**(PAPER)**DRDO Sample Questions-(Govt. Org.)

**It contained 2 parts
PART 1 - pure technical 100 ques.
Part 2 - 50 Ques.**

Part 1 was purely technical but I was hard 2 answer part 2 general Knowledge abt 20-25ques were from maths remaining from general.They collected the question paper back. Iam herewith attaching some of the questions that noted down at hall.

**1. If 100ns is Memory Access Time & 125 microsec is 1frame period. The no. of line that can be supported in a Time Divison Switch is**
a)125 Lines

b)625 Lines

c)525 Lines

d)465 Lines

**2. The no. of edjes in disjoint Hamilton circuit in a complex graph with 17 edges is**
a) 8

b) 9

c) 136

d) 17^2

**3. 15 persons in a club sit every day ina dinner table such that every member has different neighbour. This arrangement will last for how many days.**
Assume a system has 16MB cache mean Disk Access Time & cache Access time is 76.5 ns & 1.5 overall mean Access time us 465ms for each tripling the memory the miss rate is halved. The memory required to bring down the mean Access time to 24ns is

a) 16 MB

b) 24 MB

c) 32 MB

d) 48 MB

**4.Average transfer speed of a i/p serial line is minimum 25,000 Bytes & maximum 60000 Bytes. Polling Strategy adopted takes 4microsec(whether there is any i/p byte or not). It is assured that byte that retrived from controller before next byte arrives are lost. Then the maximum safe polling interveal is**
a) 12

b) 12.33

c) 12.67

d) 32

**5. A harddisk has a rotation speed of 4500RPM. then the latency time is**
a) .4

b) .6

c) .7

d) .9

**6.Suppose all elements above the principal diagonal od n x n matix A are zero. If non zero elements of the lower triangular Matrix is stored in an array B with A[1][1] stored at**

B[1]. The addressing formula to the nonzero element in A[i][j]=?

a) A[i][j]

b) i(j-1)/2 +i

c) j(i-1)/2 +i

d) i(i-1)/2 +j

**7.The minumum number of comparisons requied to find the second smallest element in a 1000 element array is**
a) 1008

b) 1010

c) 1999

d) 2000

**8.The internal path length of a Bonary Tree with 10nodes is 25. The external path length is**

a) 25

b) 35

c) 40

d) 45

**9.Average No. of Comparisons required to sort 3 elements is**
a) 2

b) 2.33

c) 2.67

d) 3

**10.In a switch the mean arrival rate of packets is 800 Packets/sec and the the mean service rate is 925 Packets/sec**
a) .008 Sec

b) .08 sec

c) .8 sec

d) 1.1 sec

**11. What is Interface Control Information?**

 **12. The minumum no. of Multiplications needed to compute x^768 is**
a) 9

b) 10

c) 425

d) 767

**13. Find values for a,b,c,d**
c 1 1 1

0 a 1 b

\_\_\_\_\_\_\_

1 0 d 0

(967)basex = 321base9

PART II Genreal 50 General Non-Technical[4 Options]

**14. The area of red planet where the Mars Rover Landed? In Which Day world Telecom Day Celebrated? Laser is used for what?**
a) Treatment of Cancer

b) Treatment of Eyes

c) Treatment of Heart

d) Treatment of Kidney

**15.Which country is not a Member of SAARC**
a) Bangladesh

b) Myanmar

c) Maldives

d) Nepal

The New Biotechnology Software intorduced by TCS is?

**16.The New Biotechnology Software intorduced by TCS is? What is Wi Fi?**

 **17.Which is the fastest Cruise Missile?**

ISRO Question Paper On May 2008

1) Moore model of DFF?

2) Which of the following filter has steep roll-off characteristics?
    (A) Butterworth filter (B) Chebyshev filter  (C) Bessel filter (D)–
    ans: B

3) The architecture of DSP processor———
   (A)Havard (B) Von neumann (C)…(D)..
   ans: A

4) If the input frequency to a 6 stage ripple counter is 1000MHz then output frequency at 6th stage\_\_\_\_\_\_\_

5) Minimum number of 2 input NAND gates required to realise the fn. AB’+CD’+EF’
   ans: 6

6) What will exit() fn. in C will do?

7) goto command in C will cause the program to jump to—-
   ans: Label

8) VSWR is given then asked to find out reflection coefficient

9) The relation between power in FM signal and modulation index——–

10) If two signals are AM modulated with modulation indices of 0.3 and 0.4 what will be the modulation index of combined signal?
 ans: Calculate using 1/M=(1/m1)+(1/m2)

11) If n stage pipelining is used in aprocessor, then what will be the speed improvement over nonpipelined processor?
(A) same (B) n (C) n! (D) 2n

12) One circuit is given (That was a Voltage Doubler using op-amp) and asked to Identify that…

13) Which one of the following memory has fastest write time?
 (A) Flash (B) EEPROM (C) EPROM (D) None of these

14) In EEPROM data is stored in\_\_\_\_
  (A) Cross coupled Latch (B) Capacitor (C) floating gate transistor (D)–

15) Which technology is faster?
  (A)Bipolar (B) MOS (C) CMOS (D) ..

16) Memory access time, cache access time, hit ratio are given, Asked to find out  Average memory access time

17) If the probability of getting a job for A is 1/3 and the probability of getting a job for B is 1/4 then the probability of getting a job for A or B will be\_\_\_\_?

18) One transfer fn As4 + Bs3 + Cs2 +D=0 (I dont remember the values of A,B,C,D ) is given, Asked to find out whether the system is\_\_\_\_
    (A) Stable (B) Unstable (C) Marginally Stable

19) For implementing D flipflop using RS flip flop, the extra component needed is\_\_\_\_
   (A) AND gate (B) OR gate (C) NOT gate (D) NOR gate

20) The output of an 8 bit DAC is 1Volt when the input is 00110010, then the full scale output of the same DAC will be\_\_\_\_
  ans: 5.1 V  (Hint: 1/50\*255)

21) Fastest ADC is\_\_\_
  (A) SAR (B) sigma- delta (C) flash (D)…

22) The operating point of Class-B amplifier will be at\_\_\_\_\_
  (A) exactly at cut-off region (B) inside saturation region (C) inside cut-off region (D) middle of active region

23) For an N bit ADC , the number of comparators needed\_\_\_
  (A) N (B) 2N (C) 2N -1 (D) 2N-1

24) De-emphasis circuit is used for\_\_\_\_\_\_\_
  ans: Attenuating high frequency components

25) The laplace transform of e-2t  \_\_\_\_\_
 Ans: 1/(s+2)

26) The magnitude of 1+cos x+j sin x\_\_\_\_
  Ans: 2 cos (x/2)

27) A circuit is given in which the capacitor (1uF)  is initially charged to 12V, At t = 0, one switch is closed so that another capacitor of capacity 1.5uF comes in parallel with the first capacitor, then in steady state what will be the voltage across them? ( Visualize the circuit, as I can not draw the circuit since the editor is not supporting it)

28) Alpha of a transistor=0.99, Ico=1uA, Ie=1 mA, Ic=?

29) If the input given to an inductor is delta(t) (ie: =1 when t=0 and ,=0 otherwise) then the current will be\_\_\_
  (A) infinity (B) -infinity (C) 1 (D) 0

30) For implementing Band pass filter using High pass filter(Cutt off freq=Fh) and Low pass filter (cutt off freq= Fl)\_\_\_\_\_
  (A)Fh=Fl (B) Fh>Fl (C) Fh<F1 (D)..

**1. How many NAND gates required to implement AB+CD+EF**ANS. 4

**2. Transparent latch is seen in which type of flip flop**ANS. D flip-flop.

**3. Odd parity generator uses which logic?**1. Digital     2.Analog     3. Sequential     4.none

 **4. One question based on Ripple counter.**

**5. Which diagram corresponds to D-flip-flop?**

**6. Which type of ADC is fastest?**ANS-flash/Parallel

**7. Which one of the following is fastest read/writable memory?**1. PROM 2. EEPROM 3. Flash 4.none

**8. In array programming which one is used**1. SISD 2. PISD 3. MISD 4. None

**9. DSP uses the computer architecture derived from- 4 options. I don?t remember.**

**10. Solve ∫(t2∂(t-2)dt ?**

**11. they given the Bargraph and asked to find the voltage from it?**

**12.find laplace transform of e-2t?**ANS- 1/s+2.

**13. Which one of the following is correct-4 options i dont remember?**

**14. Given VSWR=2 find reflection coefficient?**ANS-1/3

 **15.There are 2 seats to fill in a office a wife and husband came for the interview. For overall competition the probability of a wife to get selected is 1/7. The probability of husband to be selected is 1/5. Then find the probability of either wife/husband to get selected?
16.given matrix 4 -3 -3
1 0 1
-5 -5 x find x?**

**17. Find the differential equation of y=Ae3x+Be2x ?**

**18. one problem based on determination of resistance and one on inverting and non inverting Amplifier.**

**19. two Questions based on capacitor and one question based on inductance?**

**20. The Unit step signal is given to inductance what is the output?**

**21. what is the difference b/w switch and HUB?**1. switch avoids flooding
2. HUB stops broadcasting.

**22. one question related to Energy signal and time signal (Depending on ampitude and Phase)?**

**23.a question related to switch to find resistance if switch is closed?**

**24.Aquestion based on SI and GE?**

**25.one question based on Enhancement MOSFET?**

**26. problem to find Iceo?**

**27.what is the advantage of using 4 diodes in Bridge rectifier compared to full wave rectifier?**

**28. Question related to PIV of bridge rectifier compared to Full wave rectifier?**

**29.Which one of the following has high I/p impedance**1. CC     2. CB     3. CE     4. None

**30. one question based on FET And JFET?**

**31. where does operating point located in B type power amplifier?**

**32. which type of power amplifier is used in satellite communication**1.Amplitron     2. Klystron     3. Magnetron     4. TWT

**33. de-emphasis is used to**1. Attenuate low signals.
2. Attenuate High signals.
3.Attenuate middle signals.
4. none.

**34. Envelope detector is an .....? Ans- Asynchronous detector.**

**35.which one of the following produce modulated signal as i/p signal?**1. FM     2. PM     3. AM     4. None

**36. they asked to find the gain? Given o/p power and i/p power.-4 options**

**37. Asked a question from EMfield on HEBD something.. i dont rem...?**

**38. find the modulous of 1+cosA+isinA?**I like to give advise to every one, dont refer only to these questions its better to see all the topics which i mentioned and best to follow GATE material(GK publications).