

**Robert Bosch**

**1<sup>st</sup> round :- Aptitude**

**Total q= 60    General = 25    Technical =35**

**Total time = 60mins**

**Topics: problems on train ,heights and distance, odd one out** Numbers, problems on train , Ratios, HCF and LCM, Percentages, Ages, Mixtures, speed and distance, dice, cubes, profit and loss, CP and SP, time and work, percentage, averages, boats and streams, speed and distance

English vocab, antonyms, reasoning, synonyms, jumbled words etc.

Technical for CSE: more of C++, a little C, a lot of microprocessor, little of OS (scheduling problem), little of networks (about protocols), little of software engineering (4 questions on testing), Data Structures ,os, networking, 8086 microprocessor

**For ECE:** Analog, Digital, Control systems, Microprocessor, Op Amp

Technical section includes the questions from 555-TIMERS (2 questions), 4-5 questions from digital (like convert from hexadecimal to binary, counter sequence, RS latch), 2 questions from control systems (to find the transfer function, to find the k value), 8051 questions (RAM memory size, about DRAM, Time required to execute instructions), closed loop and open loop stability and questions from op-amps, questions from O S (some basic questions no need to worry too much), 5 questions from C programming (finding the output of the program).

Some of the MCQs from the topic are

- Q. No. of 5 ohm resistors in 555 timer (ans:3)
- Q. which mode of BJT is not preferred(ans: Reverse active mode)
- Q. The RMS value of a given half wave rectifier circuit (using diode)
- Q. Identifying a given op-amp circuit
- Q. output gain of opamp for various configurations(inverting and non-inverting mode)

2. DEC(counters, flipflops and latches, K-maps, logic gates. R2R ladders, Analog to digital converters, Digital to analog converters)

Some of the MCQs from the topic are

- Q. Find no. of counters required for a given mode no. for Johnson counters(ex- for 10 mod counter no. of Johnson counters reqd? Ans. 20)
- Q. For a given output, find the logic gate
- Q. No. of gates NAND,NOR, XNOR etc gates required for an expression
- Q. Simplification of expressions
- Q. Find resolution, sensitivity of expression

3. Control systems (transfer function, feedback)

Generally there are 1 to 2 questions from the topic and are quite simple

4. C programming(output of a given program, finding the memory location from a starting address, pointers and arrays, structures and union, datatypes, error detection in program)

Q. about the syntax error in structure

Q. address stored in a pointer in a given program

Q. bitwise shift of a number

### **Technical Questions Previously asked at Bangalore**

Technical interview was majorly based on Data structures, Algorithms and Operating systems.

->insertion, deletion of nodes from a linked list

->Depth first search.

->in OS, they asked me explain process life cycle

->cache memory concepts

few simple programs in C or C++ or any language of your choice.

development process of a software application/product.

Difference between Class and Structure?

Questions from project and Resume.

There are 27 balls with same size and shape, only one of the ball has different weight than the others. One weighing machine is available. Please find the least number of combination required to find the ball? (This is Puzzle)

Embedded systems

CAN

Communication protocols

C

RTOS

Explain asymptotic analysis with examples

Implement stack using linked list

AEC (555 timer, op-amps, BJTs, FETs, diodes, clippers and clampers )