("Hello, "name, "!!!")
6     print(Your adventure starts here!)
7
8 start()
```

A) 1

B) 6

C) 5

D) 3

E) 2

F) 4

39. Select field(s) which can be primary key from the table given

Code	Name	Continent	Region	IndepYear	GovernmentForm
AFG	Afghanistan	Asia	Southern and Central Asia	1919	Islamic Emirate
ALB	Albania	Europe	Southern Europe	1912	Republic
AND	Andorra	Europe	Southern Europe	1278	Parliamentary Coprincipality
ARE	United Arab Emirates	Asia	Middle East	1971	Emirate Federation
ARG	Argentina	South America	South America	1816	Federal Republic
ARM	Armenia	Asia	Middle East	1991	Republic
AUT	Austria	Europe	Western Europe	1918	Federal Republic
AZE	Azerbaijan	Asia	Middle East	1991	Federal Republic
BEL	Belgium	Europe	Western Europe	1830	Constitutional Monarchy, Federation
BGD	Bangladesh	Asia	Southern and Central Asia	1971	Republic
BGR	Bulgaria	Europe	Eastern Europe	1908	Republic
BHR	Bahrain	Asia	Middle East	1971	Monarchy (Emirate)

- A) Name
- B) IndepYear
- C) Continent
- D) Code
- E) Region
- F) GovernmentForm

40. Select the INCORRECT CSS syntaxes

- A) {body:color=black(body)}
- B) center text=align-center
- C) div {border: 1px solid black;}
- D) body {background-repeat: url("paper.png");}
- E) .center {text-align: center;}
- F) body:color=black

INFORMATICS TEST IS COMPLETED