*Interviews → Preliminary → Afterwards:*

➢ What happens before interview
➢ Your role
➢ Your responsibility

*1. Prepare for an Interview:*

  a. Quick look at the check list
  b. Understand exactly what the job you are applied
  c. Brush up your technical skills
  d. Quickly revive the technical and non-technical questions that have to be answer.
  e. Take one last look (mentally) – all the accomplishments made by you in the their respective order.
  f. Ensure that you have right kind of cloths
  g. Take testimonials (credentials) and copies
  h. Carry a bag or folder (which is comfortable)
  i. Don't take too much stuff
  j. Get to know more about the organization, its main function. The name of the person who heads it.
  k. The name and designation of the person who interviews you
  l. Understand the address of the place you have to go (make an estimation of time [15min;earlier] taken to reach)
  m. Make yourself presentable

*2. Courtesy – During interviews:*

  a. Be courteous – use *sir* or *madam* as applicable to address the interviewer.
  b. Don't sit down till you are asked to
  c. Thank and sitting don't make too much noise while pulling the chair
  d. After you sit down maintain correct posture - up right and formal- you should not slump or appear casual.
  e. Don't sit on the edge (nervousness) – don't sit back in a relaxed mood (over confidence)
  f. Don't smoke (men) even if you are offered one
  g. Maintain eye contact always with your employer (interviewer)
  h. Nod – gently when he is explaining something and listen carefully.
  i. Start answering your questions when the interviewer completes the questioning.

j.  Answer all your questions carefully and thoughtfully  - your answers should be direct and honest.
k.  Give answers that are specific to the point. Make sure your answer *exactly* related to the question.
l.  Avoid using jargon or slang
m.  Never use language offensive and never say any negative thing about any one.
n.  Answer your questions relevantly – avoid get in into discussions that would lead to conflict of ideas.
o.  Don't eat or chew pan or chewing gum
p.  If you happen to sneeze or cough make it a point to excuse your self.
q.  If you have not understood any thing you may request the interviewer to repeat the same thing again.
r.  Your tone should be formal all the time.
s.  Talk softly and politely – your voice must be heard by all (without being loud)
t.  If you offered tea or coffee thanks and accept it (but don't make a demand)
u.  Don't talk about salaries and holidays your self.
v.  Don't fidget with any thing.

### 3. *Appropriate conduct at work place:*

*Manners:*  Recall all good manners learnt at school. Use phrases like excuse me, sorry, thank you, may I please etc.,

*Dress:*  Have formal dress culture [try to avoid casual, jeans and T-shirts]

*Team Interaction:* Speak to every body with a smile. Introduce yourself by your name and not your designation. Be polite with every one. Never criticize the other team member. Never claim a close relationship to a senior [even if there is one]. Don't try to boast of all the skills as the same day. When required by others always help out without any conditions. Be prepared to do some tasks like typing letters etc., which may not be related to your job descriptions.
        Don't attempt to get to know what salary the other person is earning or any other information related to grader. Don't try to seek possession of a work station or a table  or a machine. Wait for some time to be allocated to you.

*Interaction with seniors:* To motivate you, your senior may take you in arms. Try to cooperate with them. Don't try to interpret this relationship in an incorrect way. A senior is still a senior. A friendly attitude by your senior should not be treated as casually (as for as work also is concerned). Seniors may treat that the

team members as friends but take care not to do the same to the seniors. Avoid backslapping.

*Overall Conduct:* There must be a balance of relationship in an official way. Quite difference from school and college days.

*Moodiness:* Control your sentiments, emotion moods. Leave your moodiness at home only. Don't allow others to have an impression on you that moody.

*Asking questions:*
Can you please explain?
May I interrupt?
Please excuse me but I cannot understand?
Can I keep this for my information?
When are you likely to be free to solve my queries?
Do you have a list I can borrow?
Is it ok for me to call you at? I may require more information about

**How To Face Campus Interviews ?**

**7 Commandments for Success in Campus Interviews :**

Campus Interview is what one looks forward to with enthusiasm, fear and excitement towards the beginning of the final year.

For some it's a make or break, at least that's the way it's looked at and for some it's a matter of pride. The constant thought in one's mind is - what shall make this click! What is it that the interviewer is looking in me!

Here's what we look for when we visit the various campuses. This by no means is an exhaustive list but is a good indication of the expectations and the mean s to meet these. We present you the 7-Commandments.

**1. Know Thyself!**

Not everyone is good in each and every field. Each one of us has our fortes and weaknesses too. But that's not a stumbling block! What we look for are people who know their area of specialization and are an expert in it. Therefore, it pays to be a master in some fields if not the jack of all.

The most common mistakes many make is to profess knowing a field of which they know little about. Remember that huge and bulky resumes are as tough to

read as they are to make. So, identify your skill set, and keep your resumes simple and straight. Know your limits and polish on your strengths.

**2. Testing What You Know and NOT What You Don't.**

Many interviewers may ask the student the subjects that she/he wishes to be interviewed upon. Eureka !! Here's a golden opportunity. Answer this wisely! Never end up choosing a difficult subject that you know only little about, rather choose the one you are most confident of.

**3. Rack Your Brain - Analyze**

The interview is not just limited to testing your knowledge base, but we are also interested in knowing your ability to apply it. Often questions that need to be solved then and there are asked. Now keep in mind - the right answer is not the only thing being looked at. The focus area is also the way in which you attack the problem i.e. approach to problem solving is equally important.

So, remember to put your thinking caps on!

**4. Ask for Help!**

Murphy chooses to strike at the appropriate time! Inspite of the fact that you may know something very well, it might just slip your mind. After all, heavy preparation does takes its toll. Who better to ask for help than the poser of the question (of course, don't try this too often!)!

Remember the interviewer is not there to grill the confidence out of you, but to bring forth the best in. Just in case you are stuck, ask for a hint. Things might just click. Also, stay alert for clues.

**5. What are your biggest accomplishments**

You may like to begin your reply with: "Although I feel my biggest achievements are still ahead of me, I am proud of my involvement with……I made my contribution as part of that team and learnt a lot in the process".

It will be a good idea to close your answer with also specifying what attributes and circumstances made you succeed.

**6. Be Calm, have Clear Verbal and Sound Non-Verbal Communication**

Calmness shows emotional maturity. True, being calm in a job interview is a difficult proposition, but then that is where it is required! Calmness does not

imply being unenthusiastic or apathetic during the interview, but knowing that you are nervous and not letting it come in the way. A clear verbal communication implies clarity of the thought process.

One should also watch out for the impressions made in non-verbal communication. Body language and facial expressions can assist you in establishing a good rapport with the interviewer. Pauses, silences and gestures may all indicate what you mean, understand, or would like to emphasize.

## 7. Two-Way Exchange Process

The interview process is a two-way exchange of information. Make sure you also understand about the company, its activities, job requirements. The company is in need for good candidates and you need a good company to launch your career.

Interview is an opportunity to present yourself and your skills to your best advantage. Make sure you make the most out of it. And YOU are the best one to do it!!

### Interview Etiquette

Go for a mock exercise before the real talk at the job table .........................

**Hone your interview etiquette................ Churn the right mix of deportment, attitude and dressing skills for a great job talk !**

Never make the big mistake of treating an interview lightly. It's not an impromptu thing where you depend on your improvisation skills. An interview requires careful thought and planning before you take it. Keeping in mind some basic attitudes and presentation techniques will help you sail through it with panache.

So if you thought that going for an interview just meant pulling your best suit out of the wardrobe and updating your resume, please think again. You are forgetting the other essentials: body language, basic etiquette and attitude.

Remember that you are actually selling an entire package and the packaging, in this case, is as relevant as the product inside. Ultimately you are presenting yourself as a valuable professional to a new job environment. And you can't do that without minding the basic interview etiquette to get you ahead of the rest of the pack.

An interview is the sum total of many parts. It's not just what you say but how you say it that matters equally. So it's good to brush up on more than just your training skills when you do go in for an interview.

ATTIRE

How you dress for an interview is perhaps as relevant as the way you lay out your resume. Says Nina Kochar of Upgrade Management Services, an

organisation which coaches' executives in the basic rules of corporate etiquette: "A person who is sloppy in appearance shows a sloppy personality, so you have to be decently dressed." Of course, decently dressed does not necessarily mean being dressed to the gills. In most cases, this would mean you would wear long sleeved shirts and a pair of formal trousers. In fact, Nina Kochar does not recommend suits, especially for younger people. "A lot of young people do not have the money to invest in suits, consequently, they wear ill-fitting or borrowed suits and that looks even worse. A tie, shirt and pant should do the trick for most junior level positions."

Most HR experts would also tell you to mind the accessories like ties, belts and shoes. To be sure, badly matched shoes and ties can have a jarring effect on an interviewer. Similarly, please avoid heavy jewellery or personal accessories as they would look incongruous on you.

## ENTRANCE AND INTRODUCTION

Even though most of us are primed for the basic grilling that we would face during the interview, we seldom pay attention to the way we enter an interview room or how we introduce ourselves. Says Subhashish Mitra, deputy manager, Essar Cellphones: "A lot of people do not think it important to knock properly while entering the interview room. They assume that as an interview is taking place, the panel will be expecting them. To my mind this is a very major *faux pas* which really jars."

In fact, the best way to enter an interview is to knock, ask for permission to enter and then wait for a while before you actually sit down. Few interviewees know this but the interview panel needs a little quiet time to discuss the previous candidate before they get around to the next one. So your silence till you actually get seated would be very valuable. Try and keep a bag with you for all your papers and certificates; make sure this bag is an unobtrusive as possible.

## ATTITUDE AND RESPONSE

This is a grey area for most interview candidates. While dressing up and resume writing are skills you can handle with a little practice, cultivating the right attitude as an interviewee requires a lot of patience and reading between the lines. The usual complaint of most interviewers is that few interviewees are able to stri perhaps the best thing you can do for getting your answer right. Most interviewers like to give a lead to the candidate in the way they ask the question, so it's entirely up to you to note facial expressions and the tone of the words. Do you show your certificates immediately to the interview panel? Not till you are asked actually. You might already have sent in your resume, so you shouldn't try and offload all your achievements and skills onto the panel till a turn in the interview leads to such a situation. Try and take cues form the tonal variations, facial expressions and thrust of questions from the interview panel. That in itself will give you a clue as to where this interview is heading.

TEN THINGS THAT AN INTERVIEWER LOOKS IN YOU!
1. Family Background
2. Education
3. Experience
4. Stability
5. Initiative
6. General Ability
7. Interpersonal Skills
8. Confidence
9. Aptitude
10. Pleasant Looks

How one wished that an interview were a simple meeting of minds and hearts. Just one casual meeting where an employee's future gets sealed. Unfortunately, it's not something as pre-ordained as you would like it to be; it's a pre-meditated exercise which fetches you dividends only if your homework is done right.

**General Interview Tips..**

Campus So what if you are not a mountaineer. Or a keen hiker. You still cannot treat your interview like a careless morning trot along a jogger's path. Your jaw-jaw at the interview table is nothing less than a cautious climb up a mountain trail--which begins around your early childhood and meanders through the years at the academia before reaching a new summit in your career.
And as you retrace your steps down memory lane make sure that you post flags at important landmarks of your life and career, so that you can pop them before the interview panel scoops them out of you. You don't want to be at the receiving end, do you?
Face the panel, but don't fall of the chair in a headlong rush-and-skid attempt to tell your story. Take one step at a time. If you place your foot on slippery ground, you could be ejecting out on a free fall.
So prepare, fortify your thoughts, re-jig your memory, and script and design your story (without frills and falsity). Without the right preparation and storyboard, you could be a loser at the interview. Here are a few preparation tips that books on interviews sometimes overlook.

**Before the interview**
1. **Chronological Outline of Career and Education Divide your life into "segments" defining your university, first job, second job. For each stage, jot down :**

The reason for opting certain course or profession; Your job responsibilities in your previous/current job; Reason of leaving your earlier/current job. You should be clear in your mind where you want to be in the short and long term and ask yourself the reason why you would be appropriate for the job you are being interviewed for and how it will give shape to your future course.

## 2. Strengths and Weaknesses

You should keep a regular check on your strengths and weaknesses. Write down three (3) technical and three (3) non-technical personal strengths. Most importantly, show examples of your skills. This proves more effective than simply talking about them. So if you're asked about a general skill, provide a specific example to help you fulfil the interviewer's expectations. It isn't enough to say you've got "excellent leadership skills". Instead, try saying:

"I think I have excellent leaderships skills which I have acquired through a combination of effective communication, delegation and personal interaction. This has helped my team achieve its goals."

As compared to strengths, the area of weaknesses is difficult to handle. Put across your weakness in such a way that it at leaset seems to be a positive virtue to the interviewer. Describe a weakness or area for development that you have worked on and have now overcome.

## 3. Questions you should be prepared for

Tell us about yourself.
What do you know about our company?
Why do you want to join our company?
What are your strengths and weaknesses?
Where do you see yourself in the next five years?
How have you improved the nature of your job in the past years of your working? Why should we hire you?
What contributions to profits have you made in your present or former company? Why are you looking for a change?

Answers to some difficult questions :
Tell me about yourself ?
Start from your education and give a brief coverage of previous experiences. Emphasise more on your recent experience explaining your job profile.
What do you think of your boss?
Put across a positive image, but don't exaggerate.
Why should we hire you? Or why are you interested in this job?
Sum up your work experiences with your abilities and emphasise your strongest qualities and achievements. Let your interviewer know that you will prove to be an asset to the company.

How much money do you want?
Indicate your present salary and emphasise that the opportunity is the most important consideration.
 Do you prefer to work in a group?
Be honest and give examples how you've worked by yourself and also with others. Prove your flexibility.

4. **Questions to Ask**
 At the end of the interview, most interviewers generally ask if you have any questions. Therefore, you should be prepared beforehand with 2-3 technical and 2-3 non-technical questions and commit them to your memory before the interview.
Do not ask queries related to your salary, vacation, bonuses, or other benefits. This information should be discussed at the time of getting your joining letter. Here we are giving few sample questions that you can ask at the time of your interview.
Sample Questions
1 Could you tell me the growth plans and goals for the company?
2 What skills are important to be successful in this position?
3 Why did you join this company? (optional)
4 What's the criteria your company uses for performance appraisal?
5 With whom will I be interacting most frequently and what are their responsibilities and the nature of our interaction?
6 What is the time frame for making a decision at this position?
7 What made the previous persons in this position successful/unsuccessful?

 5. **Do your homework**
 Before going for an interview, find out as much information on the company (go to Jobs Ahead Company Q and A) as possible. The best sources are the public library, the Internet (you can check out the company's site), and can even call the company and get the required information. The information gives you a one-up in the interview besides proving your content company or position.
 Clearing the interview isn't necessarily a solitary attempt. Seek assistance from individuals who are in the profession and whose counsel you value most. Be confident in your approach and attitude; let the panel feel it through your demeanor, body language and dressing.
Getting prepared for your interview is the best way to dig deep and know yourself. You will be surprised that it would breed a new familiarity become more familiar with your own qualifications that will be make you present yourself better. All the best and get ready to give a treat.

**When you are facing a panel of interviewers, make your best moves**

Whether you are searching for jobs, looking for career avenues or climbing the corporate ladder, you can't escape team interviews these days. The problem is that such interviews don't have a pattern to them. They come in different forms. You could be facing your prospective team members. Or you could be up against the top brass—HR vice-president, the section head, the operations chief. Or you could also be sent to a recruitment assessment centre for multi-parametric evaluation (psychological tests for pressure-handling abilities, team-player skills and so on).

Try these ten tips for surviving, and scoring, in a team interview.

### GIVE VARIETY TO YOUR ANSWERS

Remember you might be interviewed by different panels. Don't give a stock answer to all of them. They'll be comparing notes.

Repackage your skills so that they sound different. If you're showcasing project X as your major achievement in your present job before one team, talk about project B before another interview panel.

A technical team will tune in to techie talk; an HR team would rather hear about your interpersonal skills.

### FINE-TUNE INTERPERSONAL SKILLS

Pull out the stops on your group management and group presentation skills. Interviewers are people after all. Look for the personality type underscoring each interviewer.

Then try and connect with each one of them without getting personal. Usually the best way to make contact is to project values that you feel you can share with your interviewers.

### DON'T QUAKE IN YOUR BOOTS

Interviewers are not ogres. They are looking for excuses to hire you, not spill your guts.

Don't be obsequious. That conveys low self-esteem.

If you face your interviewers with fear in your eyes, they won't like what they see. They are NOT sadists.

### PREPARE FOR STRESS

You'll be up against a time crunch in a team interview.

In one-on-ones, the interviewer might be taking notes, allowing you little breathers. No such luck with four people firing questions at you. Use stress control techniques to soothe your nerves. You might even use the extra adrenaline to sharpen your responses.

### SHOWCASE THE IMPORTANT THINGS

List seven important things that fit the job description of the advertised post. Prepare to present skills that fit such traits.

It helps to talk to friends familiar with the job description. You can even ask them to prepare tests that you can take from them.

# Go for a Mock Exercise

Go for a mock exercise before the real talk at the job table .........................
## ICE BREAKER
(1) Tell us about yourself .

Briefly run through your qualifications and your career in a logical progression.

(2) Tell us about your family background.

The answer again should as brief as your earlier reply. Emphasise personal facts if they help build your profile.

(3) What do you know about our company?

Do not give your opinions about the company. Stick to reported facts that you have gathered from newspapers and so on. Talk about the product portfolio, size, income, and market perceptions of the company.

(4) Your qualifications are excellent, but you may be overqualified for the position we have to offer.

Point out that more experience can never be a drawback. If you are multi-skilled, then highlight the fact that a company on the fast-track needs multi-skilled people. It needs people within different departments to work together. Also emphasise that the company's future growth will be an exponential function of your experience.

(5) Why should we choose you over someone else?

Talk clearly about problems that you have solved in your current workplace and highlight the quality required. For instance, say how by putting systems or buffers in place, you were able to deal with infrastructural problems and reduce inventory pile-up by 40 per cent

**How To Face Technical Interviews ?**

        Facing the technical interview of a company is an uphill task. It all depends on the mood of the interviewer and to an extent on your appearance. If he is in a bad mood, the interview can be really tough. Otherwise you might have a slight consideration. Be prepared for any questions from every section of your skill set. If the interviewer goes to a part of your skill, which you are not comfortable with, try to divert his attention to some other part in which you are an expert. Try to explain things in a simple way and be precise in your answers. If you don't know an answer admit it. **DO NOT** try to make up and answer. That might lessen your chances of getting through.

Here are some of the FAQ's that can be asked in the technical interview

## C- QUESTIONS

1. What does static variable mean?
2. What is a pointer?
3. What is a structure?
4. What are the differences between structures and arrays?
5. In header files whether functions are declared or defined?
6. What are the differences between malloc() and calloc()?
7. What are macros? what are its advantages and disadvantages?
8. Difference between pass by reference and pass by value?
9. What is static identifier?
10. Where are the auto variables stored?
11. Where does global, static, local, register variables, free memory and C Program instructions get stored?
12. Difference between arrays and linked list?
13. What are enumerations?
14. Describe about storage allocation and scope of global, extern, static, local and register variables?
15. What are register variables? What are the advantage of using register variables?
16. What is the use of typedef?
17. Can we specify variable field width in a scanf() format string? If possible how?
18. Out of fgets() and gets() which function is safe to use and why?
19. Difference between strdup and strcpy?
20. What is recursion?
21. Differentiate between a for loop and a while loop? What are it uses?
22. What are the different storage classes in C?
23. Write down the equivalent pointer expression for referring the same element a[i][j][k][l]?
24. What is difference between Structure and Unions?
25. What the advantages of using Unions?
26. What are the advantages of using pointers in a program?
27. What is the difference between Strings and Arrays?
28. In a header file whether functions are declared or defined?
29. What is a far pointer? where we use it?

30. How will you declare an array of three function pointers where each function receives two ints and returns a float?
31. what is a NULL Pointer? Whether it is same as an uninitialized pointer?
32. What is a NULL Macro? What is the difference between a NULL Pointer and a NULL Macro?
33. What does the error 'Null Pointer Assignment' mean and what causes this error?
34. What is near, far and huge pointers? How many bytes are occupied by them?
35. How would you obtain segment and offset addresses from a far address of a memory location?
36. Are the expressions arr and &arr same for an array of integers?
37. Does mentioning the array name gives the base address in all the contexts?
38. Explain one method to process an entire string as one unit?
39. What is the similarity between a Structure, Union and enumeration?
40. Can a Structure contain a Pointer to itself?
41. How can we check whether the contents of two structure variables are same or not?
42. How are Structure passing and returning implemented by the complier?
43. How can we read/write Structures from/to data files?
44. What is the difference between an enumeration and a set of pre-processor # defines?
45. what do the 'c' and 'v' in argc and argv stand for?
46. Are the variables argc and argv are local to main?
47. What is the maximum combined length of command line arguments including the space between adjacent arguments?
48. If we want that any wildcard characters in the command line arguments should be appropriately expanded, are we required to make any special provision? If yes, which?
49. Does there exist any way to make the command line arguments available to other functions without passing them as arguments to the function?
50. What are bit fields? What is the use of bit fields in a Structure declaration?
51. To which numbering system can the binary number 1101100100111100 be easily converted to?
52. Which bit wise operator is suitable for checking whether a particular bit is on or off?
53. Which bit wise operator is suitable for turning off a particular bit in a number?
54. Which bit wise operator is suitable for putting on a particular bit in a number?
55. Which bit wise operator is suitable for checking whether a particular bit is on or off?
56. which one is equivalent to multiplying by 2:Left shifting a number by 1 or Left shifting an unsigned int or char by 1?
57. Write a program to compare two strings without using the strcmp() function.
58. Write a program to concatenate two strings.
59. Write a program to interchange 2 variables without using the third one.
60. Write programs for String Reversal & Palindrome check
61. Write a program to find the Factorial of a number
62. Write a program to generate the Fibinocci Series
63. Write a program which employs Recursion
64. Write a program which uses Command Line Arguments
65. Write a program which uses functions like strcmp(), strcpy()? etc
66. What are the advantages of using typedef in a program?

67. How would you dynamically allocate a one-dimensional and two-dimensional array of integers?
68. How can you increase the size of a dynamically allocated array?
69. How can you increase the size of a statically allocated array?
70. When reallocating memory if any other pointers point into the same piece of memory do you have to readjust these other pointers or do they get readjusted automatically?
71. Which function should be used to free the memory allocated by calloc()?
72. How much maximum can you allocate in a single call to malloc()?
73. Can you dynamically allocate arrays in expanded memory?
74. What is object file? How can you access object file?
75. Which header file should you include if you are to develop a function which can accept variable number of arguments?
76. Can you write a function similar to printf()?
77. How can a called function determine the number of arguments that have been passed to it?
78. Can there be at least some solution to determine the number of arguments passed to a variable argument list function?
79. How do you declare the following:
    o An array of three pointers to chars
    o An array of three char pointers
    o A pointer to array of three chars
    o A pointer to function which receives an int pointer and returns a float pointer
    o A pointer to a function which receives nothing and returns nothing
80. What do the functions atoi(), itoa() and gcvt() do?
81. Does there exist any other function which can be used to convert an integer or a float to a string?
82. How would you use qsort() function to sort an array of structures?
83. How would you use qsort() function to sort the name stored in an array of pointers to string?
84. How would you use bsearch() function to search a name stored in array of pointers to string?
85. How would you use the functions sin(), pow(), sqrt()?
86. How would you use the functions memcpy(), memset(), memmove()?
87. How would you use the functions fseek(), freed(), fwrite() and ftell()?
88. How would you obtain the current time and difference between two times?
89. How would you use the functions randomize() and random()?
90. How would you implement a substr() function that extracts a sub string from a given string?
91. What is the difference between the functions rand(), random(), srand() and randomize()?
92. What is the difference between the functions memmove() and memcpy()?
93. How do you print a string on the printer?
94. Can you use the function fprintf() to display the output on the screen?

## C++ QUESTIONS

1. What is a class?
2. What is an object?
3. What is the difference between an object and a class?
4. What is the difference between class and structure?
5. What is public, protected, private?
6. What are virtual functions?
7. What is friend function?
8. What is a scope resolution operator?
9. What do you mean by inheritance?
10. What is abstraction?
11. What is polymorphism? Explain with an example.
12. What is encapsulation?
13. What do you mean by binding of data and functions?
14. What is function overloading and operator overloading?
15. What is virtual class and friend class?
16. What do you mean by inline function?
17. What do you mean by public, private, protected and friendly?
18. When is an object created and what is its lifetime?
19. What do you mean by multiple inheritance and multilevel inheritance? Differentiate between them.
20. Difference between realloc() and free?
21. What is a template?
22. What are the main differences between procedure oriented languages and object oriented languages?
23. What is R T T I ?
24. What are generic functions and generic classes?
25. What is namespace?
26. What is the difference between pass by reference and pass by value?
27. Why do we use virtual functions?
28. What do you mean by pure virtual functions?
29. What are virtual classes?
30. Does c++ support multilevel and multiple inheritance?
31. What are the advantages of inheritance?
32. When is a memory allocated to a class?
33. What is the difference between declaration and definition?
34. What is virtual constructors/destructors?
35. In c++ there is only virtual destructors, no constructors. Why?
36. What is late bound function call and early bound function call? Differentiate.
37. How is exception handling carried out in c++?
38. When will a constructor executed?
39. What is Dynamic Polymorphism?
40. Write a macro for swapping integers.

## DATA STRUCTURE QUESTIONS

1. What is a data structure?
2. What does abstract data type means?
3. Evaluate the following prefix expression " ++ 26 + - 1324" (Similar types can be asked)
4. Convert the following infix expression to post fix notation ((a+2)*(b+4)) -1 (Similar types can be asked)

5. How is it possible to insert different type of elements in stack?
6. Stack can be described as a pointer. Explain.
7. Write a Binary Search program
8. Write programs for Bubble Sort, Quick sort
9. Explain about the types of linked lists
10. How would you sort a linked list?
11. Write the programs for Linked List (Insertion and Deletion) operations
12. What data structure would you mostly likely see in a non recursive implementation of a recursive algorithm?
13. What do you mean by Base case, Recursive case, Binding Time, Run-Time Stack and Tail Recursion?
14. Explain quick sort and merge sort algorithms and derive the time-constraint relation for these.
15. Explain binary searching, Fibinocci search.
16. What is the maximum total number of nodes in a tree that has N levels? Note that the root is level (zero)
17. How many different binary trees and binary search trees can be made from three nodes that contain the key values 1, 2 & 3?
18. A list is ordered from smaller to largest when a sort is called. Which sort would take the longest time to execute?
19. A list is ordered from smaller to largest when a sort is called. Which sort would take the shortest time to execute?
20. When will you sort an array of pointers to list elements, rather than sorting the elements themselves?
21. The element being searched for is not found in an array of 100 elements. What is the average number of comparisons needed in a sequential search to determine that the element is not there, if the elements are completely unordered?
22. What is the average number of comparisons needed in a sequential search to determine the position of an element in an array of 100 elements, if the elements are ordered from largest to smallest?
23. Which sort show the best average behavior?
24. What is the average number of comparisons in a sequential search?
25. Which data structure is needed to convert infix notations to post fix notations?
26. What do you mean by:
     o   Syntax Error
     o   Logical Error
     o   Runtime Error

    How can you correct these errors?

27. In which data structure, elements can be added or removed at either end, but not in the middle?
28. How will inorder, preorder and postorder traversals print the elements of a tree?
29. Parenthesis are never needed in prefix or postfix expressions. Why?
30. Which one is faster? A binary search of an orderd set of elements in an array or a sequential search of the elements.

## JAVA QUESTIONS

1. What is the difference between an Abstract class and Interface?
2. What is user defined exception?
3. What do you know about the garbage collector?
4. What is the difference between java and c++?
5. In an HTML form I have a button which makes us to open another page in 15 seconds. How will you do that?
6. What is the difference between process and threads?
7. What is update method called?
8. Have you ever used HashTable and Directory?
9. What are statements in Java?
10. What is a JAR file?
11. What is JNI?
12. What is the base class for all swing components?
13. What is JFC?
14. What is the difference between AWT and Swing?
15. Considering notepad/IE or any other thing as process, What will happen if you start notepad or IE 3 times ? Where three processes are started or three threads are started?
16. How does thread synchronization occur in a monitor?
17. Is there any tag in HTML to upload and download files?
18. Why do you canvas?
19. How can you know about drivers and database information ?
20. What is serialization?
21. Can you load the server object dynamically? If so what are the 3 major steps involved in it?
22. What is the layout for toolbar?
23. What is the difference between Grid and Gridbaglayout?
24. How will you add panel to a frame?
25. Where are the card layouts used?
26. What is the corresponding layout for card in swing?
27. What is light weight component?
28. Can you run the product development on all operating systems?
29. What are the benefits if Swing over AWT?
30. How can two threads be made to communicate with each other?
31. What are the files generated after using IDL to java compiler?
32. What is the protocol used by server and client?
33. What is the functionability stubs and skeletons?
34. What is the mapping mechanism used by java to identify IDL language?
35. What is serializable interface?
36. What is the use of interface?
37. Why is java not fully objective oriented?
38. Why does java not support multiple inheritance?
39. What is the root class for all java classes?
40. What is polymorphism?
41. Suppose if we have a variable 'I' in run method, if I can create one or more thread each thread will occupy a separate copy or same variable will be shared?

42. What are virtual functions?
43. Write down how will you create a Binary tree?
44. What are the traverses in binary tree?
45. Write a program for recursive traverse?
46. What are session variable in servlets?
47. What is client server computing?
48. What is constructor and virtual function? Can we call a virtual function in a constructor?
49. Why do we use oops concepts? What is its advantage?
50. What is middleware? What is the functionality of web server?
51. Why is java not 100% pure oops?
52. When will you use an interface and abstract class?
53. What is the exact difference in between Unicast and Multicast object? Where will it be used?
54. What is the main functionality of the remote reference layer?
55. How do you download stubs from Remote place?
56. I want to store more than 10 objects in a remote server? Which methodology will follow?
57. What is the main functionality of Prepared Statement?
58. What is meant by Static query and Dynamic query?
59. What are Normalization Rules? Define Normalization?
60. What is meant by Servelet? What are the parameters of service method?
61. What is meant by Session? Explain something about HTTP Session Class?
62. In a container there are 5 components. I want to display all the component names, how will you do that?
63. Why there are some null interface in JAVA? What does it mean? Give some null interface in JAVA?
64. Tell some latest versions in JAVA related areas?
65. What is meant by class loader? How many types are there? When will we use them?
66. What is meant by flickering?
67. What is meant by distributed application? Why are we using that in our application?
68. What is the functionality of the stub?
69. Explain about version control?
70. Explain 2-tier and 3-tier architecture?
71. What is the role of Web Server?
72. How can we do validation of the fields in a project?
73. What is meant by cookies? Explain the main features?
74. Why java is considered as platform independent?
75. What are the advantages of java over C++?
76. How java can be connected to a database?
77. What is thread?
78. What is difference between Process and Thread?
79. Does java support multiple inheritance? if not, what is the solution?
80. What are abstract classes?
81. What is an interface?
82. What is the difference abstract class and interface?
83. What are adapter classes?

84. what is meant wrapper classes?
85. What are JVM.JRE, J2EE, JNI?
86. What are swing components?
87. What do you mean by light weight and heavy weight components?
88. What is meant by function overloading and function overriding?
89. Does java support function overloading, pointers, structures, unions or linked lists?
90. What do you mean by multithreading?
91. What are byte codes?
92. What are streams?
93. What is user defined exception?
94. In an HTML page form I have one button which makes us to open a new page in 15 seconds. How will you do that?

## ADVANCED JAVA QUESTIONS

1. What is RMI?
2. Explain about RMI Architecture?
3. What are Servelets?
4. What is the use of servlets?
5. Explain RMI Architecture?
6. How will you pass values from HTML page to the servlet?
7. How do you load an image in a Servelet?
8. What is purpose of applet programming?
9. How will you communicate between two applets?
10. What IS the difference between Servelets and Applets?
11. How do you communicate in between Applets and Servlets?
12. What is the difference between applet and application?
13. What is the difference between CGI and Servlet?
14. In the servlets, we are having a web page that is invoking servlets ,username and password? which is checks in database? Suppose the second page also if we want to verify the same information whether it will connect to the database or it will be used previous information?
15. What are the difference between RMI and Servelets?
16. How will you call an Applet using Java Script Function?
17. How can you push data from an Applet to a Servlet?
18. What are 4 drivers available in JDBC? At what situation are four of the drivers used?
19. If you are truncated using JDBC , how can you that how much data is truncated?
20. How will you perform truncation using JDBC?
21. What is the latest version of JDBC? What are the new features added in that?
22. What is the difference between RMI registry and OS Agent?
23. To a server method, the client wants to send a value 20, with this value exceeds to 20 a message should be sent to the client . What will you do for achieving this?
24. How do you invoke a Servelet? What is the difference between doPost method and doGet method?

25. What is difference between the HTTP Servelet and Generic Servelet? Explain about their methods and parameters?
26. Can we use threads in Servelets?
27. Write a program on RMI and JDBC using Stored Procedure?
28. How do you swing an applet?
29. How will you pass parameters in RMI? Why do you serialize?
30. In RMI ,server object is first loaded into memory and then the stub reference is sent to the client. true or false?
31. Suppose server object not loaded into the memory and the client request for it. What will happen?
32. What is the web server used for running the servelets?
33. What is Servlet API used for connecting database?
34. What is bean? Where can it be used?
35. What is the difference between java class and bean?
36. Can we sent objects using Sockets?
37. What is the RMI and Socket?
38. What is CORBA?
39. Can you modify an object in CORBA?
40. What is RMI and what are the services in RMI?
41. What are the difference between RMI and CORBA?
42. How will you initialize an Applet?
43. What is the order of method invocation in an Applet?
44. What is ODBC and JDBC? How do you connect the Database?
45. What do you mean by Socket Programming?
46. What is difference between Generic Servlet and HTTP Servlet?
47. What you mean by COM and DCOM?
48. what is e-commerce?

## OPERATING SYSTEM QUESTIONS

1. What are the basic functions of an operating system?
2. Explain briefly about, processor, assembler, compiler, loader, linker and the functions executed by them.
3. What are the difference phases of software development? Explain briefly?
4. Differentiate between RAM and ROM?
5. What is DRAM? In which form does it store data?
6. What is cache memory?
7. What is hard disk and what is its purpose?
8. Differentiate between Complier and Interpreter?
9. What are the different tasks of Lexical analysis?
10. What are the different functions of Syntax phase, Sheduler?
11. What are the main difference between Micro-Controller and Micro- Processor?
12. Describe different job scheduling in operating systems.
13. What is a Real-Time System ?

14. What is the difference between Hard and Soft real-time systems ?
15. What is a mission critical system ?
16. What is the important aspect of a real-time system ?
17.  If two processes which shares same system memory and system clock in a distributed system, What is it called?
18. What is the state of the processor, when a process is waiting for some event to occur?
19. What do you mean by deadlock?
20. Explain the difference between microkernel and macro kernel.
21. Give an example of microkernel.
22. When would you choose bottom up methodology?
23. When would you choose top down methodology?
24. Write a small dc shell script to find number of FF in the design.
25. Why paging is used ?
26. Which is the best page replacement algorithm and Why? How much time is spent usually in each phases and why?
27. Difference between Primary storage and secondary storage?
28. What is multi tasking, multi programming, multi threading?
29. Difference between multi threading and multi tasking?
30. What is software life cycle?
31. Demand paging, page faults, replacement algorithms, thrashing, etc.
32. Explain about paged segmentation and segment paging
33. While running DOS on a PC, which command would be used to duplicate the entire diskette?

## MICROPROCESSOR QUESTIONS

1. Which type of architecture  8085 has?
2. How many memory locations can be addressed by a microprocessor with 14 address lines?
3. 8085 is how many bit microprocessor?
4. Why is data bus bi-directional?
5. What is the function of accumulator?
6. What is flag, bus?
7. What are tri-state devices and why they are essential in a bus oriented system?
8. Why are program counter and stack pointer 16-bit registers?
9. What does it mean by embedded system?
10. What are the different addressing modes in 8085?
11. What is the difference between MOV and MVI?
12. What are the functions of RIM, SIM, IN?
13. What is the immediate addressing mode?
14. What are the different flags in 8085?
15. What happens during DMA transfer?
16. What do you mean by wait state? What is its need?
17. What is PSW?

18. What is ALE? Explain the functions of ALE in 8085.
19. What is a program counter? What is its use?
20. What is an interrupt?
21. Which line will be activated when an output device require attention from CPU?


## ELECTRONICS QUESTIONS

1. What is meant by D-FF?
2. What is the basic difference between Latches and Flip flops?
3. What is a multiplexer?
4. How can you convert an SR Flip-flop to a JK Flip-flop?
5. How can you convert an JK Flip-flop to a D Flip-flop?
6. What is Race-around problem? How can you rectify it?
7. Which semiconductor device is used as a voltage regulator and why?
8. What do you mean by an ideal voltage source?
9. What do you mean by zener breakdown and avalanche breakdown?
10. What are the different types of filters?
11. What is the need of filtering ideal response of filters and actual response of filters?
12. What is sampling theorem?
13. What is impulse response?
14. Explain the advantages and disadvantages of FIR filters compared to IIR counterparts.
15. What is CMRR? Explain briefly.
16. What do you mean by half-duplex and full-duplex communication? Explain briefly.
17. Which range of signals are used for terrestrial transmission?
18. What is the need for modulation?
19. Which type of modulation is used in TV transmission?
20. Why we use vestigial side band (VSB-$C_3F$) transmission for picture?
21. When transmitting digital signals is it necessary to transmit some harmonics in addition to fundamental frequency?
22. For asynchronous transmission, is it necessary to supply some synchronizing pulses additionally or to supply or to supply start and stop bit?
23. BPFSK is more efficient than BFSK in presence of noise. Why?
24. What is meant by pre-emphasis and de-emphasis?
25. What do you mean by 3 dB cutoff frequency? Why is it 3 dB, not 1 dB?
26. What do you mean by ASCII, EBCDIC?


*****  *BEST OF LUCK* *****