

# **PPSC Competitive Exam for the Post of System Analyst**

## **Question Paper Along with Answer Key**

**Date: 21<sup>st</sup> June, 2014**

**Time: 09: 00 AM to 11:00 AM**

**Total Number of Questions: 100**

**Q 1.**

**Which of the following is the most important phase of SDLC**

Options:

- A) Requirements Analysis
- B) Design
- C) Coding
- D) Testing

Correct Option: Option "A"

**Q 2.**

**An Entity in ER diagram represents what in DFD?**

Options:

- A) Data Store
- B) Process
- C) Data Flow
- D) Control Flow

Correct Option: Option "A"

**Q 3.**

**The output of Requirement Analysis phase is represented by which document?**

Options:

- A) SRS
- B) SPMP
- C) Analysis Document
- D) Design Document

Correct Option: Option "A"

**Q 4.**

**The popular project management technique/s is/are:**

Options:

- A) CPM
- B) PERT
- C) Gantt Chart
- D) All of the options

Correct Option: Option "D"

**Q 5.**

**Which of the following is not a Cost Benefit Analysis Technique**

Options:

- A) Net present value
- B) Return on Investment
- C) Break Even analysis
- D) JAD

Correct Option: Option "D"

**Q 6.**

**Which of the following testing is done by user?**

Options:

- A) Gema Testing
- B) Alpha Testing
- C) Beta Testing
- D) Acceptance Testing

Correct Option: Option "D"

**Q 7.**

**A zero level DFD describes**

Options:

- A) overview of processes, inputs and outputs.
- B) the fully blown up system design.
- C) that the system design cannot be split further.
- D) interaction with database

Correct Option: Option "A"

**Q 8.**

**A decision table specifies**

Options:

- A) a list of decisions taken by the top management during the current planning horizon.
- B) a tree showing the causes and effects in a decision process.
- C) the consequence of all possible decisions in tabular form.
- D) None of the options

Correct Option: Option "C"

**Q 9.**

**The relationships among elements within a module is called**

Options:

- A) Modular Coupling
- B) Modularization
- C) Modular Cohesion
- D) None of the options

Correct Option: Option "C"

**Q 10.**

**Project planning is done by**

Options:

- A) PERT
- B) State chart
- C) COCOMO
- D) Spiral

Correct Option: Option "A"

**Q 11.**

**Which of the following is not a tool for data collection?**

Options:

- A) On-site observations
- B) Program flowcharts
- C) Interview
- D) Questionnaires

Correct Option: Option "B"

**Q 12.**

**In the analysis and presentation of logic, which of the following techniques will ensure that all the combinations of conditions have been considered?**

Options:

- A) HIPO CHART
- B) Decision Table
- C) Pseudo code
- D) DFD

Correct Option: Option "B"

**Q 13.**

**A major principle of modularization is:**

Options:

- A) Cohesion of each module should be low and coupling between modules should be strong.
- B) The number of modules should be as low as possible.
- C) The number of modules should be as high as possible.
- D) Each module should have a high degree of cohesion.

Correct Option: Option "A"

**Q 14.**

**Which of the following strategies are adopted if information requirements are not well-defined?**

Options:

- A) Rapid application development method
- B) Structured analysis development method
- C) Prototyping method
- D) SDLC

Correct Option: Option "C"

**Q 15.**

**Which of the following is not a fact-finding technique?**

Options:

- A) Third party enquiry
- B) Interview
- C) Questionnaire
- D) Record Review

Correct Option: Option "A"

**Q 16.**

**A review technique to test the correctness of the documents produced during analysis is called**

Options:

- A) Code reading
- B) Joint application design
- C) Structured walkthrough
- D) Prototyping

Correct Option: Option "C"

**Q 17.**

**A diagram that shows the hierarchical relationship between the modules of a computer program is called a**

Options:

- A) DFD
- B) Structured Chart
- C) ERD
- D) Flow chart

Correct Option: Option "B"

**Q 18.**

**Which of the following has group members, who work alone to generate ideas, and then pools the ideas under the guidance of a trained facilitator?**

Options:

- A) JAD
- B) RAD
- C) Nominal Group Technique
- D) Analytical clustering

Correct Option: Option "C"

**Q 19.**

**"A detailed model that shows the overall structure of organizational data while being independent of any database management system or other implementation considerations" What does the above statement best describe?**

Options:

- A) Conceptual data model
- B) Logical data model
- C) Process model
- D) Logic model

Correct Option: Option "A"

**Q 20.**

**Which testing is also called behavioral testing?**

Options:

- A) Black Box Testing
- B) White Box Testing
- C) Glass Box Testing
- D) System Testing

Correct Option: Option "A"

**Q 21.**

**We split testing into distinct stages primarily because:**

Options:

- A) Each test stage has a different purpose.
- B) It is easier to manage testing in stages.
- C) We can run different tests in different environments.
- D) The more stages we have, the better the testing.

Correct Option: Option "A"

**Q 22.**

**Which of the following is likely to benefit most from the use of test tools providing test capture and replay facilities?**

Options:

- A) Regression testing
- B) Integration testing
- C) System testing
- D) User acceptance testing

Correct Option: Option "A"

**Q 23.**

**Which of the following requirements is testable?**

Options:

- A) The system shall be user friendly.
- B) The safety-critical parts of the system shall contain Zero faults.
- C) The response time shall be less than one second for the specified design load.
- D) The system shall be built to be portable.

Correct Option: Option "C"

**Q 24.**

**Which one of the following describes the major benefit of verification early in the life cycle?**

Options:

- A) It allows the identification of changes in user requirements.
- B) It facilitates timely set up of the test environment.
- C) It reduces defect multiplication.
- D) It allows testers to become involved early in the project.

Correct Option: Option "C"

**Q 25.**

**Alpha testing is:**

Options:

- A) Post-release testing by end user representatives at the developer's site.
- B) The first testing that is performed.
- C) Pre-release testing by end user representatives at the developer's site.
- D) Pre-release testing by end user representatives at their sites.

Correct Option: Option "C"

**Q 26.**

**A configuration management system would NOT normally provide:**

Options:

- A) Linkage of customer requirements to version numbers.
- B) Facilities to compare test results with expected results.
- C) The precise differences in versions of software component source code.
- D) Restricted access to the source code library.

Correct Option: Option "B"

**Q 27.**

**Which of the following is NOT part of system testing?**

Options:

- A) business process-based testing
- B) performance, load and stress testing
- C) usability testing
- D) top-down integration testing

Correct Option: Option "D"

**Q 28.**

**What type of review requires formal entry and exit criteria, including metrics:**

Options:

- A) walkthrough
- B) inspection
- C) management review
- D) post project review

Correct Option: Option "B"

**Q 29.**

**Could reviews or inspections be considered part of testing?**

Options:

- A) no, because they apply to development documentation
- B) no, because they are normally applied before testing
- C) yes, because both help detect faults and improve quality
- D) yes, because testing includes all non-constructive activities

Correct Option: Option "B"

**Q 30.**

**Software testing activities should start**

Options:

- A) as soon as the code is written
- B) during the design stage
- C) when the requirements have been formally documented
- D) as soon as possible in the development life cycle

Correct Option: Option "D"

**Q 31.**

**which of the following statements is not true**

Options:

- A) . performance testing can be done during unit testing as well as during the testing of whole system
- B) The acceptance test does not necessarily include a regression test
- C) Verification activities should not involve testers (reviews, inspections etc)
- D) Test environments should be as similar to production environments as possible

Correct Option: Option "C"

**Q 32.**

**Which of the following is a black box design technique?**

Options:

- A) statement testing
- B) equivalence partitioning
- C) error- guessing
- D) usability testing

Correct Option: Option "B"

**Q 33.**

**Which of the following is not the integration strategy?**

Options:

- A) Design based
- B) Big-bang
- C) Top-down
- D) Bottom-up

Correct Option: Option "A"

**Q 34.**

**Which of the following is the odd one out?**

Options:

- A) white box
- B) glass box
- C) structural
- D) Functional

Correct Option: Option "D"

**Q 35.**

**A Class is**

Options:

- A) A group of objects
- B) template for objects of a particular type
- C) Type of objects
- D) a classification of objects

Correct Option: Option "B"



**Q 36.**

**In UML Diagram of a class**

Options:

- A) state of object cannot be represented
- B) State is irrelevant
- C) State is represented as attribute
- D) State is represented as a result of an operation

Correct Option: Option "C"

**Q 37.**

**The following are intangible entities which can be defined as objects (i) a motor car; (ii) a bank account; (iii) an aircraft; (iv) a linked list**

Options:

- A) i, ii
- B) ii, iv
- C) iii, iv
- D) ii, iii, iv

Correct Option: Option "B"

**Q 38.**

**The phrase "is a" refers to the object-oriented concept of \_\_\_\_\_, and the phrase "has a" refers to the object-oriented concept of \_\_\_\_\_.**

Options:

- A) Composition : Inheritance
- B) Composition : Polymorphism
- C) Polymorphism : Inheritance
- D) Inheritance : Composition

Correct Option: Option "D"

**Q 39.**

**Given a word statement of problem potential operations appropriate for objects are identified by selecting**

Options:

- A) Verb phrases in the statement
- B) Noun phrases in the statement
- C) adjective in the statement
- D) Adverbs in the statement

Correct Option: Option "A"

**Q 40.**

**An association class must be created to store the attributes of a \_\_\_\_ relationship among two other classes**

Options:

- A) One-to-one
- B) One-to-many
- C) Many-to-one
- D) Many-to-many

Correct Option: Option "D"

**Q 41.**

**A diagram that shows the major subsystems in an object-oriented system is called a**

Options:

- A) Class Diagram
- B) Collaboration Diagram
- C) Package Diagram
- D) Deployment Diagram

Correct Option: Option "C"

**Q 42.**

**Which of the following UML diagram provides static structure of a system?**

Options:

- A) State Diagram
- B) Class Diagram
- C) Sequence Diagram
- D) Collaboration Diagram

Correct Option: Option "B"

**Q 43.**

**Which diagram depicts a pattern of messages coming into and going from an object?**

Options:

- A) Collaboration Diagram
- B) Use case diagram
- C) Activity Diagram
- D) Sequence Diagram

Correct Option: Option "A"

**Q 44.**

**The rules and semantics of the UML can be expressed in a form known as**

Options:

- A) Object Modelling Language
- B) Object Constraint Language
- C) Object Specification Language
- D) Object Driven Language

Correct Option: Option "B"

**Q 45.**

**\_\_\_\_\_ design is a data-flow-based methodology**

Options:

- A) Physical
- B) Logical
- C) Record-based
- D) Structure

Correct Option: Option "D"

**Q 46.**

**A measure of the internal strength of a module in a structure chart is called**

Options:

- A) Module Integrity
- B) Module Coupling
- C) Module Functionality
- D) Module Cohesion

Correct Option: Option "D"

**Q 47.**

**Structured programming involves**

Options:

- A) Functional modularization
- B) Localization of errors
- C) Stress on Analysis
- D) Stress on Requirement Gathering

Correct Option: Option "A"

**Q 48.**

**Which of the following questions are useful in evaluating Data flow diagrams?**

Options:

- A) Are there any unnamed components in the data flow diagram?
- B) Are there any processes that do not receive input?
- C) Are there any data stores that are input but never referenced?
- D) All of the options

Correct Option: Option "D"

**Q 49.**

**Which of the following statements is false with respect to a Data Dictionary?**

Options:

- A) It is a repository of the elements in a system
- B) It is same as the data store
- C) It communicates the common meanings for system elements and activities
- D) It documents system features

Correct Option: Option "B"

**Q 50.**

**Which is not used in context level diagram?**

Options:

- A) Source
- B) Destination
- C) Data flow
- D) Data store

Correct Option: Option "D"

**Q 51.**

**Which of the following shows the top level function defined to cover the scope of the application?**

Options:

- A) Context Diagram
- B) Flow chart
- C) Decision table
- D) Data flow diagram

Correct Option: Option "A"

**Q 52.**

**A data store is represented in data flow diagram as**

Options:

- A) Rectangle
- B) Open rectangle
- C) Square
- D) Ellipse

Correct Option: Option "B"

**Q 53.**

**The data dictionary in SDLC contains descriptions of**

Options:

- A) DFD Elements
- B) E-R Diagram
- C) Use-case diagram
- D) Decision table

Correct Option: Option "A"

**Q 54.**

**A\_\_\_\_\_ is a tabular form of presentation that specifies a set of conditions and their corresponding actions**

Options:

- A) Decision table
- B) Decision tree
- C) Data flow diagram
- D) Data dictionary

Correct Option: Option "A"

**Q 55.**

**Cartesian product and join operations are**

Options:

- A) Different in all cases
- B) Same with join with a conditional code
- C) Same in all cases
- D) None of the options

Correct Option: Option "B"

**Q 56.**

**OUTER JOINS can be classified as**

Options:

- A) LEFT OUTER JOINS
- B) RIGHT OUTER JOINS
- C) FULL OUTER JOINS
- D) All of the options

Correct Option: Option "D"

**Q 57.**

**A relation R with attribute is always in**

Options:

- A) 1NF
- B) 2NF
- C) 3NF
- D) BCNF

Correct Option: Option "D"

**Q 58.**

**By placing a data store between two processes, this:**

Options:

- A) decouples the processes
- B) enables store and forward capabilities
- C) enhances the flow of data between the processes
- D) structures the processes

Correct Option: Option "A"

**Q 59.**

**Which of the following indicates the maximum number of entities that can be involved in a relationship?**

Options:

- A) Minimum cardinality
- B) Maximum cardinality
- C) ERD
- D) Greater Entity Count (GEC)

Correct Option: Option "B"

**Q 60.**

**The DROP TABLE statement:**

Options:

- A) deletes the table structure only.
- B) deletes the table structure along with the table data.
- C) works whether or not referential integrity constraints would be violated.
- D) is not an SQL statement.

Correct Option: Option "B"

**Q 61.**

**Find the candidate keys for the relation: R(C,S,Z) with FD, F={CSàZ,ZàC}.**

Options:

- A) CS and ZS
- B) CZ
- C) Z
- D) All of the options

Correct Option: Option "A"

**Q 62.**

**Following SQL query deals with SELECT table1.column, table2.column From table1 t1, table2 t2 where t1.column = t2.column;**

Options:

- A) RIGHT OUTER JOINS
- B) LEFT OUTER JOINS
- C) JOIN with Equality
- D) Natural Join

Correct Option: Option "D"

**Q 63.**

**Consider a relation R(A,B,C,D,E) with FD A®BCDE BC®ADE D®E The highest normal form achieved by R is**

Options:

- A) 1NF
- B) 2NF
- C) 3NF
- D) BCNF

Correct Option: Option "B"

**Q 64.**

**The following SQL command deals with Select Ename, Dname From Employee, Department Where Employee.DepartmentNo = Department.DepartmentNo;**

Options:

- A) Equijoin
- B) Natural Join
- C) Theta Join
- D) Self Join

Correct Option: Option "B"

**Q 65.**

**Calculating an employee's salary is represented on a data flow diagram as a:**

Options:

- A) data flow
- B) source
- C) data store
- D) process

Correct Option: Option "D"

**Q 66.**

**Consider a relation R(A,B,C,D,E) with FD:  $A \rightarrow BCDE$   $BC \rightarrow ADE$   $D \rightarrow E$  The decomposition of R in 3NF will be**

Options:

- A) R1(ABCE) R2(DE)
- B) R1(ADE) R2(BC)
- C) R1(ABDE) R2(BDE)
- D) R1(ABCD) R2(DE)

Correct Option: Option "D"

**Q 67.**

**Consider a relation R (city,street,zipcode) or R(C,S,Z) and  $F = \{CS \rightarrow Z, Z \rightarrow C\}$  Find the candidate keys for given FD.**

Options:

- A) CS and ZS
- B) Z and S
- C) C and S
- D) CS and C

Correct Option: Option "A"

**Q 68.**

**Consider a relation R (city,street,zipcode) or R(C,S,Z) and  $F = \{CS \rightarrow Z, Z \rightarrow C\}$  What is the highest normal form of R?**

Options:

- A) 1NF
- B) 2NF
- C) 3NF
- D) BCNF

Correct Option: Option "C"

**Q 69.**

**Consider the relational scheme R(A,B,C) with functional dependencies  $A \rightarrow B$   $C \rightarrow A$  What are the minimal keys of relation R?**

Options:

- A) AC,BC
- B) AB,CB
- C) A,B
- D) AC,CB

Correct Option: Option "B"

**Q 70.**

**Consider the relational scheme R(A,B,C) with functional dependencies  $A \rightarrow B$   $C \rightarrow A$  What is the highest normal form of R?**

Options:

- A) 1NF
- B) 2NF
- C) 3NF
- D) BCNF

Correct Option: Option "C"

**Q 71.**

**Which of the following is false?**

Options:

- A) Ensuring durability is the responsibility of recovery management component
- B) Ensuring isolation is the responsibility of concurrency management
- C) Ensuring atomicity or consistency is the responsibility of recovery management component
- D) None of the options

Correct Option: Option "C"

**Q 72.**

**Consider the following scenario: T1 consists of 5 operations and T2 consists of 4 operations then the number of concurrent schedules possible is**

Options:

- A) 9!
- B) 126
- C)  $5! \cdot 4!$
- D) None of the options

Correct Option: Option "B"

**Q 73.**

**Which of the following is True?**

Options:

- A) Both sparse and dense indices consume same space
- B) Sparse index consumes more space than dense index
- C) Dense index consumes more space than sparse index
- D) Can't say

Correct Option: Option "C"

**Q 74.**

**Identify the true statement**

Options:

- A) B+ tree is useful for solving range queries
- B) B+ tree uses overflow pages
- C) The order of leaf and internal node is different for B trees
- D) All of the options

Correct Option: Option "A"

**Q 75.**

**Consider the schedule  $S = \{R1(A), R2(B), W2(A), W1(A)\}$  Assume the transaction T1 has started execution before the transaction T2 then the schedule is**

Options:

- A) Allowed under basic timestamp protocol but not under Thomas write rule
- B) Not Allowed under basic timestamp protocol but allowed under Thomas write rule
- C) Allowed under both basic timestamp protocol and Thomas write rule
- D) Not Allowed under both basic timestamp protocol and Thomas write rule

Correct Option: Option "B"



**Q 76.**

**Which of the following is true?**

Options:

- A) Schedules which are allowed under Thomas write rule are also allowed under Basic timestamp protocol
- B) All Schedules which are allowed under Thomas write rule are also allowed under Multiversion timestamp protocol
- C) All Schedules which are allowed under Multiversion timestamp protocol are also allowed under Thomas write rule
- D) All of the options

Correct Option: Option "B"

**Q 77.**

**In rigorous 2 phase locking protocol**

Options:

- A) All the read locks are released only after commit
- B) All the write locks are released only after commit
- C) All the read & write locks are acquired before the execution starts
- D) All the read & write locks are released only after commit

Correct Option: Option "D"

**Q 78.**

**Consider a sorted file ordered on key field consisting of 1024 blocks. The number of block accesses required to insert a record is**

Options:

- A) 20
- B) 15
- C) 12
- D) 10

Correct Option: Option "D"

**Q 79.**

**The record pointer, key field and block pointer of a 'B' tree are 8B, 10B and 6B respectively. Calculate the order of tree if the block size is 1kb.**

Options:

- A) 44
- B) 43
- C) 24
- D) None of the options

Correct Option: Option "B"

**Q 80.**

**Consider the relation  $R=\{A,B,C,D,E,F,G,H,I,J\}$  and FD set  $AB\rightarrow C, A\rightarrow DE, B\rightarrow F, F\rightarrow GH, D\rightarrow IJ$ . What is the key for R?**

Options:

- A) AC
- B) AD
- C) AB
- D) A

Correct Option: Option "C"

**Q 81.**

**Consider a B tree of degree 'n' with height 'h' Calculate maximum number of records that can be indexed by the above tree [Assume root is at level '0']**

Options:

- A)  $Nh-1$
- B)  $Nh$
- C)  $Nh+1-1$
- D) None of the options

Correct Option: Option "C"

**Q 82.**

**Consider a B tree of degree 'n' with height 'h' The maximum number of records that can be indexed by a B tree of degree 3 and height 3 is**

Options:

- A) 80
- B) 27
- C) 26
- D) None of the options

Correct Option: Option "A"

**Q 83.**

**A data cannot flow between a store and (i) a store; (ii) a process; (iii) an external entity**

Options:

- A) i and iii
- B) i and ii
- C) ii and iii
- D) ii

Correct Option: Option "A"

**Q 84.**

**Data cannot flow between two data stores because**

Options:

- A) it is not allowed in a DFD
- B) a data store is a passive repository of data
- C) data can get corrupted
- D) they will get merged

Correct Option: Option "D"

**Q 85.**

**Data cannot flow from an external entity to an external entity because**

Options:

- A) it will get corrupted
- B) it is not allowed in DFD
- C) an external entity has no mechanism to read or write
- D) both are outside the context of the system

Correct Option: Option "D"

**Q 86.**

**A context diagram**

Options:

- A) describes the context of a system
- B) is a DFD which gives an overview of the system
- C) is a detailed description of a system
- D) is not used in drawing a detailed DFD

Correct Option: Option "B"

**Q 87.**

**A context diagram is used**

Options:

- A) as the first step in developing a detailed DFD of a system
- B) in systems analysis of very complex systems
- C) as an aid to system design
- D) as an aid to programmers

Correct Option: Option "A"

**Q 88.**

**By levelling a DFD we mean**

Options:

- A) splitting it into different levels
- B) make its structure uniform
- C) expanding a process into one with more sub-processes giving more detail
- D) summarizing a DFD to specify only the essentials

Correct Option: Option "C"

**Q 89.**

**A DFD is normally levelled as**

Options:

- A) it is a good idea in design
- B) it is recommended by many experts
- C) it is easy to do it
- D) it is easier to read and understand a number of smaller DFDs than one large DFD

Correct Option: Option "D"

**Q 90.**

**A DFD is levelled by**

Options:

- A) examining complex processes in a DFD and expanding them into new DFDs with more processes which are easy to understand
- B) merging a number of simple processes in a DFD into a complex processes in a new DFD
- C) expanding the functions of a number of external entities into simpler functions
- D) splitting a number of data flows into simpler data flows

Correct Option: Option "A"

**Q 91.**

**When a DFD is levelled no new**

Options:

- A) data stores may appear
- B) external entities may appear
- C) processes may appear
- D) data flows may appear

Correct Option: Option "B"

**Q 92.**

**When a DFD is levelled**

Options:

- A) new external entities may be required
- B) no new processes are allowed
- C) no new data flows are allowed
- D) new data stores may be necessary and are allowed

Correct Option: Option "D"

**Q 93.**

**Data flow diagrams that specify what people and technologies are used in which processes to move and transform data, accepting inputs and producing outputs are referred to as:**

Options:

- A) logical data flow diagrams
- B) reference data flow diagrams
- C) current physical data flow diagrams
- D) logistic data flow diagrams

Correct Option: Option "C"

**Q 94.**

**Student data contained on an enrollment form is represented on a data flow diagram as a:**

Options:

- A) process
- B) data flow
- C) source
- D) data store

Correct Option: Option "B"

**Q 95.**

**Data in motion, moving from one place in a system to another, defines:**

Options:

- A) data store
- B) process
- C) source
- D) data flow

Correct Option: Option "D"

**Q 96.**

**Data at rest, which may take the form of many different physical representations, defines:**

Options:

- A) source
- B) data store
- C) data flow
- D) process

Correct Option: Option "B"

**Q 97.**

**A file folder containing orders is represented on a data flow diagram as a:**

Options:

- A) process
- B) source
- C) data flow
- D) data store

Correct Option: Option "D"

**Q 98.**

**A computer-based file containing employee information is represented on a data flow diagram as a:**

Options:

- A) data flow
- B) source
- C) data store
- D) process

Correct Option: Option "C"

**Q 99.**

**The work or actions performed on data so that they are transformed, stored, or distributed defines:**

Options:

- A) source/sink
- B) data store
- C) data flow
- D) process

Correct Option: Option "D"

**Q 100.**

**The origin and/or destination of data, sometimes referred to as external entities defines:**

Options:

- A) source/sink
- B) data store
- C) data flow
- D) process

Correct Option: Option "A"