# PSC Programmer - KPSC Examination Previous Year Question Paper

*Exam Name: **Programmer - KPSC***

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*Medium of Questions: **English***

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Maximum : 100 marks

Time : 1 hour and 15 minutes

1. SCSI stands for :
   - (A) Small Computer Systems Interface
   - (B) Simple Component Systems Interface
   - (C) Simple Computer Systems Interface
   - (D) Small Component Systems Interface

2. Which of the following is a logical extension of multiprogramming?
   - (A) Multi processing
   - (B) Multitasking
   - (C) Real time processing
   - (D) Distributed processing

3. Which among the following is not an example of a Java wrapper class?
   - (A) Char
   - (B) Integer
   - (C) Boolean
   - (D) Byte

4. Which one of the following is not an ACID property?
   - (A) Atomicity
   - (B) Consistency
   - (C) Isolation
   - (D) Dependency Preservation

5. Which among the following sorting method is also known as Bucket sorting?
   - (A) Radix sort
   - (B) Heap sort
   - (C) Merge sort
   - (D) Quick sort

6. Which one of the following key is called the minimal super key?
   - (A) Candidate key
   - (B) Super key
   - (C) Primary key
   - (D) None

7. A relation schema $R$ is in ————, if whenever a nontrivial functional dependency $X \to A$ holds in R, then $X$ is a super key of $R$.
   - (A) 3NF
   - (B) BCNF
   - (C) 4NF
   - (D) 5NF

8. The maximum number of relationship instances that an entity can participate in, can be specified by :
   - (A) Degree
   - (B) Cardinality ratio
   - (C) Participation constraint
   - (D) Dependency constraint

A                                    3                                    [P.T.O.]

9.  The time required to insert an element in a stack with linked implementation is :
    (A)   $O(1)$                          (B)   $O(n)$
    (C)   $O(\log_2 n)$                    (D)   $O(n \log_2 n)$

10. FPI stands for :
    (A)   Faults per inch                  (B)   Frames per inch
    (C)   Figure per inch                  (D)   Film per inch

11. A binary search tree is generated by inserting the following integers in order
    50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24
    The number of nodes in the left sub tree and right sub tree of the root respectively is :
    (A)   (4, 7)                           (B)   (7, 4)
    (C)   (8, 3)                           (D)   (3, 8)

12. What is the postfix form of the following expression :
    A + (B * C- ( D / E ^ F) * G) * H
    (A)   ABC*DEF ^ / G* - H*+             (B)   ABC*DEF^ / G - *H*+
    (C)   ABC*DEF / ^ G*-H*+               (D)   ABC*DEF / ^ G- *H*+

13. The maximum throughput Smax for pure ALOHA is :
    (A)   .368                             (B)   .186
    (C)   .184                             (D)   .364

14. An array element is accessed using :
    (A)   a first in first out approach    (B)   the dot operator
    (C)   a member name                    (D)   an index number

15. What is the minimum number of edges which must be removed from a complete bipartite graph of six nodes K(6), so that the remaining graph is planar?
    (A)   3                                (B)   4
    (C)   5                                (D)   6

16. If x is an array of integer, then the value of &x[i] is same as :
    (A)   x+i                              (B)   x+sizeof(int)*i
    (C)   &x[i-1]+sizeof(int)              (D)   None of these

17. The best normal form of the relation schema R(A, B, C, D) along with set of functional dependencies F = { AB → C, AB → D, C → A, D → B } is :
    (A)   First Normal Form                (B)   Second Normal Form
    (C)   Third Normal Form                (D)   Boyce Codd Normal Form

18. The GSM network is divided into the following three major systems :
    (A)  SS, CELL, MSC          (B)  SS, BSS, OSS
    (C)  BSS, BSC, MSC        (D)  CELL, BSC, OSS

19. The worst case time complexity of AVL tree is better in comparison to binary search tree for :
    (A)  Search and Insert operations
    (B)  Search and Delete operations
    (C)  Insert and Delete operations
    (D)  Search, Insert and Delete operations

20. If the disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O block requests are 98 , 37 , 14 , 124 , 65 ,67 :
    (A)  320          (B)  321
    (C)  322          (D)  325

21. The following program
```
main ( )
{
        If(fork( )>0)
            sleep(100);
}
```
    (A)  A zombie process
    (B)  An orphan process
    (C)  A process that executes forever
    (D)  All of the above

22. Which of the following logic families is well suited for high speed operations?
    (A)  TTL          (B)  MOS
    (C)  ECL          (D)  CMOS

23. Procedural code that is automatically executed in response to certain events on a particular table or view in a database :
    (A)  Cursor          (B)  Stored procedure
    (C)  Transaction         (D)  Trigger

24. A flip-flop circuit can be used for :
    (A)  Counting          (B)  Scaling
    (C)  Both counting and scaling      (D)  Demodulation

25. Consider a disk pack with 16 surfaces, 128 tracks per surface and 256 sectors per track. 512 bytes of data are stored in a bit serial manner in a sector. The capacity of disk pack and the number of bits required to specify a particular sector disk are respectively :
   (A)  256 Mbytes, 19 bits          (B)  256 Mbytes, 28 bits
   (C)  512 Mbytes, 20 bits          (D)  64 Gbytes, 28 bits

26. Which of the following instructions requires the most number of T-states?
   (A)  MOV A, B                      (B)  LDAX B
   (C)  DAD D                         (D)  MOV A, M

27. Which among the following is not used as a data structure while implementing Banker's Algorithm for Deadlock avoidance?
   (A)  Available                     (B)  Max
   (C)  Allocation                    (D)  Required

28. The process of shuffling the memory contents so as to place all free memory together in one large block is called :
   (A)  Segmentation                  (B)  Paging
   (C)  Fragmentation                 (D)  Compaction

29. Bluetooth technology is the implementation of a protocol defined by the standard :
   (A)  IEEE 802.11                   (B)  IEEE 802.14
   (C)  IEEE 802.15                   (D)  IEEE 802.16

30. UDDI stands for :
   (A)  Universal Description, Discovery and Integration
   (B)  Universal Description, Detection and Integration
   (C)  Universal Discovery, Description and Integration
   (D)  Universal Detection, Description and Integration

31. Which of the following statement is correct about the program given below :
```
#include<stdio.h>
void main( )
{
        int arr[3][3]={ 1, 2, 3, 4);
        printf("%d", *(*(*(arr))));
}
```
   (A)  It will output a garbage value.
   (B)  It will output a value 1.
   (C)  It will output a value 3.
   (D)  It will report an error

32. The mechanism which allows multiple senders to transmit multiple groups of receivers, permits individual receivers to switch channels freely and optimizes bandwidth use while at the same time eliminating congestion :

(A) Resource Reservation Protocol      (B) Load Shedding

(C) Admission Control      (D) Jitter Control

33. The wait( ) and notify( ) methods in Java comes under the class :

(A) java.lang.Thread      (B) java.lang.Object

(C) java.lang.Runnable      (D) None of these

34. Which method is used for garbage collection in java?

(A) finally( )      (B) final( )

(C) finalize( )      (D) none of these

35. Good software attributes are :

(A) High Cohesion Low Coupling      (B) Low Cohesion High Coupling

(C) Low Cohesion Low Coupling      (D) High Cohesion High Coupling

36. The fourth level of Capability Maturity Model is :

(A) Repeatable      (B) Defined

(C) Managed      (D) Optimizing

37. The installation approach in which totally removing the old manual or computerized system and putting the new system in use :

(A) Parallel run      (B) Phased approach

(C) Pilot installation      (D) None of these

38. Spiral model comes under the process model :

(A) Prototype Model      (B) Iterative Model

(C) Formal Model      (D) Component Assembly Model

39. If $P(A)$ and $P(B)$ are the probabilities of $A$ and $B$, then Baye's theorem can be stated as :

(A) $P(A \mid B) = \dfrac{P(B \mid A)P(B)}{P(A)}$      (B) $P(A \mid B) = \dfrac{P(B \mid A)P(A)}{P(B)}$

(C) $P(A \mid B) = \dfrac{P(B \mid A)}{P(B)}$      (D) $P(A \mid B) = \dfrac{P(B \mid A)}{P(A)}$

40. Which of the following statements is FALSE?

   (A)   $(P \wedge Q) \vee (\sim P \wedge Q) \vee (P \wedge \sim Q)$ is equal to $\sim Q \wedge \sim P$

   (B)   $(P \wedge Q) \vee (\sim P \wedge Q) \vee (P \wedge \sim Q)$ is equal to $Q \vee P$

   (C)   $(P \wedge Q) \vee (\sim P \wedge Q) \vee (P \wedge \sim Q)$ is equal to $Q \vee (P \wedge \sim Q)$

   (D)   $(P \wedge Q) \vee (\sim P \wedge Q) \vee (P \wedge Q)$ is equal to $[(P \vee \sim P) \wedge Q] \vee (P \wedge Q)$

41. SignalR is a library which provides the facility of real time web functionality to :

   (A)   Java Applications          (B)   PHP Applications

   (C)   ASP .NET Applications      (D)   None of these

42. JSP is a technology for developing web pages that support dynamic content which helps developers insert Java code in HTML pages by making use of special JSP tags, most of which :

   (A)   start with <% and end with %>.      (B)   start with <and end with/>.

   (C)   start with <? and end with ?>.       (D)   None of these

43. Which of the following is the correct syntax in CSS?

   (A)   list-style-image: url("sqpurple.gif");

   (B)   list-style-image= url('sqpurple.gif');

   (C)   list-style-image- url('sqpurple.gif');

   (D)   list-style-image: url('sqpurple.gif');

44. The method(s) which returns the index of a specified text in a string in Java script is :

   (A)   search( ) only             (B)   indexOf( ) only

   (C)   both search( ) and indexOf( )   (D)   substring( )

45. AJAX is based on internet standards, and uses a combination of :

   (A)   XMLHttpRequest object, JavaScript, JQuery, XML

   (B)   XMLHttpRequest object, JavaScript, CSS , XML

   (C)   XMLHttpRequest object, JavaScript, Silverlight, XML

   (D)   None of these

46. In PHP, an array with named keys are called :

   (A)   Indexed arrays            (B)   Multidimensional arrays

   (C)   Associative arrays        (D)   Numeric arrays

47. Which of the following are used for client side scripting?

   (A)   Java script and VB script       (B)   Java script ,VB script and XML

   (C)   Java script and XML             (D)   VB script and XML

48. The Java compiler translates source code into :
    (A) Machine code                    (B) Assembly code
    (C) Byte code                       (D) JVM code

49. Which of the following is not a valid type in Java?
    (A) void                            (B) static
    (C) byte                            (D) boolean

50. Scanner class comes under the package :
    (A) java.lang                       (B) java.io
    (C) java.net                        (D) java.util

51. Which one of the following is not a method of Window Listener interface?
    (A) windowShown( )                  (B) windowClosed( )
    (C) windowIconified( )              (D) windowClosing( )

52. The Graphics class method used to draw a circle in an applet is :
    (A) drawRect( )                     (B) drawCircle( )
    (C) drawSphere( )                   (D) drawOval( )

53. In E-R model, dotted oval represents :
    (A) Stored attribute                (B) Key attribute
    (C) Derived attribute               (D) Partial key attribute

54. What is the output of the following program?
    ```
    public class Test
    {
        public static void main(String arg[ ])
        {
            public static final int value = 5;
            float total;
            total = value + value/2;
            System.out.print(total);
        }
    }
    ```
    (A) 5.0                             (B) 7.0
    (C) 7.5                             (D) None of these

55. A partial ordered relation is transitive, reflexive and :

    (A)  antisymmetric              (B)  bisymmetric

    (C)  asymmetric                (D)  symmetric

56. $[\sim q \wedge (p \rightarrow q)] \rightarrow \sim p$ is :

    (A)  Satisfiable                (B)  Unsatisfiable

    (C)  Tautology                (D)  Invalid

57. Pigeonhole principle states that if $A \rightarrow B$ and $|A| > |B|$ then :

    (A)  $f$ is not onto            (B)  $f$ may be one-one

    (C)  $f$ is neither one-one nor onto    (D)  $f$ is not one-one

58. IDEA stands for :

    (A)  International Digital Encryption Algorithm

    (B)  Integrated Digital Encryption Algorithm

    (C)  Integrated Data Encryption Algorithm

    (D)  International Data Encryption Algorithm

59. A protocol specification for exchanging structured information in the implementation of web services in computer networks :

    (A)  Kerberos                (B)  XML

    (C)  SOAP                 (D)  HTTPS

60. A Euler graph is one in which

    (A)  Only two vertices are of odd degree and rests are even

    (B)  Only two vertices are of even degree and rests are odd

    (C)  All the vertices are of odd degree

    (D)  All the vertices are of even degree

61. In an undirected graph the number of nodes with odd degree must be :

    (A)  Zero                   (B)  Even

    (C)  Prime                 (D)  Odd

62. A graph in which all nodes are of equal degrees is known as :

    (A)  Multigraph              (B)  Regular graph

    (C)  Complete lattice          (D)  non regular graph

63. Which among the following is not an aggregate function in SQL?

    (A)  Average( )               (B)  First( )

    (C)  Sum( )                 (D)  Min( )

64. Arrange the tasks involved in requirements elicitation in an appropriate manner.

    i.     Consolidation

    ii.    Prioritization

    iii.   Requirements Gathering

    iv.   Evaluation

    (A)  iii, i, ii, iv            (B)  iii, iv, ii, i

    (C)  iii, ii, iv, i            (D)  ii, iii, iv, i

65. Which of the following is an indirect measure of product?

    (A)  Quality                 (B)  Complexity

    (C)  Reliability             (D)  All of the above

66. The modification of the software to match changes in the ever changing environment, falls under which category of software maintenance?

    (A)  Adaptive               (B)  Corrective

    (C)  Perfective            (D)  Preventive

67. Which of the following describes "Is-a-Relationship"?

    (A)  Aggregation          (B)  Inheritance

    (C)  Dependency         (D)  None of these

68. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

    (A)  System context model

    (B)  Interaction model

    (C)  Environmental model

    (D)  Both system context and interaction

69. ITG stands for :

    (A)  Instantaneous Test Group    (B)  Integration Testing Group

    (C)  Independent Test Group     (D)  Individual Testing Group

70. Automatic repeat request error management mechanism is provided by :

    (A)  Logical Link Control Sublayer    (B)  Media Access Control Sublayer

    (C)  Network Interface Control Sublayer  (D)  None of these

71. Which address is used in an internet employing the TCP/IP protocols?

    (A)  Physical address and logical address  (B)  Port address

    (C)  Specific address           (D)  All of the above

72. Multiplexing is used in :
    (A)  Packet switching              (B)  Circuit switching
    (C)  Message switching             (D)  None of these

73. Which of these method return a pseudorandom number?
    (A)  rand( )                       (B)  random( )
    (C)  randomNumber( )               (D)  randGenerator( )

74. The method used to begin a session in PHP is :
    (A)  session_begin( )              (B)  begin_session( )
    (C)  session_start( )              (D)  start_session( )

75. The tag used to link one page to another is :
    (A)  <p>                           (B)  <br>
    (C)  <a>                           (D)  None of these

76. If $x$ and $y$ are real numbers then max $(x, y)$ + min $(x, y)$ is equal to :
    (A)  $2x$                          (B)  $2y$
    (C)  $(x + y)/2$                   (D)  $x + y$

77. Which among the following is not a Transaction Control Language command?
    (A)  End                           (B)  Commit
    (C)  Rollback                      (D)  Grant

78. While – wend is a looping statement in :
    (A)  Java script                   (B)  UNIX
    (C)  VB script                     (D)  None of these

79. Let L be a lattice. Then for every $a$ and $b$ in $L$ which one of the following is correct?
    (A)  $a \vee b = a \wedge b$       (B)  $a \vee (b \wedge c) = a$
    (C)  $a \vee (b \vee c) = b$       (D)  $a \vee (B \vee C) = (a \vee B) \vee C$

80. Write Locks are also known as :
    (A)  Exclusive locks               (B)  Shared locks
    (C)  Binary locks                  (D)  None of these

81. 'The Right to education' Act in India was passed in the year :
    (A)  2005                          (B)  2007
    (C)  2009                          (D)  2011

82. Which is a Scandinavian Country?
     (A)  Finland                    (B)  Greece
     (C)  Ecqador                    (D)  Madagaskar

83. World book day is celebrated on :
     (A)  December 10                (B)  January 26
     (C)  March 23                   (D)  April 23

84. Who started All-India Depressed class federation?
     (A)  Mahatma Gandhi             (B)  Dr. B.R. Ambedkar
     (C)  Annie Besant               (D)  Jyothibha Phule

85. Sahodara Sangham was founded by K. Ayyappan in :
     (A)  1903                       (B)  1907
     (C)  1914                       (D)  1917

86. Who wrote 'In Light of India'?
     (A)  Pablo Noumda               (B)  Gabriel Garcia Margueiz
     (C)  Octavia Paz                (D)  Cheguvere

87. Temple Entry Proclamation was issued in Nov : 12 1936 by :
     (A)  Sri Chithira Thirunal Balaramavarma
     (B)  Swathi Thirunal
     (C)  Marthanda Varma
     (D)  Dharma Raja

88. The First annual session of SNDP yogam having been held at :
     (A)  1903                       (B)  1904
     (C)  1914                       (D)  1916

89. Largest river :
     (A)  Amazon                     (B)  Nile
     (C)  Congo                      (D)  Mississipi

90. Chattempi Swamikal attained Samadi at :
     (A)  Chempazhanthi              (B)  Panmana
     (C)  Perunna                    (D)  Varkala

91. 'Athmakathakk Oru Amukham' is the autobiography of :
    (A) Lalitha Prabu
    (B) A.V. Kuttimalu Amma
    (C) Lalithambika Antharjanam
    (D) Parvathi Nenmenimangalam

92. The Wagon tragedy is associated with :
    (A) Salt Sathyagraha
    (B) Anti-Simon Demonstration
    (C) Quit India Movement
    (D) Khilafat movement

93. 'Savarna Jatha' organised as party of Vaikom Sathyagraha (1924) under the leadership of :
    (A) T.K. Madhavan
    (B) K.P. Kesavamenon
    (C) Mannath Padmanabhan
    (D) Parameswaran Pillai

94. Playing five for National Anthem :
    (A) 52 seconds
    (B) 50 seconds
    (C) 56 seconds
    (D) 54 seconds

95. Father of Indian Painting :
    (A) Abhinindranath Tagore
    (B) M.F. Hussain
    (C) Raja Ravivarma
    (D) Nandalal Bose

96. National Emblem of Japan :
    (A) Lily
    (B) Chrysanthemum
    (C) Rose
    (D) Sun flower

97. Captain of the Volunteer crops of Guruvayoor Sathyagraha :
    (A) A.K. Gopalan
    (B) K. Kelappan
    (C) Subrahmaniyam Thiruvampu
    (D) C. Krishnan

98. Makavakoythu was written by :
    (A) S.K. Pottakkad
    (B) Kesava Dev
    (C) Vyloppilli Sreedara Menon
    (D) Ponkunnam Varkey

99. Who consecrated mirror first time in South Indian Temple :
    (A) Sree Narayana Guru
    (B) Vaikunda Swami
    (C) Chattempi Swami
    (D) Ananda Theertha

100. Who elected to Madras Assembly first time in 1936 :
    (A) Arya Pallam
    (B) Anna Chandi
    (C) Akkama Cherian
    (D) A.V. Kuttimalu Amma