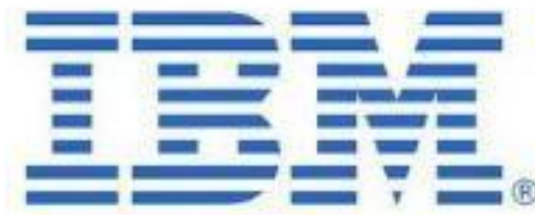


## IBM Company Profile



### Corporate View: International Business

Machines (IBM) is an American multinational computer, technology and IT consulting corporation headquartered in Armonk, New York, United States. IBM is the world's third largest technology company and the second most valuable global brand (after Coca-Cola). IBM is one of the few technology companies with a continuous history dating back to the 19th century. **IBM** manufactures and sells computer hardware and software (with a focus on the latter), and offers infrastructure services, hosting services, and consulting services in areas ranging from mainframe computers to nanotechnology.

**IBM** has been well known through most of its recent history as the world's largest computer company and systems integrator. With almost 400,000 employees worldwide, IBM is second largest (by market capitalization) and the second most profitable information technology and services employer in the world according to the Forbes 2000 list with sales of greater than 100 billion US dollars. IBM holds more patents than any other U.S. based technology company and has eight research laboratories worldwide. The company has scientists, engineers, consultants, and sales professionals in over 200 countries. IBM employees have earned five Nobel Prizes, four Turing Awards, nine National Medals of Technology, and five National Medals of Science. As a chip maker, IBM has been among the Worldwide Top 20 Semiconductor Sales Leaders in past years.

**Founded:** Endicott, New York, U.S.  
June 16, 1911

**Headquarters:** Armonk, New York, U.S.

**India locations:**

Mumbai, Hyderabad, Ahmadabad, Bangalore, New Delhi, Chennai.

Registered Office  
IBM India Private Limited  
No.12,  
Subramanian Arcade,  
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Bangalore - 29.

## **Written Test**

The written test consists of two sections each of 45 minutes duration

### **Section1**

This is the apitude section consisting of 45 questions to be attempted in 45 minutes. As is in all the exams, this section is based on the MBA pattern of examination.

### **Section2**

This is the technical section. There is a separate paper for hardware and software. Candidates have to mention beforehand whether they want to write the software or the hardware paper. This section also carries 45 questions to be completed in 45 minutes.

### **Interview**

There are two rounds of interviews, viz., the technical and the HR round

### **Technical and Personal Round for Software Candidates**

Mainly subjective questions in C, Operating Systems, DBMS, Data Structures are asked interspersed with some on the candidate's personal background.

### **Typical questions in C and Data Structures**

- 1.WAP to interchange 2 variables without using the third one
- 2.Explain quick sort and merge sort algorithms and derive the time-constraint relation for these.

3. Explain binary searching, search
4. General questions on binary trees, transversals
5. General questions on graphs and their representation.

**Typical Questions on Operating Systems**

1. Demand paging, page faults, replacement algos, thrashing, etc
2. Paged segmentation and segment paging

**IBM PLACEMENT PAPER ( C/C++ and APTITUDE TEST) 3 September 2010**

1. In 1978, a kg of paper was sold at Rs25/-. If the paper rate increases at 1.5% more than the inflation rate which is 6.5% a year, then what will be the cost of a kg of paper after 2 years?

- (a) 29.12
- (b) 29.72
- (c) 30.12
- (d) 32.65
- (e) none of these

2. In A,B,C are having some marbles with each of them. A has given B and C the same number of marbles each of them already have. Then, B gave C and A the same number of marbles they already have. Then C gave A and B the same number of marbles they already have. At the end A,B,and C have equal number of marbles.

(i) If  $x,y,z$  are the marbles initially with A,B,C respectively. Then the number of marbles B have at the end

- (a)  $2(x-y-z)$
- (b)  $4(x-y-z)$
- (c)  $2(3y-x-z)$
- (d)  $x + y-z$

Ans. (c)

(ii) If the total number of marbles are 72, then the number of marbles with A at the starting

- (a) 20
- (b) 30
- (c) 32
- (d) 39

Ans. (d)

**3. If a car starts from A towards B with some velocity. Due to some problem in the engine after traveling 30km, the car goes with  $\frac{4}{5}$  th of its actual velocity The car reaches B 45 min later to the actual time. If the car engine fails after traveling 45km, the car reaches the destination B 36min late to the actual time What is the initial velocity of car and what is the distance between A and B in km**

**Ans. 20 & 130.**

**4. A person has Rs 100/- in his pocket, he can as 25 pencils or 15 books. He kept 15% of the money for traveling expenses and purchase d 5 pencils. So how many books he can purchase with the remaining money.**

**5. Ten questions on analogies.**

eg: chief : tribe :: governor : state  
epaulette : shoulder :: tiara : head  
guttural : throat :: gastric : stomach  
inept : clever :: languid : active  
knife : butcher ::  
hammer : carpenter ::

**6. The values of share s (in Rs).of A, B and C from January to June are as follows.**

Month A B C  
January 30 60 80  
February 35 65 85  
March 45 75 65  
April 40 75 82  
May 55 75 85  
June 50 75 80

- i)** During this period which share has undergone maximum fluctuation?
- ii)** In which month it is possible to buy B and C selling A?
- iii)** In which month the share values are very low?
- iv)** By purchasing one share of A and 4 each of B and C in the beginning of the period,  
when should these be sold to get maximum profit?

**7. In a computer institute 9 languages can be taught. The module is of 6 months duration and of the six languages only one can be taught each month . In addition to that BASIC is always taught and should be in first month itself**

WORD PERFECT is to be taught in the preceeding week of WORD STAR. FORTRAN can not be taught until COBAL is taught prior to that BINO, FIFO can never be taught in single module languages are BASIC, WORD STAR, WORD PERFECT, FORTRAN, COBAL, BINO, FIFO, LOTUS, C

- i) If word star is in 3rd month , what could be in 6th month.  
ii) If COBAL is in the 2nd month and BINO in 6th month. FORTRAN will be taught in which month.

**8. In a class, except 18 all are above 50 years. 15 are below 50 years of age. How many people are there**

- (a) 30  
(b) 33  
(c) 36  
(d) none of these.

**Ans. (d)**

**9. A square plate of some size is cut at four corners. Equal squares of the same size are cut and is formed as open box. If this open box carries 128 ml of oil. What is the size of the side of the plate?**

- (a) 17  
(b) 14  
(c) 13  
(d) None of these

**10. In a square, all the mid points are joined. The inner square is shaded. If the area of the square is A, what is the area of the shaded area?**

**11. Two questions on basic angles i.e given a circle, a few chords or diameter is drawn etc.**

**12. If the following statements are given**

$$@(a,b) = (a+b)/2$$

$$/(a,b) = a/b$$

$$*(a,b) = ab$$

If  $a=1$ ,  $b=2$  then find

i)  $/(a,(@(a,b),*(a,b)))$

ii)  $*/(a,@(*(a,b)))$

**13. If the following statements are given**

$$(x\#y) = x + y - xy$$

$$(x*y) = (x + y)/2$$

i) Find the values of  $x$ ,  $y$  will satisfy this equation  $(x\#y)\#(x*y) < (x\#y)$

ii) Find the values of  $x$ ,  $y$  will satisfy this equation  $(a*b)\#(b*c) < (a\#b)*(b*c)$

**14. Export PS1 results in(PS1 pwd)**

- a) primary prompt being your current directory
- b) primary prompt and secondary prompts being the current directory
- c) primary prompt being your home directory
- d) primary prompt and secondary prompts being the home directory
- e) None of the above.

**15. If you type in the command**

`nohup sort employees > list 2 > error out & and log off`, the next time you log in, the output will be

- a) in a file called list and the error will be typed in a file error out
- b) there will be no file called list or error out
- c) error will be logged in a file called list and o/p will be in error out
- d) you will not be allowed to log in
- e) none of the above

**16. In UNIX a files i-node .....**

**Ans.** Is a data structure that defines all specifications of a file like the file size, number of lines to a file, permissions etc.



**17. The UNIX shell ....**

- a) does not come with the rest of the system
- b) forms the interface between the user and the kernel
- c) does not give any scope for programming
- d) does not allow calling one program from within another
- e) all of the above

**Ans. (b)**

**18. enum number { a= -1, b= 4,c,d,e} What is the value of e ?**

- (a) 7
- (b) 4
- (c) 5
- (d) 15
- (e) 3

**19. The very first process created by the kernel that runs till the kernel process is halts is**

- a) init
- b) getty
- c) both (a) and (b)
- d) none of these

**Ans. (a)**

**20. Output of the following program is**

```
main()
{int i=0;
for(i=0;i<20;i++)
{switch(i)
case 0:i+=5;
case 1:i+=2;
case 5:i+=5;
default i+=4;
break;}
printf("%d",i);
}
```

}

- a) 0,5,9,13,17
- b) 5,9,13,17
- c) 12,17,22
- d) 16,21
- e) Syntax error

**Ans. (d)**

**21. What is the output in the following program**

```
main()
{char c=-64;
int i=-32
unsigned int u =-16;
if(c>i)
{printf("pass1,");
if(c
printf("pass2");
else
printf("Fail2");
}
else
printf("Fail1);
if(i
printf("pass2");
else
printf("Fail2")
}
```

- a) Pass1,Pass2
- b) Pass1,Fail2
- c) Fail1,Pass2
- d) Fail1,Fail2
- e) None of these

**Ans. (c)**

**22. In the process table entry for the kernel process, the process id value is**

- (a) 0
- (b) 1
- (c) 2
- (d) 255
- (e) it does not have a process table entry

**Ans. (a)**

**23. Which of the following API is used to hide a window**

- a) ShowWindow
- b) EnableWindow
- c) MoveWindow
- d) SetWindowPlacement
- e) None of the above

**Ans. (a)**

**24. What will the following program do?**

```
void main()
{
int i;
char a[]="String";
char *p="New Sring";
char *Temp;
Temp=a;
a=malloc(strlen(p) + 1);
strcpy(a,p); //Line number:9//
p = malloc(strlen(Temp) + 1);
strcpy(p,Temp);
printf("(%s, %s)",a,p);
free(p);
free(a);
} //Line number 15//
```

- a) Swap contents of p & a and print:(New string, string)
- b) Generate compilation error in line number 8
- c) Generate compilation error in line number 5

- d) Generate compilation error in line number 7
- e) Generate compilation error in line number 1

**Ans. (b)**

**25. In the following code segment what will be the result of the function,**

```
value of x , value of y
{unsigned int x=-1;
int y;
y = ~0;
if(x == y)
printf("same");
else
printf("not same");
}
```

- a) same, MAXINT, -1
- b) not same, MAXINT, -MAXINT
- c) same , MAXUNIT, -1
- d) same, MAXUNIT, MAXUNIT
- e) not same, MAXINT, MAXUNIT

**Ans. (a)**

**26.** PATH = /bin : /usr : /yourhome

The file /bin/calender has the following line in it

```
cal 10 1997
```

The file /yourhome/calender has the following line in it

```
cal 5 1997
```

If the current directory is /yourhome and calender is executed

- a)** The calendar for May 1997 will be printed on screen
- b)** The calendar for Oct 1997 will be printed on screen
- c)** The calendar for the current month( whatever it is) will be printed
- d)** Nothing will get printed on screen
- e)** An error message will be printed

**27. What will be the result of the following program ?**

```
char *gxxx()  
{static char xxx[1024];  
return xxx;  
}  
  
main()  
{char *g="string";  
strcpy(gxxx(),g);  
g = gxxx();  
strcpy(g,"oldstring");  
printf("The string is : %s",gxxx());  
}
```

- a) The string is : string
- b) The string is :Oldstring
- c) Run time error/Core dump
- d) Syntax error during compilation
- e) None of these

**Ans. (b)**

**28. What will be result of the following program?**

```
void myalloc(char *x, int n)  
{x= (char *)malloc(n*sizeof(char));  
memset(x,\0,n*sizeof(char));  
}  
  
main()  
{char *g="String";  
myalloc(g,20);  
strcpy(g,"Oldstring");  
printf("The string is %s",g);  
}
```

- a) The string is : String
- b) Run time error/Core dump
- c) The string is : Oldstring
- d) Syntax error during compilation
- e) None of these

**29. Which of the following function is used to repaint a window immediately**

- a) SendMessage(hWnd,WM\_PAINT,.....)
- b) InvalidateRect(.....)
- c) MoveWindow
- d) WM\_COPY
- e) None

**30. Which function is the entry point for a DLL in MS Windows 3.1**

- a) Main
- b) Winmain
- c) Dllmain
- d) Libmain
- e) None

**Ans. (b)**

**31. The standard source for standard input, standard output and standard error is**

- a) the terminal
- b) /dev/null
- c) /usr/you/input, /usr/you/output/, /usr/you/error respectively
- d) None

**Ans. (a)**

**32. What will be the result of the following program?**

```
main()
{char p[]="String";
int x=0;
if(p=="String")
{printf("Pass 1");
if(p[sizeof(p)-2]=='g')
printf("Pass 2");
else
printf("Fail 2");
}
else
```

```
{  
printf("Fail 1");  
if(p[sizeof(p)-2]=='g')  
printf("Pass 2");  
else  
printf("Fail 2");  
}  
}
```

- a) Pass 1, Pass 2
- b) Fail 1, Fail 2
- c) Pass 1, Fail 2
- d) Fail 1, Pass 2
- e) syntax error during compilation

**33. Which of the choices is true for the mentioned declaration ?**

```
const char *p;  
and  
char * const p;
```

- a) You can't change the character in both
- b) First : You can't change the character & Second : You can;t change the pointer
- c) You can't change the pointer in both
- d) First : You can't change the pointer & Second : You can't change the character
- e) None

**34. The redirection operators > and >>**

- a) do the same function
- b) differ : > overwrites, while >> appends
- c) differ : > is used for input while >> is used for output
- d) differ : > write to any file while >> write only to standard output
- e) None of these

**Ans. (b)**

**35. The command `grep first second third /usr/you/myfile`**

- a)** prints lines containing the words first, second or third from the file /usr/you/myfile
- b)** searches for lines containing the pattern first in the files second, third, and /usr/you/myfile and prints them
- c)** searches the files /usr/you/myfile and third for lines containing the words first or second and prints them
- d)** replaces the word first with the word second in the files third and /usr/you/myfile
- e)** None of the above

**Ans. (b)**

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