# ARMY WELFARE EDUCATION SOCIETY
## WRITTEN TEST PAPER FOR TEACHERS SELECTION: 09 DEC 2012
## PART-'B' : Computer Science / I P (PGT) : SUBJECT CODE : (P51)
### GENERAL INSTRUCTIONS

1. DO NOT open this booklet until you are asked to do so.

2. FILL SCHOOL CODE, REGN NUMBER ON OMR ANSWER SHEET CAREFULLY AND SIGN ON THE RIGHT BOTTOM CORNER OF OMR SHEET.

3. Total duration of the test is 2 Hours and Maximum Marks are 120.

4. There are total 100 questions. All questions are objective type-multiple choices. All questions carrying equal marks.

5. DO NOT write anything on this question booklet.

6. After the test, please return this booklet along with OMR-Answer sheet to the invigilator.

7. You are not allowed to leave the examination hall before 1300h.

## Instructions for filling the OMR Sheet

8. Read instructions printed on the OMR Sheet carefully before answering. Each item has four choices; A, B, C and D. Each choice is denoted by a circle. Shade the appropriate circle using Blue/Black Pen. Be absolutely sure of your option before shading the circle since you are not permitted to erase your response once shaded. More than one response will make your answer invalid. There is NEGATIVE MARKING for wrong answer.

## Rough Work

9. For any rough work use the separate sheet provided along with the text booklet. DO NOT do any rough work on the answer sheet or any other paper.

1. The maximum frequency at which digital data can be applied to a gate is defined as
   (a) Operating speed
   (b) Propagation speed
   (c) Transaction period
   (d) Propagation delay

2. The octal equivalent of 111010 is
   (a) 81
   (b) 71
   (c) 72
   (d) none of the above

3. Which of the IC has only one input line?
   (a) Multiplexer
   (b) Demultiplexer
   (c) AND gate
   (d) BCD to decimal decoder

4. According to Boolean algebra A+A+A+...A is
   (a) nA    (b) A/n    (c) 1    (d) A

5. Which logic function has the output low only when all inputs are high?
   (a) AND    (b) NAND    (c) OR    (d) NOR

6. Which of the following is not a register?
   (a) Buffer
   (b) Stack
   (c) Program Counter
   (d) Accumulator

7. Which command in DOS would be used to duplicate the entire diskette?
   (a) COPY DSK
   (b) CHKDSK
   (c) COPY CON
   (d) DISKCOPY

8. Indicate which is preemptive scheduling algorithm
   (a) Round-Robin
   (b) Shortest Job Next
   (c) Deadline
   (d) First come first serve

9. A page fault
   (a) is an error on a specific page.
   (b) occurs when a program accesses a page of memory.
   (c) is an access to a page not currently in memory.
   (d) is a reference to page belonging to another program.

10. Interval between the time of submission and completion of the job is called
    (a) Waiting Time
    (b) Turnaround Time
    (c) Throughput
    (d) Response Time

11. An assembler is
    (a) Programming language dependent.
    (b) Syntax dependant.
    (c) Machine dependant.
    (d) Data dependant.

12. Situation where two or more processes are reading or writing some shared data and the final result depends on who runs precisely when, are called
    (a) Race condition
    (b) Critical section
    (c) Mutual exclusion
    (d) Message passing

13. The main function of the dispatcher is to
    (a) Swapping a process to the task.
    (b) Assign ready process to the CPU.
    (c) Suspending some of the processes when the CPU load is high.
    (d) Bring processes from the disk to the main memory.

14. Consider a computer with 8 Mbytes of main memory and 128K cache. The cache block size is 4 K. It uses a direct mapping scheme for cache management. How many different main memory blocks can map onto a given physical cache block?
    (a) 2048
    (b) 56
    (c) 64
    (d) 32

15. Lynx is
    (a) Operating System.
    (b) Browser of UNIX.
    (c) It is available on internet for free
    (d) All of above

16. Which of the following algorithm solves the all-pair shortest path problem?
    (a) Dijikstra's algorithm
    (b) Floyd's algorithm
    (c) Prim's algorithm
    (d) Warshall's Algorithm

17. Which of following software engineering concepts does Ada Language support?
    (a) Abstraction
    (b) Generic
    (c) Information hiding
    (d) All the above

18. The system identifies a file by its
    (a) name
    (b) inode number
    (c) absolute path
    (d) file owner

19. The fundamental switching action of a TTL gate is based on a
    (a) Multiple-emitter input transistor
    (b) Diode
    (c) Synthesizer
    (d) None of the above

20. Testing beyond normal operational capacity, often to a breaking point, in order to the result is termed as
    (a) Integration testing
    (b) Stress testing
    (c) Unit testing
    (d) Term test

21. A locked file can be
    (a) Accessed by only one user.
    (b) Modified by the users with the current password
    (c) Used to hide sensitive information
    (d) Both (a) and (b)

22. ActiveX is advanced form of
    (a) OLE    (b) OCX    (c) ADO    (d) DAO

23. Which of following can be an Ethernet physical address?
    (a) 01:02:01:2C:4B
    (b) 07:06:01:02:2C:4b:2C
    (c) 07:01:02:01:2C:4B
    (d) None of these

24. In an OSI model, as a data packet moves from the lower to the upper layers, headers are
    (a) Added    (b) Removed    (c) Rearranged    (d) modified

25. A channel whose direction of transmission is unchanging is referred to as
    (a) Full-duplex channel
    (b) Half-duplex channel
    (c) Simplex channel
    (d) duplex

26. Which protocol is for data transmission and is bi-directional, used in the data link layer that corresponds to layer 2 of OSI model
    (a) Sending window
    (b) Sliding window protocol
    (c) Stop and wait ARQ
    (d) Sliding window

27. A special eight-bit sequence _____ is referred to as a flag
    (a) 01111111    (b) 11101110    (c) 11101110    (d) 01111110

28. A logical schema
    (a) is the entire database.
    (b) is a standard way of organizing information into accessible parts.
    (c) describes how data is actually stored on disk.
    (d) both (a) and (c)

29. A 4-bit synchronous counter uses flipflops with propagation delay times of 15 ns each. The maximum possible time required for change of state will be
    (a) 30 ns.    (b) 45 ns.    (c) 15 ns.    (d) 60 ns.

30. Choose the correct one
    (a) Address operator can not be applied to register variables
    (b) Address operator can be applied to register variables
    (c) Use of register declaration will increase the execution time
    (d) None of the above

31. The attribution of human form or qualities to things such as machines or computers is called?
   (a) Cybernetics     (b) Anthropomorphism
   (c) Cybernation     (d) Artificial intelligence

32. Which of the following tools is not normally used during system analysis?
   (a) Program flow chart     (b) Grid chart
   (c) System flow chart     (d) Question check-list

33. The world's first single chip Microprocessor
   (a) Intel 8080     (b) Intel 4004
   (c) Intel 8048     (d) 80386DX

34. India's fastest super computer
   (a) EKA     (b) PARAM 20000
   (c) SAGA-220     (d) Flosolver-MK18

35. Prior to 1924, IBM was known as
   (a) Tabulator Machine Co.
   (b) The Tabulator Ltd.
   (c) International computers
   (d) Computer Tabulating Recording Co.

36. The ASCII code is
   (a) Numeric code     (b) same as BCD code
   (c) an alphanumeric code     (d) four bit code

37. Which gate corresponds to the action of parallel switches?
   (a) OR gate     (b) AND gate
   (c) NAND gate     (d) NOR gate

38. The race condition is related to
   (a) Sequential Circuit     (b) Digital Circuit
   (c) Synchronous Circuit     (d) Synchronous Circuit

39. What is the name of the arrangement whereby several central processing units share one memory?
   (a) Multitasking     (b) Multiprogramming
   (c) Multiprocessing     (d) Concurrent programming

40. An incremental backup
   (a) should be done each month
   (b) saves only files that have been recently changed
   (c) uses more tapes
   (d) saves all files

41. Give the output of the following program
```
#include <iostream.h>
void main()
{
int x[]={5,1,9,7,2,8};
int *q=x;
int p=*q;cout<<endl<<p;
p=*q++;cout<<endl<<p;
p=*q;cout<<endl<<p;
p=*++q;cout<<endl<<p;
}
```
   (a) 1 1 2 3
   (b) 5 5 1 9
   (c) 5 5 5 1
   (d) No output

42. Give the output of the following program
```
#include <iostream.h>
void main()
{
int x[]={5,2,6,9,8};
int *p,**q,*t;
p=x;
t=x+1;
q=&t;
cout<<endl<<*++p<<" "<<**q<<" "<<*t++;
}
```
   (a) 1 1 1 1     (b) 5 2 6
   (c) 2 6 2     (d) 2 6 9

43. Give the output of the following program
```
#include <iostream.h>
void main()
{
int a[]={1,5,8,12,43};
int *p=a+3;
int c=++*p++;
cout<<endl<<c<<" "<<*p;
}
```
   (a) 13 43     (b) 42 12
   (c) 12 43     (d) 43 13

44. Give the output of the following program
```
#include <iostream.h>
void main()
{
int i=1;
for(; i<=3;)
cout<<i++;
}
```
   (a) 321     (b) 123
   (c) 111     (d) No Output

45. Give the output of the following program
```
#include <iostream.h>
void main()
{
int a[]={20,30,40,50};
cout<<-2[a];
}
```
   (a) -40     (b) -20
   (c) 20     (d) 40

46. Give the output of the following program
```
#include <iostream.h>
void main()
{
cout<<sizeof(5.4);
}
```
   (a) No output     (b) 4
   (c) 0     (d) 8

47. Give the output of the following program
```
#include <iostream.h>
#define x 5+2
void main()
{
int k=x*x*x;
cout<<k;
}
```
   (a) Error
   (b) 343
   (c) 27
   (d) No output

48. Give the output of the following program
```
#include <iostream.h>
#define x 5
void main()
{
int k=x++;
cout<<k;
}
```
   (a) 5     (b) 6
   (c) No output     (d) Error - Lvalue required

49 Give the output of the following program
```
#include <iostream.h>
#define N(x,y) x##y
void main()
{
cout<<N(5,6);
}
```
   (a) 0     (b) No output
   (c) 56     (d) Error

50. Shyam designed a game which requires random numbers between 203 to 227 (both inclusive). He will write which of the following statement in his program:-
(a) k= random(25)+203;   (b) k= random(203)+25;
(c) k= random(203)+227;   (d) k= random(25)+227;

51. The resolution offered by SVGA is (in pixels)
(a) 1024x768          (b) 720x348
(c) 1280x1024         (d) 640x350

52. Which of the following does not generate a hardware interrupt?
(a) Printer            (b) Program error
(c) Hard Disk          (d) Floppy disk

53. Which of the following operation is used if we are interested in only certain columns of a table?
(a) PROJECTION        (b) SELECTION
(c) UNION             (d) JOIN

54. The natural join is equal to:
(a) Cartesian Product
(b) Combination of Union and Cartesian product
(c) Combination of selection and Cartesian product
(d) Combination of projection and Cartesian product

55. Which one of the following is not true for a view?
(a) View is derived from other tables.
(b) View is a virtual table.
(c) A view definition is permanently stored as part of the database.
(d) View never contains derived columns.

56. Which of the following describes the physical storage structure of a database?
(a) External level     (b) Internal level
(c) Conceptual model   (d) All of these

57. The _____ allows for automatic deletion of child records when a parent record is deleted.
(a) force delete       (b) on delete enable
(c) on delete cascade  (d) enable delete

58. A friend function of a class is a function that

(a) is not a member of a class but allowed to use private and protected members.
(b) is a member of class and allowed to use private and protected members.
(c) is a member of class and allowed to use only private members.
(d) is not a member of a class and not allowed to use private and protected members.

59. A static data member is different from ordinary data member of class as
(a) Its declaration can be done outside class definition.
(b) Only one copy of this data member is maintained for entire class.
(c) Its definition must be inside the class definition.
(d) All of the above.

60. The prefix form of A-B/(C*D^E) is:
(a) -/*^ACBDE         (b) -ABCD*^DE
(c) -A/B*C^DE         (d) -A/BC*^DE

61. Which one of the following is not an attribute of <HR> tag?
(a) Align   (b) bgcolor   (c) Size   (d) Noshade

62. Which attribute of <table> tag is used to set background color of table?
(a) background        (b) colorbg
(c) bgcolor           (d) backcolor

63. The default value of Frame attribute of table tag is:
(a) ABOVE   (b) BELOW   (c) HSIDES   (d) VOID

64. Which of following is not true about XML?
(a) XML is content markup language.
(b) XML is display driven.
(c) XML is strictly interpreted.
(d) XML requires validation.

65. An IPv6 address has ___ groups of hexadecimal characters.
(a) 8        (b) 4        (c) 6        (d) 12

66. Which of the following is not a primary object of ASP Object Model?
(a) The Request object    (b) The Response object
(c) The Server object     (d) The code object

67. In ASP buffer is cleared by :
(a) Clean method        (b) Flush method
(c) Clear method        (d) Buffer method

68. Before it is published, a flash document, while it is being developed, has the extension
(a) .fif               (b) .fls
(c) .swf               (d) .fla

69. Suppose a class has public visibility. In this class we define a protected method. Which of the following statements is correct?
(a) This method is accessible from within the class itself and from within all classes defined in the same package as the class itself.
(b) This method is only accessible from inside the class itself and from inside all subclasses.
(c) In a class, you can not declare methods with a lower visibility than the visibility of the class in which it is defined.
(d) From within protected methods you do not have access to public methods.

70. Given the following piece of code:
    public interface Guard{ void
doYourJob(); }
    abstract public class Dog implements
Guard{}

Which of the following statements is correct?
(a) code will not compile, because method doYourJob() in interface Guard must be defined abstract.
(b) code will not compile, because class Dog must implement method doYourJob() from interface Guard.
(c) code will not compile, because in the declaration of class Dog we must use the keyword extends instead of implements.
(d) This code will compile without any errors.

71. Which of the following statements about GUI components is wrong?
(a) Swing exists since version 1.2 of the jdk.
(b) The AWT classes are deprecated.
(c) AWT stands for Abstract Window Toolkit
(d) You can not place AWT components on Swing containers.

72. Which of the following is a java keyword?
(a) transient   (b) strictfp   (c) native   (d) all of these

73. Input stream class is :
(a) An interface defined in the java.io package
(b) A byte stream class used to read bytes from a file
(c) An abstract class which contain method to read 8 bit-bytes
(d) A class used to read primitive data types

74. Which of the following positions the components into five regions: east, west, north, south, center
(a) BorderLayout       (b) CardLayout
(c) GridLayout         (d) FlowLayout

75. What will be the output of the program?
    public class MyProgram
      { public static void main(String args[])
        { try { System.out.print("Hello
world "); }
          finally{
System.out.println("Finally executing "); }
        } }

(a) Nothing. The program will not compile because no exceptions are specified.
(b) Nothing. The program will not compile because no catch clauses are specified.
(c) Hello world Finally executing
(d) Hello world.

76. A constructor
    (a) must have the same name as the class it is declared within.
    (b) is used to create objects.
    (c) may be declared private
    (d) a, b and c

77. Gopher Service is?
    (a) Design to act as a distributed document delivery system.
    (b) Is multiple access portal.
    (c) Is email service.
    (d) None of the above

78. What is a spider?
    (a) A computer virus
    (b) A program that catalogs Web Sites
    (c) A hacker
    (d) A spying software

79. In HTML web page, if the background image is smaller than the screen, what will happen?
    (a) It will be stretched
    (b) It will be pasted in center of screen
    (c) It will be repeated
    (d) It will leave blank space at bottom of web page.

80. Which attribute of <table> tag is used to set amount of space between the edges of the cell & its contents?
    (a) Hspace          (b) Cellpadding
    (c) Cellspacing     (d) Align

81. The default value (PIXELS) of CELLSPACING attribute of table tag is:
    (a) 2       (b) 4       (c) 3       (d) 6

82. Which of following is not a building block of XML document?
    (a) ELEMENTS        (b) FRAMES
    (c) PCDATA          (d) CDATA

83. This component provides network traffic control including rate-of-flow and prioritization services.
    (a) Client for Microsoft Networks
    (b) Link-Layer topology discovery responder
    (c) Internet protocol version 6
    (d) QoS Packet Scheduler

84. Given the following piece of code:
```
        public class Test { public static void
main(String args[])
        { int i = 0, j = 5 ;
        for( ; (i < 3) && (j++ < 10) ; i++ ) {
System.out.print(" " + i + " " + j ); }
        System.out.print(" " + i + " " + j ); } }
```
    What will be the result?
    (a) 0 6 1 7 2 8 3 8     (b) 0 6 1 7 2 8 3 9
    (c) 0 5 1 5 2 5 3 5     (d) Compilation fails

85. Given the following piece of code:
```
        public class Company{ public abstract
double calculateSalaries();}
```
    Which of the following statements is true?
    (a) The keywords public and abstract cannot be used together.
    (b) The method calculateSalaries() in class Company must have a body.
    (c) You must add a return statement in method calculateSalaries().
    (d) Class Company must be defined abstract.

86. Which collection class associates values with keys, and orders the keys according to their natural order?
    (a) java.util.HashSet       (b) java.util.LinkedList
    (c) java.util.TreeMap       (d) java.util.SortedSet

87. Which of the following is not java keyword?
    (a) break       (b) package
    (c) static      (d) imports

88. The method wait() and notify() are defined in
    (a) Java.lang.object        (b) Java.lang.thread
    (c) Java.lang.string        (d) Java.lang.thread group

89. Java Stream classes can be categorised into two groups:
    (a) Stream and String Classes
    (b) Byte and Character Stream Classes
    (c) String and Character Stream Classes
    (d) Buffer and Character Stream Classes

90. Which of the following arranges the components horizontally
    (a) BorderLayout        (b) CardLayout
    (c) GridLayout          (d) FlowLayout

91. What is byte code in the context of Java?
    (a) The type of code generated by a Java compiler
    (b) The type of code generated by a Java Virtual Machine
    (c) It is another name for a Java source file
    (d) It is the code written within the instance methods of a class.

92. Which cannot directly cause a thread to stop executing?
    (a) Calling the SetPriority() method on a Thread object.
    (b) Calling the wait() method on an object.
    (c) Calling notify() method on an object.
    (d) Calling read() method on an InputStream object.

93. The method which belong to string class is
    (a) substring( )        (b) length()
    (c) equals()            (d) compare to()

94. What is garbage collection in the context of Java?
    (a) The operating system periodically deletes all of the java files available on the system.
    (b) Any package imported in a program and not used is automatically deleted.
    (c) When all references to an object are gone, the memory used by the object is automatically reclaimed.
    (d) The JVM checks the output of any Java program and deletes anything that doesn't make sense.

95. In ASP objects have properties, methods, events and :
    (a) Collections     (b) Containers
    (c) Counters        (d) Locks

96. What is the name of the method used to start a thread execution?
    (a) init( );         (b) start( );
    (c) run( );          (d) resume( );

97. Two's compliment of 1010.01 is
    (a) 0101.11          (b) 0100.10
    (c) 0100.11          (d) 0101.10

98. Dirty bit is used to show the
    (a) Page with corrupt data.
    (b) The wrong page in the memory.
    (c) Page that is modified after being loaded into cache memory.
    (d) The page is less frequently accessed.

99. Which of following is a term that applies to the spacing between text characters?
    (a) leading          (b) tracking
    (c) scripting        (d) kerning

100. A bitmap compression format for storing graphic file data.
    (a) .fif     (b) .AVI     (c) .ogg     (d) .AU