```
                   MASCOT SYSTEM 98
                      IIT MADRAS
###################################################################
#
##########
         General aptitude----30questions----30marks -----30minutes
         General techanical test----40questions---40marks----30minutes

         there will be negative marking (1:4)

              GENERAL APTITUDE TEST
                    (time:30 min)
```

%%%$$$

SECTION 1:Reading comprehension
* Represents answer

Middle level managers, such as department.heads and workshop directors

....
....
....
....
....
..(passage of one and half page.)

question & answers:

1.A reductive cycle is one in which
a.an employer attempts to reduce costs
b.the work-force is gradually reduced in number
c.costs decreases as....
* d.there is less productive effort on the oart of employees(yes)
2.If a substantial number of employees remain the reductive cycle one may
assume that
* a.the org. is enjoying increased business(yes)
b.the personnel dept....
c.the boss is not...
d.there is an unwholessome..
3.the passage indicates that unionisation of a worker...
a.opportunities for the workers realise..
b.opportunities for the workers to ...
c.moreplease working...
* d.greater fringe benifits include
4.according to the author management failures in supervision mainly
 attributable to

    a.carrying...
    b.a soft-hearted...
    c.ignorance.
   *d.lack of consideration.
5.employees will get together to seek an improvement of
conditions because
    of dissatisfaction stemming from
    i.   social just
    ii.economic
    iii.moral decadence
    a.i only
    b.ii only
    c.i and ii only
    *d.i & iii only

    SECTION II:Quantitative and numerical ability

6.the monthly personal maintenance allowance for a family of a
n
employee
is determined by the average age of family and size of the family.
jacob
was drawing rs.570 as PMA after he got married 6 years back.At present

he
drawss Rs 720 as PMA with his family of 3 after the birth of son?
  a. 2years
  b.3
  c.4
 *d.5 years
 7.white collar sells a shirt for an amount. Due to off season sale
white
collar started offering a discount of 20% on tag price. come diwali,
white
collar offered a further discount of 10% on the reduced price. If i ge
t
the shirt for Rs 108 what was the original price?
  a.Rs.180
  b.160
  c.145
 *d.none
 8. A vertical stick 10-cm long casts a shadow 6 cm long on the ground
under similar conditions a tower casts a shadow 10m long determine the
height of the tower to the 2nd place of the decimal.
 *a.16.67m

b.17.70m
c.16.8m
d.none
9.in the fig given below ...... which curve rep.the monthly savage
a.LR
*B.ST
c.PQ
d.none
10.two poles of height 7m and 12m stand on a play ground. If the distance
between their feet is 12m,find the distance between their tops.
a.12m
*b.13m
c.11m
d.none

SECTION III:Analogy

11. saint:holiness::mongol:
a.chinese
b.barbarity
c.tribal
*d.courageousness
12.entomologist:insects::ornithologist:
a.marine life
*b.birds
c.wild life
d.astronomy
13.ostraze:exclude::
* a.war:death
b.shipping:transport
14.rain:downpour::joy:
a.happiness
*b.triumph
c.ecstasy
15.niggardly:generous::dolorous:
a.understandable
b.practical
c.happy
* d.ostentatious

SECTION IV : INTELLIGENCE AND CRITICAL REASONING

16.which one of the following venn diagram...
  *a.
      (4 diagrams are there.)
17.in the given fig. (triangle.square.,circle)...
  a.A
 * b.B
  c.D
  d.E

direction:(18-20): In column one are listed certain groups of individual
while in column 2 are listedsome of the characteristics against each group
of individuals which are common to each member of that group

column 1	column 2
BCDFH	TU
DEGH	QRS
DEF	PN
ACDE	NS
GDE	PVQ
DEG	VQRS
CDE	VNO
BCD	VTS
ABD	PT

18.which characteristcs r found either in 'E' or 'F' or in both but not
in
'H'?
 a.QRS
 *b.NOP
 *c.PVN(CHECK THE ANSWER)
 d.UVW
19.which character is common to 'B' & 'C' but is not present in
'H'?
  a.U
 * b.V
  c.W
  d.T
20.which characteristics are common to 'C' & 'E' but are not
present in 'F'?
  a.T,V
  b.V,W
  c.T,U
  *d.O,P

SECTION V : Verbal ability

21.quixotic
  a.rapid
  b.exotic
  c.longing
  d.timid
* e.idealistic
22.recondite
  a.unfriendly
 *b.easily comprehensive
 c.closely juxtaposed
 d.broad minded
 e.sardonic
23.servile
 a.moral
 b.pue
 c.futile
 d.foul
 * e.haughty
24.tacit
 *a.spoken
  b.allowed
  c.neutral
  d.impertinent
  e.unwanted
25.macabre
 a.musical
 *b.frightening
 c.chewed
 d.wicked
 e.exceptional

SECTION VI:Analytical ability

   26. Fran: i want to stay out of ...
       Sid:that's not true....

       a. makes unfair demands on her students
       b.only gives grades to a few favoured students
       c.
       d.
     * e.never gives out grades of A

   27 – 28 (a small passage)

     27. the major logical.weakness of the argument above is the fact
that
     a.

b.it makes..
    *c.it draws no meaningful distinction between hands out and subsidies
    d.e.
    28. which of the following persons would be most likely to disagree
with the conclusions reached above argument
     a.the president..
   * b.the patenee of a new device designed to make the widget absolute
     c.

    29.- 30 (a small passage)
      In a laboratory study,160 rabbits in an experimental group wer
e
injected with serum d, while 160 rabbits in a control group were injected
with in two weeks, 39% of the experimental group rabbits had contracte
d
jungle fever, a highly contegious and usually fatal disease there fore
jungle fever must be caused by some substance similar to the substance
found in serum d
         29.the above argument would be most greatly strengthened if it
were shown that
          a. the normal..
          b.40% of
          c.serum...
         * d.the blood of jungle fever victims invariably contains a high
level of a certain toxic substance also
         30. the above argument would be most seriously weakened if it
were
shown that
          a. none of the..
          b.the rabbits..
          c.
          d.
          *e.one of the rabbits in the experimental group had had jungle
         fever prior to the start of the experiment

~~~~~~
~
~~~~~

genaral technical test
~~~~~~
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~~~~~
  Note:- * represents ans

  1) Which of the following language is a functional language
     a) RPG
     b) Small Talk
  * c) PI/I
     d) LISP

   2) What is ATM
     a)Automated teller machine
     b) all time money
  * c) Asynchronous ttransfer mode
     d) Acttive test moniter

   3) FDDI is a
  * a) ring network
     b) star network
     c) mesh network
     d) bus based network

   4) Which is pure object oriented language?
     a) Effiel
     b) c++
     c) object pascal
  * d) Small talk
   5) x.25 transfer protocal is used for
     a) packet switching
  * b) circuit switching
     c) framing
     d) datagram
   6) What is the binary equivalent of dicimal 269?
   a) 100001100
   b) 100001010
   c) 101001011
  * d) 100001101
  7) The 4NF is for
   a)related to Multi-Value Dependency
   b)related to transitive dependency
   c) "   functtion dependency
   d) non trival function or multi value dependency
  8) the LRU algorithem
   a) pages out pages that have been used recently
   b) pages out pages that have notbeen used recently
  *   c) pages out pages that have been least used recently
   d) pages out the first page in given data

9)   A search procedure which assosiates an address with a key value and
   provides a mechanism for dealing with two or more values assigned to
the
   same address to the same address is called.
   a) linear earch
   b) binary search
 *   c) hash coded search
  d) radix search
  10) a t-switch is used to
  a) control how message are passed between computers
  b) echo every character that received
  * c) transmit characers one at a time
  d) rearrange the ....
  11) EE-ROM is
  * a) electricity erasable
  b) easily   "
  c) non   "
  d) effective   "
  12) which device can sense inventtary data specified in bar codes?
   a) mouse
   b) light pen
  * c) holographs
   d) joysticks
  13)corba stands for ...
  * a. common object request broker architecture
  b. combined recovery based system
  c. code recovery bench architecture
  d. none of the above
  14)which is non-procedural language?
  *   a. effiel
  b. ada
  c. small talk
  d. sql
  15)which of the following language supports associative arrays?
  a. pl/i
  b. rpg
  * c.perl
  d. ada
  16)which network protocol IBM mainframe and midrange support
  *   a. SNA
  b. TCP/IP
  C. X.25
  d.IEEE 802.5
  17)the achronym DAN stands for
  a.data acess nettwork
    * b.distributed area network
  c.desktop area network
  d.disk access node

18)the program fragment that follows is written in a block-structured
   language . Assume that it is syntactically correct and determine its
   output

```
              begin
                integer x,y;
                x:=3;y:=7;
                begin
                    integer x;
                      begin
                        integer y;
                        y:=9;
                        x:=2*y;
                      end;
                      x:=x+y;
                      print(x);
                end;
                print(x);
          end;
```
a.25 27
b.27 27
c.27 3
d.25 3
  *e.25 25
19)which of the following is responsible for coordinating various
operations using timing signals?
a.arithmetic-logic unit
  *b. control unit
c. memory unit
d. input/output unit
20) microprocessors can be used to make
a. computers
b.calculators
c.digital systems
  *d.all the above
21)FORTRAN implimentation do not permit recursion because
 * a) they use static allocation for variables
b)   "   dynamic   "   "
c) stacks are not avalible on all machines
d) it is not possible to impliment recursion on all m/c s

22) what does the following code do
```
  var a,b :integer
  begin
     a :=a+b
     b :=a-b
     a :=a-b
   end;
```
* a) exchange a and b

b) doubles a and stores in b
c) "   b   "   a
d) leaves a and b unchanged
e) none
23) for program segament given bellow, which of the follwing are true?

```
  program     main(output)
  type link = ^data
       data = record
           d : record
           n : link
           end;
   var ptr : link;
   begin
       new(ptr);
       ptr :=nil;
       ptr ^.d :=5.2
        written(ptr);
          end;
```

a) the programme leads to compile time error
b) "   "   run   "   "
c) the programme produces error relating to nil pointer dereferencing
e) both b and a

24) what is the output of the program segament belowif the compiler operates
  call byreference?

```
 procedure CALC(P,Q,R);
 begin
     Q:=Q-1.0
     R:=Q+P
  end;
  begin{main}
   A:=2.5; B:=9.0;
   CALC(B-A,A,A);
   print(A);
   end; {main}
```

a) 1.5
b) 2.5
c) 10.5
* d) 8
e) 6.5

25) Which of the following is not provided in C?
a) test loops
b) grouping and subprograms
* c) synchronization, coroutines,and parallel processing
e) all the above

26) Data encryption
   a) is most used by public billboard networks
* b)   "   "   "   financial   "
 c) canot   "   private installation
 d) is not necessary ..

27) An ideal compiler should
 a) be a smaller in size
 b) produce object code that is smaller in size and executes faster
 c) take less time of compiling
 * d) all the above

28) What will be the value of x and y after execution of the follwing
     statment (C language)
     n== 5; x = n++; y = --x;
 a) 5,4
 b) 6,5
 c) 6,6
* d) 5,5

29)
1 i:=1;sum:=0;
   repeat
   begin
2   sum:=sum+1;
3   i:=i+1
   end;
4 until i=n

 let"A" represent the initialization(i:=1;sum:=0)of line
1.let"B"represent
 the summing action within the loop(loop 2),and let "i"
represent the increment
 (line 3).if "T"represents the best contained in line 4,which
of the
following regular expressions represents all possiblee sequences of th
e
steps
taken by this program fragment?
a. A(BIT)(BI) T
B. A(BIT)
C. A(BIT)
D. A(BIT) T
E. A(BIT) T

30)consider the production grammer
                S   ->   AB
                S   ->   BC
                A   ->   WA

```
            A        -&gt;    X
            B        -&gt;    Y
            B        -&gt;    ZB
            C        -&gt;    W
```

consider this grammer together with one and only one of the productions
(A)
through(E).what production from the list may not be added to retain its
status as an LL(1) grammer?
a. S   -> CA
B. S   -> Z
C. C   -> Z
D. C   -> BC
E. MORE THAN ONE OF THE ABOVE

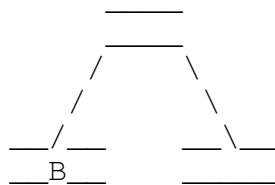31)consider the function below:

```
function calc(x,y:integer):integer;
begin
  if y=1
  then calc:=x
   else calc:=calc(x,y-1)+x
end;
```

assuming that the invocation call is "calc(a,b)"and that
"a"and "b"are
positive integers,what result does this function return?
a. a*(b-1)
b. a*b
c. a+b
d. a power b
e. a*b

32)in a left-to-right breadth-first search of the tree below,which would be
first terminal node to be explored?

```
                    _____
                   _____
                  /     \
                 /       \
               _/__     __\__
              __B__     _____
```

a. F
b. B
c. I
d. J
e. E

33. which data struture is needed to convert infix notations to postfix
notations?
a. linear list
b. queue
c. tree
d. stack   ans:d

34. recursive procedures are implemented by
a.queues
b.stacks
c.linked lists
d.strings

   35. A linear list of elments in which deletion can be done from one

end (front)and
insertion can take place only at the other end(rear)is known as
 *a) queues
  b)stacks
  c)trees
  d)deque

   36. A linear list in which elements can be added or removed at either
end but not in the middle is known as
 a)queue
 *b)deque
 c)stack
 d)tree

 37)which of the following sorting procedure is slowest
  a)quick sort
  b)heap sort
  c)shell sort
  *d)bubble sort

 38)How many 1's are present in the binary representation of
     3 x 512 + 7 x 64 + 5 x 8 =3?
        a)8
        b)9
        c)10
        d)11
        *e)12

39)File record length
 *a)should always be fixed
 b)should always be variable
 c)depends upon the size of the file
 d)should be choosen to match the data characteristics

 40)NLP stands for

*a)natural language processing
b)neuro logic programming
c)normal logic pad
d)nominal loadable process
e)none