

**Academic Year 2018-2019
Questions & Answers**

1. **Which IIT institute has developed 'soil-to-soil' technology to manufacture cheaper, quicker and pollution-free bio fuel?**
Ans.IIT Kharagpur
2. **Which state government has launched "Mahaswayam portal" for job seekers and employers?**
Ans.Maharashtra
3. **Which company's co-founder built the world's largest plane to launch rockets into space?**
Ans.Microsoft
4. **Who launched the online platform INAM PRO+ for infra raw material?**
Ans.Nitin Gadkari
5. **Which city launched the e - Taxi services in India recently?**
Ans.Hyderabad
6. **Which three mobile apps are launched by TRAI to help the customers?**
Ans. A. DND 2.0 B. My Speed C. My CALL
7. **Which bank has opened APIs for a hackathon, Code for Bank, to tap into the larger developer talent pool for new tech innovations?**
Ans.State Bank of India
8. **Which company has announced to launched the BaNCS app to help banks/**
Ans.TCS
9. **Which social media platform launched an Online Civil Courage Initiative (OCCI) in UK to counter online extremist material?**
Ans.Facebook
10. **Write the Full form of companies??**
 1. IBM
 2. WIPRO
 3. INTEL
 4. ICICI
 5. HDFC

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6. BMW
7. ESPN
8. MRF
9. AMUL

Ans.

1. International Business Machine high Tech Computer
2. Western India Palm Refined Oils
3. Integrated Electronics
4. Industrial Credit And Investment Corporation Of India
5. Housing Development Finance Corporation
6. Bavarian Motor Work
7. Entertainment And Sports Programming Networks
8. Madras Rubber Factory
9. Anand Milk Union Limited

11.A and B entered into a partnership investing Rs. 16000 and Rs. 12000 respectively. After 3 months, A withdrew Rs. 5000 while B invested Rs. 5000 more. After 3 more months C joins the business with a capital of Rs. 21000. The share of B exceeds that of C, out of a total profit of Rs. 26400 after one year by

- A.Rs. 2400
B.Rs. 3600
C.Rs. 3000
D.Rs. 4800

12.The average price of 10 books is Rs. 12 while the average price of 8 of these books is Rs. 11.75. Of the remaining two books, if the price of one book is 60% more than the price of the other, what is the price of each of these two books?

- A.Rs 10 and Rs 16**
B.Rs 12 and Rs 24
C.Rs 24 and Rs 18
D.Rs 28 and Rs 12
E.None of these

13.P and Q started a partnership business investing some amount in the ratio of 3:5. R joined them after six months with an amount equal to that of Q. In what proportion should the profit at the end of one year be distributed among P, Q and R?

- A.5 : 8 : 10
B.6 : 10 : 5
C.6 : 4 : 10
D.10 : 6 : 3

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14. Study the following information to answer the given questions:

In a certain code, 'school is far from here' is written as 'to ga di ba ni', 'here is the school bus' is written as 'ru to ni di zi', 'come from school' is written as 'ga ni mo', and 'is the bus late' is written as 'ru zi fa to'.

1. What will the code 'fa mo ba' stand for in the given code language?

- A) come far late
- B) bus far late
- C) come far school
- D) some late from
- E) None of these

2. What may the code 'ru mo di' stand for in the given code language?

- A) the bus here
- B) come from here
- C) come the late
- D) come the here
- E) late is come

3. What may be the code for 'come this far' in the given code language?

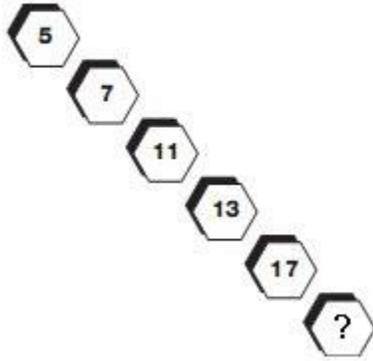
- A) ba mo ru
- B) mo ba zi
- C) jo mo di
- D) jo ba mo
- E) jo ba ni

15. A milk vendor purchased pure milk at Rs 40 per litre. He diluted the milk with water and sold at Rs 40 per litre and in this he gains 60% profit. In diluted milk what is the amount of pure milk taken?

- A) 375 ml
- B) 500 ml
- C) 625 ml
- D) 600 ml
- E) 525 ml

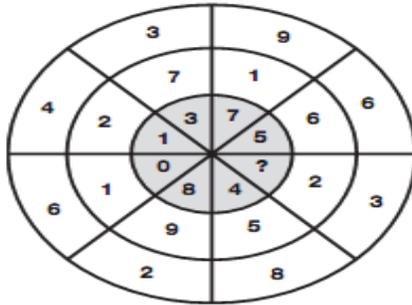
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16. Which number completes the puzzle?



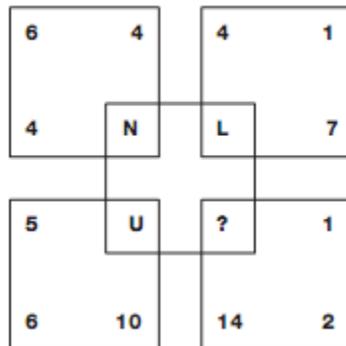
Ans.19

17. Which number replaces the question mark?



Ans.2

18. Which letter replaces the question mark?



Ans. Q

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19.6 men and 8 women can complete a work in 10 days and 8 men and 22 women can complete the same work in 5 days. What is the number of days in which 34 women will complete thrice the same work?

- A)5 days
- B)10 days
- C)15 days**
- D)20 days
- E)None of these

20.Find the odd man out?

- i) 3, 5, 11, **14**, 17, 21
- ii) 10, 25, 45, **54**, 60, 75, 80
- iii) 396, 462, 572, **427**, 671, 264
- iv) 6, 9, 15, 21, 24, **28**, 30
- v) 1, 4, 9, 16, **23**, 25, 36
- vi) 1, 4, 9, 16, **20**, 36, 49

21.How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

Ans.4 years

22.A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest

Ans.6%

23. What is the difference between this and super?

this(current class)	super(super class)
1.It is a keyword used to store current object reference.	1.It is a keyword used to store super class object in sub class.
2.Pre define instance variable used to hold current object reference.	2.Pre define instance variable used to hold super class object reference through sub class object.
3.Used to separate state of multiple objects of same class and also used to separate local variables and class level variables in a non-static method if both have same name.	3.Used to seperate super class and subclass members if both have same name.
4.It must be used explicitly if non-static variables and local variables or parameter name is same.	
	4.It must be used explicitly if super class and sub class members have same names.

24.COMPUTER ACRONYMS

1. ACL
2. DHCP
3. FOSS
4. HDMI
5. IEEE
6. JSON
7. MANET
8. PAAS
9. SNMP
10. RHEL

Ans.

1. Access Control List
2. Dynamic Host Configuration Protocol
3. Free Or Open Source Software
4. High Definition Multimedia Interface
5. Institute Of Electrical And Electronics Engineers
6. Javascript Object Notation
7. Mobile Ad Hoc Network
8. Platform As A Service
9. Simple Network Management Protocol
10. Red Hat Enterprise Linux

25.COMPUTER WORD SRAMBLE!!!!UNSCRAMBLE THE LETTERS

1. HIMCOPRENO
2. ICOAIPAPLTSN
3. CTRUIIC
4. RPCTGAYOYPHR
5. RTTIPERREEN
6. TLOPCORO
7. SRSSABIELMD
8. IRUTVIZINOALAT

Ans.

1. MICROPHONE
2. APPLICATIONS
3. CIRCUIT
4. CRYPTOGRAPHY
5. INTERPRETER
6. PROTOCOL
7. ASSEMBLER
8. VIRTUALIZATION

26.State the difference Between

Low –Level Language Vs Middle Level Language

Source Code Vs Object Code

Compiler Vs Interpreter

Formal Parameter Vs Actual Parameter

Ans.

Low level: Low-Level Of all of the categories, it's probably easiest to define what it means to be a low-level language. Machine code is low level because it runs directly on the processor. Low-level languages are appropriate for writing operating systems or firmware for micro-controllers. They can do just about anything with a little bit of work, but obviously you wouldn't want to write the next major web framework in one of them (I can see it now, "Assembly on Rails")

Characteristics ▪ Direct memory management ▪ Little-to-no abstraction from the hardware ▪ Register access ▪ Statements usually have an obvious correspondence with clock cycles ▪ Superb performance C is actually a very interesting language in this category (more so C++) because of how broad its range happens to be. C allows you direct access to registers and memory locations, but it also has a number of constructs which allow significant abstraction from the hardware itself. Really, C and C++ probably represent the most broad spectrum languages in existence, which makes them quite interesting from a theoretical standpoint. In practice, both C and C++ are too lowlevel to do anything "enterprisy".

Mid-Level This is where things start getting vague. Most high-level languages are well defined, as are lowlevel languages, but mid-level languages tend to be a bit difficult to box. I really define the category by the size of application I would be willing to write using a given language. I would have no problem writing and maintaining a large desktop application in a mid-level language (such as Java), whereas to do so in a low-level language (like Assembly) would lead to unending pain. This is really the level at which virtual machines start to become common-place. Java, Scala, C# etc all use a virtual machine to provide an execution environment. Thus, many mid-level languages don't compile directly down to the metal (at least, not right away) but represent a blurring between interpreted and compiled languages. Mid-level languages are almost always defined in terms of low-level languages (e.g. the Java compiler is bootstrapped from C).

Characteristics :High level abstractions such as objects (or functional) ▪ Static typing ▪ Extremely commonplace (mid-level languages are by far the most widely used) ▪ Virtual machines ▪ Garbage collection ▪ Easy to reason about program flow

2. Source Code: 1. Source Code is In the form of Text. 2. Source Code is Human Readable. 3. Source Code is Generated by Human. 4. Source Code is Input Given to Compiler. Object Code : Object Code is in the form of Binary Numbers. 1. Object Code is in Machine Readable. 2. Object Code is Generated by Compiler. 3. Object code is Output of Compiler.

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Interpreter	Compiler
Translates program one statement at a time.	Scans the entire program and translates it as a whole into machine code.
It takes less amount of time to analyze the source code but the overall execution time is slower.	It takes large amount of time to analyze the source code but the overall execution time is comparatively faster.
No intermediate object code is generated, hence are memory efficient.	Generates intermediate object code which further requires linking, hence requires more memory.
Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy.	It generates the error message only after scanning the whole program. Hence debugging is comparatively hard.
Programming language like Python, Ruby use interpreters.	Programming language like C, C++ use compilers.

27. What is MAC address?

Ans. A media access control address (MAC address) of a computer is a unique identifier assigned to network interfaces for communications at the data link layer of a network segment. MAC addresses are used as a network address for most IEEE 802 network technologies, including Ethernet and Wi-Fi. Logically, MAC addresses are used in the media access control protocol sublayer of the OSI reference model

28. What is Router?

Ans. Routers are small electronic devices that join multiple computer networks together via either wired or wireless connections.

29. What do you mean by bandwidth?

Ans. Bandwidth referred to the volume of information per unit of time that a transmission medium (like an internet connection) can handle. An internet connection with a larger bandwidth can move a set amount of data (say, a video file) much faster than an internet connection with a lower bandwidth. Bandwidth is typically expressed in *bits per second*, like 60 Mbps or 60 Mb/s, to explain a data transfer rate of 60 million bits (megabits) every second.

30. What is IP address?

Ans. a unique string of numbers separated by full stops that identifies each computer using the Internet Protocol to communicate over a network.

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31. What is meant by Middleware?

Ans. Middleware is a distributed software needed to support interaction between clients and servers. In short, it is the software that is in the middle of the Client/Server systems and it acts as a bridge between the clients and servers. It starts with the API set on the client side that is used to invoke a service and it covers the transmission of the request over the network and the resulting response. It neither includes the software that provides the actual service - that is in the servers domain nor the user interface or the application login - that's in clients domain.

32. A binary tree with 20 nodes hasnull branches?

Ans. It will have only 6 (ie,5+1) null branches. In general, A binary tree with n nodes has exactly n+1 null nodes.

33. What is the type of the algorithm used in solving the 8 Queens problem?

Ans. Backtracking

34. What are proxy objects?

Ans. Objects that stand for other objects are called proxy objects or surrogates

35. Sort the list using quick sort

65 70 75 80 85 60 55 50 45

Ans. Use quick sort Algorithm.

36. Why is a database considered to be "self-describing"?

Ans. In addition to the users' data, a database contains a description of its own structure. This descriptive data is called "metadata."

37. How are Observer and Observable used?

Ans. Objects that subclass the Observable class maintain a list of observers. When an Observable object is updated it invokes the update() method of each of its observers to notify the observers that it has changed state. The Observer interface is implemented by objects that observe Observable objects

38. Minimum number of queues needed to implement the priority queue/

Ans. Two. One queue is used for actual storing of data and another for storing priorities

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40. Predict the output or error(s) for the following:

```
A). void main()
{
int const * p=5;
printf("%d",++(*p));
}
```

Ans. Compiler error: Cannot modify a constant value. Explanation: p is a pointer to a "constant integer". But we tried to change the value of the "constant integer".

```
B). main()
{
char s[ ]="man";
int i;
for(i=0;s[ i ];i++)
printf("\n%c%c%c%c",s[ i ],*(s+i),*(i+s),i[s]);
}
```

Ans. mmmm aaaa nnnn

```
C). main()
{
static int var = 5;
printf("%d ",var--);
if(var)
main();
}
```

Ans. 5 4 3 2 1

Explanation: When static storage class is given, it is initialized once. The change in the value of a static variable is retained even between the function calls. Main is also treated like any other ordinary function, which can be called recursively

41. What is output?

```
#include main()
{
char s[]={ 'a','b','c','\n','c','\0'};
char *p,*str,*str1; p=&s[3];
str=p; str1=s;

printf("%d",++*p + ++*str1-32); }
```

Ans. It will raise error

42. What is guard condition?

Ans. Guard conditions affect the behavior of a state machine by enabling actions or transitions only when they evaluate to TRUE and disabling them when they evaluate to FALSE. In the UML notation, guard conditions are shown in square brackets (e.g., [key_count == 0] in Figure 2).

43. Predict output of following programs?

```
A).String x = new String("xyz");
String y = "abc";
x = x + y;
```

Ans. Line 1 creates two, one referred to by x and the lost String "xyz". Line 2 creates one (for a total of three). Line 3 creates one more (for a total of four), the concatenated String referred to by x with a value of "xyzabc".

```
B).public class WrapTest
{
    public static void main(String [] args)
    {
        int result = 0;
        short s = 42;
        Long x = new Long("42");
        Long y = new Long(42);
        Short z = new Short("42");
        Short x2 = new Short(s);
        Integer y2 = new Integer("42");
        Integer z2 = new Integer(42);
        if (x == y) /* Line 13 */
            result = 1;
        if (x.equals(y) ) /* Line 15 */
            result = result + 10;
        if (x.equals(z) ) /* Line 17 */
            result = result + 100;
        if (x.equals(x2) ) /* Line 19 */
            result = result + 1000;
        if (x.equals(z2) ) /* Line 21 */
            result = result + 10000;
        System.out.println("result = " + result);
    }
}
```

Ans. Line 13 fails because == compares reference values, not object values. Line 15 succeeds because both String and primitive wrapper constructors resolve to the same value (except

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for the Character wrapper). Lines 17, 19, and 21 fail because the equals() method fails if the object classes being compared are different and not in the same tree hierarchy

```
C). public class BoolTest
{
    public static void main(String [] args)
    {
        int result = 0;
        Boolean b1 = new Boolean("TRUE");
        Boolean b2 = new Boolean("true");
        Boolean b3 = new Boolean("tRuE");
        Boolean b4 = new Boolean("false");
        if (b1 == b2) /* Line 10 */
            result = 1;
        if (b1.equals(b2) ) /* Line 12 */
            result = result + 10;
        if (b2 == b4) /* Line 14 */
            result = result + 100;
        if (b2.equals(b4) ) /* Line 16 */
            result = result + 1000;
        if (b2.equals(b3) ) /* Line 18 */
            result = result + 10000;
        System.out.println("result = " + result);
    }
}
```

Ans. Line 10 fails because b1 and b2 are two different objects. Lines 12 and 18 succeed because the Boolean String constructors are case insensitive. Lines 14 and 16 fail because true is not equal to false.

44. Which word in the English language is most often pronounced incorrectly?

Ans. incorrectly!

45. What occurs twice in a lifetime, but once in every year. Twice in a week but never in a day?

Ans. The letter E.

46. Mr and Mrs Haines have three daughters and each daughter has two brothers. How many children do Mr and Mrs Haines have?

Ans. 5; three daughters and two sons