



Class 11 IP CBQ

1. Five friends plan to try a startup. However, they have a limited budget and limited computer infrastructure. How can they avail the benefits of cloud services to launch their startup?

Ans: By using Infrastructure as a Service (IaaS) modal, they can avail the benefits of the cloud services to launch their startup. Using IaaS from the cloud, they can use the hardware and software infrastructure remotely to configure, deploy and execute any application. And they can outsource the hardware and software as on demand and pay as per the usage, thereby they can save the cost of whole infrastructure.

2. Governments provide various scholarships to students of different classes. Prepare a report on how block chain technology can be used to promote accountability, transparency and efficiency in distribution of scholarships

Ans: The blockchain technology works on the concept of decentralized and shared database where each computer has a copy of the database. Basis on this we can define a system for scholarship that allows a group of nodes to maintain a single updated and secure ledger. Each node maintains an 'append copy' open ledger which is updated only after all the nodes within the network authenticate the transaction.

All the members in the network keeps a copy of blockchain and so it is not possible for a single member of network to make changes or alter data.

Hence we can say sue to its decentralized nature and openness and security, blockchain are being as one of the ways to ensure transparency, accountability and efficiency in distribution of scholarship.

3. If Government plans to make a smart school by applying IoT concepts, how can each of the following be implemented in order to transform a school into IoT enabled smart school?

a) e-textbooks

Ans: we can develop e-library and upload all the books in digital from including audio and video. Student can access it using QR code.

b) Smart boards

Ans: smart boards which are touch sensitive device can be connected to computer system with internet and projector. This large screen can be controlled with digital pen and also finger touch.

c) Online tests

Ans: we can create web-based classrooms including various features like creating assignments, material, test and share with students.

d) Wifi sensors on classrooms doors –

Ans: we can use wifi sensors on classroom doors to open and close automatically using high bandwidth internet.

e) Sensors in buses to monitor their location

Ans: IoT based school bus tracking and monitoring system can be used to ensure the safety of student in transit. This device uses GPS and Google Earth.

f) Wearables (watches or smart belts) for attendance monitoring

Ans: by using IoT and Cloud technology based on RFID in wearables, real-time attendance can be produced which can be accessed by different parties such as teacher, administrator, parent etc.

4. Write examples of the following:

a) Government provided cloud computing platform

Ans: 'MeghRaj' (<https://cloud.gov.in>)

b) Large scale private cloud service providers and the services they provide

Ans:

Google - Google Cloud

Microsoft - Azure

Amazon - Amazon Web Services

5. Raju has written this code. Help him to guess output of the following statements?

a) `list1 = [12,32,65,26,80,10]`
`list1.sort()`
`print(list1)`

b) `list1 = [12,32,65,26,80,10]`
`sorted(list1)`
`print(list1)`

c) `list1 = [1,2,3,4,5,6,7,8,9,10]`
`list1[::-2]`
`list1[:3] + list1[3:]`

d) `list1 = [1,2,3,4,5]`
`list1[len(list1)-1]`

6. Aman wrote a program to find the largest and the second largest elements in a given list of elements. Find the missing lines and rewrite the program

```
L = [1, 23, 43, 21, 3, 76, 54, 43, 45]
L._____()
print("Largest Element is : ", _____)
print("Second Largest Element is : ", _____)
```

7. Re-write the following code fragment after removing any/all syntactical errors with each correction underlined.

```
a = 7
b = -3
if a=b :
    a=a+b;
    print(a)
else
    b=a-b;
    print(b)
```

8. Write the output for the following code:

```
a = 21
```

```
b=39
for v in range(1,5,2):
    print(a+v, b+v)
    print(a-v, b-v)
```

9. Find the output of the following code

```
a = -1 , b=-5
c = a * b - a % b / a
print(c)
```

10. Give the output of the following code:-

```
l1=[13,18,11,16,13,18,13]
print(l1.index(18))
print(l1.count(18))
l1.append(l1.count(13))
print(l1)
```

11. Write a program to find maximum and minimum values in a given list is List is [12,13,15,19,20]

Evaluate the expression given below if A= 16 and B = 15.

(i)A % B // A

(ii)2**(3**2)

12. What are the output of the following expressions:

```
list=["apple", "banana", "cherry", "orange", "kiwi", "melon", "mango"]
print(list[-4:-1])
```

13. WAP in python to create a list of natural numbers from 1 to 50 using for loop.

14. List1=[1,2,3, 'john']

What will be the output of the statement

(i)List1*2

(ii)List1[-3:3]

15. Find the output:

```
x=10, y =15
if (x >= y):
    z = x + y
else:
    z = x -y
z = z ** 2
print ("result =", z)
```

16. A=[1,2,3,4,5]

(i)Raju wants to delete all the contents in the list. Suggest him the proper code to do so.

(ii)Suggest him the code to add the value 6 between 3 and 4

17. What will be the output of the following code:

```
A = 3 - 4 + 10
B = 5 * 6
C = 7.0/2.0
D = "Hello" * 3
print ("Value are :", A, B, C, D)
```

18. $A=[1,2,3,1,5,6,2,3,1,7,8,10]$

(i) Write the code to find how many times the value 1 is repeated in the list.

(ii) Write the code to copy the elements of list A into list B

19. How many times following loop will execute?

```
for i in range(10,50,5):
```

```
    print(i)
```

20. Help a IT firm to create a menu driven program to calculate:

1. Area of circle [$A=\pi r^2$]

2. Area of square [$A=a*a$]

3. Area of rectangle [$A=l*b$]