

Test Paper :3

Paper Type : Technical - Other

Posted By : shekar

BEL PAPER ON 23rd NOVEMBER 2008

Hello friends, I m Shekar

1. Data interpretation containing bar and pie chart in one question.
2. What is p.m and gain margin for stability-positive or negative?
3. Tunnel diode is a heavily doped p-n junction diode.
4. What is the dual of parallel r-c n/w.
5. Relationship puzzle.
6. Find phase crossover frequency when  $g(s)h(s)$  is given.
7. Question from pattern of radiation of different antenna.
8. The e. m wave varies as distance.  $-1/r, 1/r^2$ .
9. A transfer function having pole at right side is non-minimum phase system.
10. Proportional derivative controlled system has high sensitivity.
11. Lapalce transform of  $1-10e^{-st}$ .
12. Integration of  $\cos^2 t dt$ .
13. The no. of samples for a convolution  $x(n), y(n)$  having  $x(n)$  of length 5 and  $y(n)$  of length 6.
14. State space representation find transfer matrix given a liner eq.
15. The value of carrier power when total power =10kw,  $m=0.6$ .
16. Superposition theorem is used for I, v, p..
17. Given a fm eq in standard form find frequency deviation.
18. The source of microwaves is klystron, impatt, twt, and magnetron.
19. Question on formulas of a-d and d-a converter.
20. In a squarer if 4 bit data is squared then the no of data lines and address lines are
21. Given a  $g(s) h(s)$  what is the no of zeros at infinity.
22. For a two ckt abcd parameter are given find the abcd parameter of cascaded ckt.
23. Question from transducer on tooth rotor.
24. Question on rubidium laser for its excitation.
25. Question from management point of view.
26. One easy puzzle of six rows one upon each other.
27. If a charge is at 002 and at 00-2 then electric field is in the direction of
28. The no. Of nand gate to implement  $a + (\text{nota}) b + a (\text{not}b) c$ .  
Thank you and best of luck  
Shekar Chincholi

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Test Paper :4

Paper Type : General - other

Test Date : 23 November 2008  
Posted By : Anju

BEL PAPER ON 23rd NOVEMBER 2008

Hello friends,

I m Gaurav Kumar. I am from HCTM kaithal. I have gave the written exam of bel for probationary engineer.

Their selection procedure consists of 2 stages written (technical+ apti.) and in interview.

I m from ECE and the written test consists of general questions most of them from control system and network. I expected the cut-off for the written examination was 100 out of 150. After clearing the written i face the interview. Interview panel comprise of 5 members from electronics, computer, mechanical & HRD field. Most of the questions asked in the interview were simple like some electronics p rinciples and their applications.

Here I have given some of the questions of the written paper (ECE)...

1-right answer

.25-wrong answer

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Thank you and best of luck

GAURAV KUMAR

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Test Paper :5

Paper Type : Technical - Other

Test Location : COEP

Posted By : harshad shrigondekar

hi, i am harshad shrigondekar from mechanical engineering.it surprised me as no any information was available here for mech.engg. students.i hope this little 1 from me may help u.

BEL was there for campus recruitment in our college(COEP)on 17th jan 2009 FOR 2 streams: MECH & ETC

APTITUDE TEST: objective with 5 options given

It was totally a technical paper.

60 min.-70 questions.1/4 -ve for each wrong answer.

it covered following subjects- ic engine, tom, manufacturing engg., machine design, material science, strength of material, physics.

some of the questions are:

PHYSICS

1. pulley forms which pair? (TOM)
2. swinging pendulum: amplitude decreases/increases with time linearly or exponentially.
3. choose KE theory assumption.
4.  $Q$  on cohesive force.
5. what is DPT?
6. Variation of latent heat of vapourisation with pressure?
7. highest T of refrigerant shud be  $\neq/\leq$  critical temperature
8. for avoiding cavity what shud be NPSH?
9. working principle of jet engine?
10. choose dehumidification method.
11. highest calorific value : a)anthracite b)bituminous c)lignite....
12. for max. capacity of compressor inlet T of air shud be: high, low, very high.

.....

IC ENGINE

13. upper piston ring is COMPRESSION RING.
14. flywheel size for diesel engine in comparison with petrol engine.
15. compression ratio=?
16. volumetric efficiency=?
17. supercharging=?

ME:

18. abt. 8 questions were totally unfamiliar to me. i did not even try to read them. they were abt. sand moulding, dies & all those stuff.
19. part of a lathe which houses speed changing gears is?
20. splined shafts are preferred over keys, when? = when axial travelling is there

.

MD:

21. what is ALLEN screw?
  22. three  $Q$  from types of keys.
  23. endurance strength?
  24. FOS?
  25. shear stress theory is used for DUCTILE materials.
  - 26) crane hook material?
  27. Surface hardness is improved by a) V b) Cr c) W d) all e) none
- n lot more  $Q$ s, they were not tough at all, but few of them surely created somewhat jumbling. some formulae from SOM were there. n also choose wrong/correct sentence.

INTERVIEW (both technical & HR), (4 TO 1) GM was there. (45-50min)

1. abt. myself, family background. discuss hobbies. we discussed a lot on my hobby-travelling.
2. what is lathe? broaching? types of casting? explain sand & centrifugal casting, types of welding? draw symbol of seam welding, explain gas & electric arc welding.
3. draw SFD for UDL on simply supported beam.
4. what u learnt in MD? how shaft is designed? what is polar moment of inertia?
5. diff. terminologies in gear? what is backlash error?
6. material for blades of turbine, its properties. blades r bolted/welded? why?
7. draw carnot cycle (PV, TS diag.) explain diff. processes.
8. diff. between otto & diesel cycle?
9. GM interrupted us, tried to check my virtues. when i told him that i do believe in ETHICS. he asked some philosophical  $Q$ s n tried to change my mind but i stood firm. i think, here i left an impact.
10. heat treatment processes? annealing? normalising?
11. loaded truss was given, draw FBD.
12. what is equilibrium?
13. slotting Vs shaping.
14. honning process?
15. again GM, why BEL? (its just like an honour for me as most of the applications

r in defence, it will be more than just a job satisfaction, i replied honestly)  
16. in which department u would like to work? answer given was obviously diplomatic.  
17. scope & application of all types of bearings with justification.  
18. what r oil seals? why they r used?  
19. basic purpose of turbines? their working principle? turbine efficiency?  
20. draw joule/brayton cycle.  
21. 1st law of thermodynamics?  
22. what is relative humidity?  
23. asked abt my 1st placement in IT industry (ACCENTURE), why not going for it?  
24. finally they asked,  $y^x(x-a)(x-b)(x-c)\dots(x-z)$  =? i answered instantly as unity. eventually he smiled.  
we ended up with smile on each face.  
i was never so confident while being interviewed before, i literally had a ball t here. really, it was a 'my day'. they selected me from 7 shortlisted mech students & other 2 from ETC.

i wish u all d best, just do believe in yourself, success will be yours.

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Test Paper :8

Paper Type : General - Interview  
Test Date : 23 February 2009  
Test Location : Janpath, Delhi  
Posted By : Akhilesh Tomar

BEL

Hello friend It is Akhilesh Tomar

I appeared in off campus interview of BEL on 23 Feb 2009 at Janpath Regional

Office BEL, Delhi.

It lasted for 35 minutes because I was the very first candidate in panel. There were four interviewer .One interviewer acting like HEAD, was sitting in middle .Next right to him was a HR and next to HR was a technical person .In the right of HEAD was another technical interviewer .

I knocked at the door first and asked to come in ..

Head offered me a seat ,I paid thanks to him ..

The first question came from Head asking me to describe myself

The next question came from first tech interviewer to explain Project I explained it ,he further asked me to tell my role in Project ..in middle of explanation he asked to write a program to display the day by getting Date from system in JSP .

Further HR asked me Who was team leader in this Project? .

Now again first tech interviewer asked me to tell my favorite subject ..I replied Core Java1.5 & computer network .

He asked me to tell which Physical layers in OSI are.

Next asked me to tell the name of all layers of OSI,

Explain TCP/IP model

What is IP address?

In which class we actually works in computer network (A, B, C, D or E)? Ans ..B

He further asked me to tell the no of bits reserved for network address in B class.

Next HR asked me to tell your family bakckground?

Qualities of leader?

Do you have these qualities?

Tell me one example where you had shown your leadership quality?

Why less marks in fourth semester?

Difference between percentage of topper and yours..

What was your position in class during B.Tech?

If I were ask your neighbors to describe you, what would they say?

Why do you not want to Join HCL?

Is not private companies give more money so why not HCL?

Do you want to join public sector so that you get a relax job where you don t have any work?

Will you go Machlipatnam,Bel?

If I give both offer (HCl & BEL),Which will you join and why?

What is your opinion about moral and ethics?

Now another technical interviewer started its turn by asking about SDLC Tell about all phases of SDLC

Further he asked if I had studied compiler Construction Subject .

I replied in positive but added that it is not my favorite ..

He further said Are u comfortable with OS ?

I said yes

He asked me to explain swapping and paging and virtual memory..

He then asked what is the recommended size of paging in UNIX and on what basis we decide its size?

That is it Interview ended Head asked me to leave

As I was leaving I requested to ask a question and my requested was granted .

I asked, When can I know my result? They replied very soon but we can not give any date.

The environment there was very cordial .Even after 35 minutes of interview I was feeling that I had been interviewed for few second ..

Interview weightage was 30% and written test 70%

Thanks & Regds  
Akhilesh Tomar

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Test Paper :9

Paper Type : Aptitude - General  
Test Date : 23 November 2008  
Test Location : Bangalore  
Posted By : Rhanjhani Palanisamy

BEL PAPER ON 23rd NOVEMBER AT BANGALORE

Hi frens, I wrote BEL (Probationary Engineer) written test on Nov 23rd 2008.I belong to Computer science stream

General structure: totally 160 questions(2 30 hrs) Each carries 1 mark and 0.25 will be deducted for a wrong answer(NEGATIVE MARKING)

General aptitude: 30 questions

Technical :120 questions

General aptitude:

Data interpretation questions and passage (reading) ques - around 20 questions. some logical analysing questions( were simple)

1.Given probability for A to fail 0.5 and for B to fail 0.3 then what is the probability of either A or B fail?

2.Rita told mani tht," I saw a girl yesterday who is the youngest daughter of brother in law of my friend's mother"what is the relation between her friend and the girl she saw ?  
ans: cousin(chk)

3. 750 hrs of quality test was conducted on 10 components,at the end of 350 hr,a component failed.What is the probability

of failure per hour?

4. Given the  $P(A)$  and  $P(B)$  and probability of occurrence of both ... try to know the logic to find probability of neither A nor B.

Technical

Concentrate more on numericals in our core subject especially Computer architecture, Operating system, Computer networks, Data structure.

some ques were from 12th & 10th maths, physics (in small no) ... like differential equations, integral some ques from engineering mathematics (numerical methods... ..)

1. No. of crosspoints needed in a single stage switch having 40 inputs and 50 outputs?

ans: 2000

2. No. of crosspoints needed for 10 lines in a cross-point switch which is full duplex in nature and there is no self-connections is

ans: 100

3. when  $|z-5i| / |z+5i| = 1$ , where  $z=x+iy$

a) lies on x-axis b) straight line c) circle passing through origin d) none

4. Gateway is applicable upto which layer

ans: Application layer

5. Questions to find the avg access time of cpu when hit ratio is 0.8 and time to access primary memory is 10ns and that of secondary memory 50ns?

(hints:  $h=0.8$ ,  $c=10$ ,  $M=50$ , avg access time =  $hc + (1-h)M$ )

6. How many  $256 \times 1$  RAM chips were needed for 1 K bytes of memory?

7. Disk scheduling problems - (don't remember it exactly)

8. Two representations of zero in

a) preferred ans: sign magnitude b) 1's complement c) 2's complement d) none

as both sign magnitude and 1's complement have 2 zero representations (chk)

9. Few questions from Theory of computation.

10. Problems from linear and quadratic hashing....

11. Know all number conversions - hexa-dec, oct-dec, .....

12. Many problems like A needs 5 resources and B needs 6 resources of same type, then minimum resources needed so that deadlock will not occur?

13. Know to calculate waiting and turn around time

14. Size of the RAM required to find square of 4-bit no?

15. If  $x_0=1$  using Newton Raphson method, find  $x_1$  for  $x^2 - 1 = 0$ ?

16. Know the difference between first/second order and linear/non-linear differential equations?

17. Which one is a star LAN?

a) 10Base5 b) 10Base2 c) ans: 10BaseT

18. In which 8B/6T encoding used?

a) ans: 100BaseT4 b) 100BaseFX .

19. MS-DOS

a) completely multiprogramming b) partially multiprogramming c) not a multiprogramming

20. A task is divided and computed in different processor is

Ans: Distributed processing

21. Token Ring is

Ans: 802.5

22. When token reached the intended recipient, then what it does?

Ans: >It recognizes its address,  
>copies the message,  
>checks for error,  
>changes 4 bits in the last byte of frame to indicate address recognized and frame copied.

23. Which one has the common database?

a) distance vector b) link state c) link vector

ans: link state

24. Hamming code related problems like minimum bits required for error detection

25. What addressing used in network layer?

Ans: logical addressing

26. A question was from TDM bus relating RAM (have a look on it)

27. Know what a microprogram and microcomputer ?

28. If the quantum size of RR increases then turn around time

Ans : increases (chk)

29. Questions like no of page frames replace using FIFO.

30. Questions from set associative mapping (numericals)

31. Know the range for sign magnitude, 1's complement, 2's complement for n-bit no.?

32. no. of address lines in ROM is determined by

Ans: no. of input lines

33. Have a look on advantages and disadvantages of GO-BACK N ARQ and Selective Reject

34. Memory protection is of no use in

a) Single user system b) multiprogramming

35. Auto variables when uninitialized will have

Ans: Unpredictable (garbage) value

36. Chart used for Scheduling

Ans: gantt chart

These are the questions I do remember.

Note: Ur proper strategy of solving the paper concern a lot. Here the time is crucial as u can spend only 1 min/question.

I felt the paper to be moderate .but a thorough preparation of our core subjects (mainly numerical aspects) will help to solve it to the maximum with in time it just needs practice

ALL THE BEST GUYS

Enter Your Comments

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Test Paper :10

Paper Type : General - other  
Test Date : 31 December 2007  
Test Location : IET, Lucknow  
Posted By : sruthi

BEL PAPER ON 31ST DECEMBER AT LUCKNOW

Hi guys .this is whole test paper of BEL at IET lucknow on 31st of December 2007 .T  
nly technical paper .due to some lack of time .The whole test paper contains only

tion There was +4 for right ans and -2 for wrong ans . Twenty five students ap  
ed in the exam ..Out of the only 7 was selected after written test ..  
And finally onely two were selected in the BEL ..and I was one of them selected  
his is COMPUTER SCIENCE PAPERE ..

It includes

- 1)C-basic concepts ..and very good question because whole basic knowledge were gi  
ven .
  - 2)Compiler basic knowledge ..
  - 3)Data base management system
  - 4)Data structure
  - 5)Operating system ..such as what is kernel and options were give
- HR AND TECHNICAL ROUND ..

There were six member team all were talented and very nice looking And all were pr  
t at the time of interview They ask . From where you belong . What have you pre  
that data structure and dbms

Then there was an intelligent sir and they ask what is DDL AND DML ..i told  
then they ask for query related to it ..and due to my area of interest I gave all t  
he ans correctly so he was impressed .

And there was no hr .question So be confident while giving any ans ..and be po  
it prepare for right judgement ..

Bets of luck guys and be +ve ..

Enter Your Comments

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Test Paper :11

Paper Type : Technical - Electronics  
Test Date : 13 May 2007  
Test Location : DELHI, lodhi estate  
Posted By : Sorabh Malhotra

BEL PAPER ON-13th MAY

Hi friends, i had given BEL paper on may-13,2007  
in which 150 ques u've to do...out of which 30 were of apti &120 technicalapti 9  
( tough as compared to ISRO)  
question from analog electronics, digital electronics, network, F & W, signal ,  
Control etc.....

- 1) in analog question based on zener diode
- 2) coupling capacitors and bypass capacitors affect
- 3) 1,8,27,64,125, .....,.....  
which among the following will not come in the series  
a.1000, b.729 c.259
- 4) which of the following game uses bulley  
a.football b.cricket c.goalf.. d.hockey

- 5) a zener diode works on the principle of
- 6) under the high electric field, in a semiconductor with increasing electric field
- 7) in an 8085, microprocessor system with memory mapped I/O
- 8) built-in potential in a p-n junction.
- 9) the breakdown voltage of a transistor with its base open is  $BV_{(ceo)}$  and that with emitter open  $BV_{(cbo)}$  then
- 10) ques based on half adder
- 11) based on flip flop
- 12) block diagram reduction
- 13) to find max overshoot (2 ques based on it)

BY  
Sorabh Malhotra

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