Lecturer in Computer Science (B-17) — 2021 · Solved Past Paper

Body: Khyber Pakhtunkhwa Public Service Commission (KPPSC) · **Post:** Lecturer in Computer Science (B-17) · **Year:** 2021 · **Questions:** 45 in the original paper — **44 solved and verified**, 1 excluded as defective (Q41) · **Price:** Free

> **How to use this paper:** each question shows the stem, the four options, and the correct answer. Click “Why each option?” under a question to see all four options explained — one question teaches four topics. General Knowledge answers are as of the 2021 sitting.

Source note: Typed community reproduction on MCQsGalaxy, exam paper "KPPSC Lecturer Computer Science 2021" (https://mcqsgalaxy.com/exam-paper/kppsc-lecturer-cs-2021/, pages /2/ /3/ /4/ /5/), fetched 11 Nov 2026; 45 questions with per-question explanations; correct letters embedded in the page markup (data-correct) and stated in each explanation — treated as claims to verify, never as evidence. Second full reproduction of the SAME paper: basicscomp.com "KPPSC Lecturer Computer Science Previous Paper with Answer Keys and Reference" (https://basicscomp.com/kppsc-lecturer-computer-science-previous-paper-with-keys-and-reference/, published 2023-08-05) — same 45 stems in the same order, with its own key list; agrees with the first source on 43 of 45 keys and was used as the second source for every answer. Q7 program fragment was missing from the first source's stem and is recovered from the second reproduction's note and the UGC NET guide (procedure exchange; M := 2; X[M] := 4; exchange (M, X[M]); write (M, X[2])); call-by-name by textual substitution gives (4,4), so the first source's key D is correct and the 2,2 keys in the second reproduction and the UGC NET guide are wrong. Q15 CORRECTED to C Von Neumann (first source keys D — vector and array processors ARE the canonical SIMD machines; second reproduction confirms C). Q32 CORRECTED to B Bind variables (both community reproductions key A Local variables — Oracle's own

cumentation states a variable declared in a PL/SQL subprogram cannot be displayed in SQL*Plus and a bind variable must be used). Q41 DEFECTIVE-excluded (stem garbled beyond recovery; second reproduction gives no answer for it). Q39 options conflict between the two reproductions (first source Oracle packages, key C DBMS_SQL; second source SQL Server options, key D) — the first source's version matches the stem's word "package" and is filed. Q33 option B differs (first source "TRACE" duplicated; second source "PROFILE") and Q45 option B differs (first source 20; second source 22) — answers D and C respectively in both. Q1 note: second reproduction remarks the 0 option "was missing in the actual paper" — both reproductions print d) 0 and the answer 0 is mathematically certain; filed as VERIFIED D. No advertisement/serial number is stated on either source, so none is asserted. Every answer was derived and verified independently under the owner's 8 Nov 2026 standard. Answer balance (44 solved) A9/B8/C16/D11. Printed wording kept as filed (Q9 "2?2" for x-squared; Q19 "compiler ? compiler" for compiler-compiler; Q33 options A and B both "TRACE"; Q34 stem garbled as printed; Q35 options print "?" for the minus sign); delegation decisions recorded in the source file, all decided by the assistant under the owner's 8 Nov 2026 delegation.

Question 1 Computer Science

The minimum number of temporary variables needed to swap the contents of two variables is

- A. 1
- B. 3
- C. 4
- D. 0 ✓ **Correct answer**

A. Wrong: one temporary variable is enough for a swap, but zero is the minimum — the swap can be done with none at all.

B. Wrong: three temporary variables are far more than needed.

C. Wrong: four temporary variables are far more than needed.

wo variables can be swapped with no temporary variable at all (for example by arithmetic, a := a + b; b := a - b; a := a - b, or by XOR). Note: the second reproduction (basicscomp) remarks that the 0 option "was missing in the actual paper"; both reproductions print d) 0 and the answer 0 is mathematically certain, so it is filed as VERIFIED D with the remark recorded.

Question 2 Computer Science

When a variable of data type double is converted into float, then

- A. Rounding takes place ✓ **Correct answer**
- B. Truncation takes place
- C. The lower order bits are dropped
- D. None of these

A. Correct: converting a double to a float rounds the value to the nearest representable float (IEEE rounding).

B. Wrong: truncation (dropping the fraction) is not what happens in a double-to-float conversion.

C. Wrong: the low-order bits are not simply dropped; the value is rounded.

D. Wrong: option A is correct.

Question 3 Computer Science

Choose the correct statements

- A. All The elements of the array should be of the same data type and storage class
- B. The number of subscripts determines the dimension of the array ✓ **Correct answer**
- C. Both of these
- D. None of these

stated: array elements must be of the same data type, but the claim about storage class does not hold in the form stated (the classic GATE key rejects this statement).

B. Correct: the number of subscripts (indices) determines the dimension — x[i] is one-dimensional, y[i][j] is two-dimensional.

C. Wrong: statement (a) is not correct, so both cannot be right.

D. Wrong: statement (b) is correct. Confirmed by the second reproduction (basicscomp), which keys this question b).

Question 4 Computer Science

Initialization cannot be part of the definition if the storage class of the array is

- A. static
- B. automatic ✓ **Correct answer**
- C. external
- D. none of these

A. Wrong: a static array can be initialised as part of its definition.

B. Correct: an array of automatic storage class cannot have an initialisation as part of its definition (in the C of the question's era, automatic aggregates could not be initialised at definition). Confirmed by the second reproduction (basicscomp), which keys this question b) Automatic.

C. Wrong: an external array can be initialised as part of its definition.

D. Wrong: option B is correct.

Question 5 Computer Science

English language uses full stop as a sentence

- A. Separator

- C. Both of these ✓ **Correct answer**
- D. None of these

A. True in isolation: a full stop separates one sentence from the next.

B. True in isolation: a full stop terminates (ends) a sentence.

C. Correct: in English a full stop serves as both a sentence separator and a sentence terminator.

D. Wrong: options A and B are both true. Confirmed by the second reproduction (basicscomp), which keys this question c) Both (a) and (b).

Question 6 Computer Science

Overloading is

- A. Function having the same name but with different types of parameters
- B. An operator, whose meaning is determined by the operand type
- C. Both (a) and (b) ✓ **Correct answer**
- D. None of these

A. True in isolation: that is function overloading.

B. True in isolation: that is operator overloading.

C. Correct: overloading covers both function overloading and operator overloading.

D. Wrong: options A and B are both forms of overloading.

Question 7 Computer Science

Consider the following program fragment. Procedure exchange (A: integer, B: integer); temp: integer; temp := A; A := B; B := temp; end; begin M := 2; X[M] := 4; exchange (M, X[M]); write (M, X[2]); end. If the parameters are passed by name the output will be:

- B. 4,2
- C. 2,2
- D. 4,4 ✓ **Correct answer**

A. Wrong: 2,4 is the output if the parameters are passed by value (the copies change, M and X[2] do not).

B. Wrong: 4,2 is the output if the parameters are passed by reference (A is bound to M and B to X[2] once, at the call).

C. Wrong: two independent community keys give 2,2, but that is not what call-by-name does here (see the derivation for D).

D. Correct: call-by-name textually substitutes the actual parameters, re-evaluating X[M] on each access. temp := A gives temp := M = 2. A := B gives M := X[M] = X[2] = 4, so M becomes 4. B := temp gives X[M] := temp, and M is now 4, so X[4] := 2 while X[2] stays 4. write (M, X[2]) therefore prints 4,4. The program fragment was missing from the first reproduction's stem and is recovered here from the second reproduction (basicscomp) and the UGC NET guide, which also confirm the by-value output 2,4 and the by-reference output 4,2.

Question 8 Computer Science

Binding cannot be done

- A. When separately compiled modules are linked together
- B. During loading
- C. While writing a program
- D. None of these ✓ **Correct answer**

A. Wrong: binding can be done at link time, when separately compiled modules are linked together.

B. Wrong: binding can be done at load time.

nding can be done at programming time, while the program is being written (for example binding a name to its type in the source).

D. Correct: binding can be done at all three of the listed times, so there is no listed time at which binding cannot be done. Confirmed by the second reproduction (basicscomp), which keys this question d) none of these.

Question 9 Computer Science

What is the maximum value of the function f(x) = 2?2 -2x + 6 in the interval [0, 2]?

- A. 6
- B. 10 ✓ **Correct answer**
- C. 12
- D. 5

A. Wrong: f(0) = 6 is a value of the function, but not the maximum on [0, 2].

B. Correct: $f(x) = 2x^2 - 2x + 6$; f(0) = 6, f(2) = 8 - 4 + 6 = 10, and the only stationary point x = 0.5 gives f(0.5) = 5.5 (a minimum), so the maximum on [0, 2] is 10 at x = 2.

C. Wrong: the function never reaches 12 on [0, 2].

D. Wrong: 5 is below the function's values on [0, 2].

Question 10 Computer Science

The number of equivalence relation of the set {1,2,3,4} is:

- A. 15 ✓ **Correct answer**
- B. 16
- C. 24
- D. 4

A. Correct: the number of equivalence relations on a set of 4 elements equals the number of partitions of the set, the Bell number B4 = 15.

S_3 is 2^3, the number of subsets, not the number of partitions.

C. Wrong: 24 is 4!, the number of permutations, not the number of partitions.

D. Wrong: 4 is the number of elements, not the number of equivalence relations.

Question 11 Computer Science

In a paged memory, the page hit ratio is 0.35. The time required to access a page in secondary memory is equal to 100 ns. The time required to access a page in primary memory is 10 ns. The average time required to access a page is

- A. 3.0 ns
- B. 68.0 ns
- C. 68.5 ns ✓ **Correct answer**
- D. 78.5 ns

A. Wrong: 3.0 ns ignores the secondary-memory accesses.

B. Wrong: the correct weighted average is 68.5 ns, not 68.0 ns.

C. Correct: average access time = 0.35 × 10 ns + 0.65 × 100 ns = 3.5 + 65 = 68.5 ns.

D. Wrong: the correct weighted average is 68.5 ns.

Question 12 Computer Science

Which of the following scheduling policy is well suited for a time-shared operating system?

- A. First come first serve.
- B. Shortest job first
- C. Round robin ✓ **Correct answer**
- D. None of these

A. Wrong: FCFS has no preemption or time quantum, so it is not suited to time-sharing.

F can starve long jobs and is not the policy for time-shared systems.

C. Correct: round robin gives every process a fixed time quantum in turn, which is the scheduling policy suited to a time-shared operating system.

D. Wrong: option C is correct.

Question 13 Computer Science

Any given truth table can be represented by a :

- A. Karnaugh Map
- B. Sum of product of Boolean expressions
- C. Product of sum of Boolean expressions
- D. All of these ✓ **Correct answer**

A. True in isolation: any truth table can be represented by a Karnaugh map.

B. True in isolation: any truth table can be represented in sum-of-products form.

C. True in isolation: any truth table can be represented in product-of-sums form.

D. Correct: a truth table can be represented by a Karnaugh map, by a sum of products and by a product of sums.

Question 14 Computer Science

The number of columns in a state table for a sequential circuit with m flip-flops and n inputs is

- A. m + n
- B. m + 2n
- C. 2m + n
- D. 2m + 2n ✓ **Correct answer**

A. Wrong: the state table needs more columns than m + n.

e count is 2m + 2n, not m + 2n.

C. Wrong: the count is 2m + 2n, not 2m + n.

D. Correct: a state table has present-state columns (m, one per flip-flop), next-state columns (m), input columns (n) and output columns (n), giving 2m + 2n columns in total.

Question 15 Computer Science

Which of the following architecture is/are not suitable for realizing SIMD ?

- A. Vector Processor
- B. Array Processor
- C. Von Neumann ✓ **Correct answer**
- D. All of these

A. Wrong: a vector processor IS a SIMD machine (one instruction operates on a vector of data).

B. Wrong: an array processor IS a SIMD machine (many processing elements under one control unit).

C. Correct: the Von Neumann architecture is a single-instruction, single-data machine and is not suitable for realising SIMD.

D. Wrong: the site keys D, but vector and array processors are the canonical SIMD architectures, so only Von Neumann is unsuitable. Corrected from the site key D to C; confirmed by the second reproduction (basicscomp), which keys this question c) Von Neumann.

Question 16 Computer Science

If memory access takes 20 ns with cache and 110 ns without it, then the ratio (cache uses a 10 ns memory) is:

- A. 93%

-) ✓ Correct answer
- C. 88%
- D. 87%

A. Wrong: the hit ratio works out to 90%, not 93%.

B. Correct: with hit ratio h, effective access time = h × 10 + (1 - h) × 110 = 20 ns, so 110 - 100h = 20, giving h = 0.9 = 90%.

C. Wrong: the hit ratio works out to 90%, not 88%.

D. Wrong: the hit ratio works out to 90%, not 87%.

Question 17 Computer Science

Which of the following is minimum error code?

- A. Optical code
- B. Binary code
- C. Grey code ✓ **Correct answer**
- D. None of these

A. Wrong: there is no standard "optical code" that is the minimum-error code.

B. Wrong: in plain binary code successive values can differ in many bits, so it is not the minimum-error code.

C. Correct: Grey code is the minimum-error code — successive values differ in only one bit, so a single-bit error changes the value by the smallest amount.

D. Wrong: option C is correct.

Question 18 Computer Science

How many flip flop circuit are needed to divide by 16?

- A. 4 ✓ **Correct answer**

- C. 16
- D. None of these

A. Correct: dividing by 16 needs $2^4 = 16$ states, which needs 4 flip-flops.

B. Wrong: 8 flip-flops would divide by 256.

C. Wrong: 16 is the division ratio, not the number of flip-flops.

D. Wrong: option A is correct.

Question 19 Computer Science

A compiler ? compiler is a/an

- A. compiler which compiles a compiler program
- B. software tool used in automatic generation of a compiler ✓ **Correct answer**
- C. compiler which in the same language it compiles
- D. another name for cross. compiler

A. Wrong: a compiler-compiler does not compile a compiler program; it generates one.

B. Correct: a compiler-compiler (for example YACC) is a software tool used in the automatic generation of a compiler.

C. Wrong: that describes a self-hosting compiler, not a compiler-compiler.

D. Wrong: a cross compiler runs on one machine and produces code for another; it is not a compiler-compiler. The stem prints "A compiler ? compiler" where "?" stands for a hyphen (compiler-compiler).

Question 20 Computer Science

The delay between job submission and job completion is called

- A. turnaround time ✓ **Correct answer**

rocess time

- C. response time
- D. waiting time

A. Correct: the delay between job submission and job completion is the turnaround time.

B. Wrong: "in-process time" is not the standard term for this delay.

C. Wrong: response time is the delay between submission and the first response, not completion.

D. Wrong: waiting time is the time a job spends waiting in a queue, not the whole submission-to-completion delay.

Question 21 Computer Science

Which technique is preferable for transferring a large amount of data to and from a memory in a short time?

- A. Programmed I/O
- B. Interrupt driven I/O
- C. DMA ✓ **Correct answer**
- D. None of these

A. Wrong: programmed I/O ties up the CPU polling the device; it is not the best way to move a large amount of data quickly.

B. Wrong: interrupt-driven I/O still moves data through the CPU, one word at a time.

C. Correct: direct memory access lets the device transfer a large amount of data to and from memory in a short time without the CPU moving every word.

D. Wrong: option C is correct.

22 Computer Science

A software is to be developed for a system which has a small memory. The software should?

- A. avoid using recursion
- B. Not use macros instead of functions
- C. Both of these ✓ **Correct answer**
- D. None of these

A. True in isolation: recursion consumes stack memory, so avoiding it saves memory on a small-memory system.

B. True in isolation: macros expand inline at every use and bloat the code, while functions are stored once, so preferring functions saves memory.

C. Correct: for a small-memory system the software should both avoid recursion and use functions instead of macros.

D. Wrong: options A and B are both right.

Question 23 Computer Science

A function that does the same operation on different data types is to be implemented using

- A. macros
- B. overloading
- C. function templates ✓ **Correct answer**
- D. default arguments

A. Wrong: macros do text substitution and are not the typed mechanism for one operation on different data types.

B. Wrong: overloading gives several functions with the same name; the single generic implementation is a template.

function that does the same operation on different data types is implemented using function templates (generics).

D. Wrong: default arguments supply values for missing parameters; they do not make one function work on different data types.

Question 24 Computer Science

The order in which operands are evaluated in an expression is predictable if the operator is:

- A. *
- B. +
- C. %
- D. && ✓ **Correct answer**

A. Wrong: the order of evaluation of the operands of * is unspecified in C.

B. Wrong: the order of evaluation of the operands of + is unspecified in C.

C. Wrong: the order of evaluation of the operands of % is unspecified in C.

D. Correct: && (like ||) guarantees left-to-right evaluation with short-circuiting, so the order in which its operands are evaluated is predictable.

Question 25 Computer Science

Which of the following comments about object oriented design of software, is not true?

- A. Objects inherit the properties of class
- B. Classes are defined based on the attributes of objects
- C. classes are always different
- D. an object can belong to two classes ✓ **Correct answer**

A. True as stated in the question's sense: an object receives the properties defined by its class.

ated: classes are defined from the attributes of the objects they model.

C. True as stated: each class is distinct from the others.

D. Correct as the untrue comment: an object belongs to one class (its class), not to two classes. Confirmed by the second reproduction (basicscomp), which keys this question d).

Question 26 Computer Science

Design phase will usually be

- A. Top-down ✓ **Correct answer**
- B. Bottom-up
- C. Random
- D. None of the above

A. Correct: the design phase will usually be top-down — the system is broken down from the whole into its parts.

B. Wrong: bottom-up is the coding/testing direction (building up from components), not the usual design direction.

C. Wrong: design is not random.

D. Wrong: option A is correct.

Question 27 Computer Science

Which of the following is a desirable property of a module?

- A. High coupling
- B. Independency ✓ **Correct answer**
- C. Low cohesiveness
- D. Multi functioning

A. Wrong: high coupling (modules depending heavily on each other) is undesirable.

independency (high cohesion with low coupling, so a module stands alone) is a desirable property of a module.

C. Wrong: low cohesiveness (a module doing unrelated things) is undesirable.

D. Wrong: a module doing many functions is undesirable; a module should do one thing well.

Question 28 Computer Science

The extent to which the software can continue to operate correctly despite the introduction of invalid inputs is called as

- A. Reliability
- B. Fault tolerance
- C. Robustness ✓ **Correct answer**
- D. Portability

A. Wrong: reliability is the probability of correct operation over time, not specifically continued operation despite invalid inputs.

B. Wrong: fault tolerance is continued operation despite faults or failures, not specifically despite invalid inputs.

C. Correct: robustness is the extent to which software can continue to operate correctly despite the introduction of invalid inputs.

D. Wrong: portability is the ease of moving software to another environment.

Question 29 Computer Science

Which of the following graph theoretic concept will be useful in software testing?

- A. Hamiltonian circuit
- B. Eulerian cycle
- C. Cyclomatic number ✓ **Correct answer**

A. Wrong: a Hamiltonian circuit is not the graph concept used in software testing.

B. Wrong: an Eulerian cycle is not the graph concept used in software testing.

C. Correct: the cyclomatic number (McCabe's cyclomatic complexity, E - N + 2P) is the graph-theoretic concept used in software testing to measure the number of independent paths.

D. Wrong: option C is correct.

Question 30 Computer Science

In unit testing a module, it is found that for a set of test data, maximum 90% of the code alone were tested with a probability of success 0.9. The reliability of the module is

- A. greater than 0.9
- B. equal to 0.9
- C. at most 0.81 ✓ **Correct answer**
- D. at least 1/0.81

A. Wrong: the reliability cannot exceed 0.81 (see C).

B. Wrong: the reliability is at most 0.81, not 0.9.

C. Correct: at most 90% of the code was tested, and the tested part succeeds with probability 0.9, so the reliability is at most 0.9 × 0.9 = 0.81.

D. Wrong: 1/0.81 is greater than 1, which cannot be a reliability.

Question 31 Computer Science

The programme volume of a source code with 10 operators, including 6 unique operators, 6 operands including 2 unique operands. The program volume is

- A. 48 ✓ **Correct answer**

- C. 512
- D. Cannot be determined

A. Correct: Halstead program volume V = N log2(n), where N = N1 + N2 = 10 + 6 = 16 and n = n1 + n2 = 6 + 2 = 8, so V = 16 × log2(8) = 16 × 3 = 48.

B. Wrong: the volume is 48, not 100.

C. Wrong: the volume is 48, not 512.

D. Wrong: the volume is determined (48) from the given counts.

Question 32 Computer Science

A PL /SQL block can return data to SQL* plus through:

- A. Local variables
- B. Bind variables ✓ **Correct answer**
- C. substitution variables
- D. none of these

A. Wrong: both community reproductions key A, but a variable declared in a PL/SQL subprogram cannot be displayed in SQL*Plus at all — Oracle's own SQL*Plus documentation states this explicitly and says a bind variable must be used instead.

B. Correct: a PL/SQL block returns data to SQL*Plus through bind variables — variables created in SQL*Plus with the VARIABLE command, referenced in PL/SQL with a colon prefix, and displayed in SQL*Plus with PRINT. Oracle's SQL*Plus documentation ("Using Bind Variables") is the source.

C. Wrong: substitution variables are replaced by SQL*Plus before the code is submitted; they are input substitution, not a way for a PL/SQL block to return data.

D. Wrong: option B is correct. Corrected from the site key A to B.

33 Computer Science

Which of the following SQL* Plus commands can be used to see the compilation errors in a PUSQL code?

- A. TRACE
- B. TRACE
- C. DEBUG
- D. SHOW ERRORS ✓ **Correct answer**

A. Wrong: TRACE is not the SQL*Plus command for seeing compilation errors.

B. Wrong: TRACE (printed twice in the reproduction) is not the SQL*Plus command for seeing compilation errors.

C. Wrong: DEBUG is not the SQL*Plus command for seeing compilation errors.

D. Correct: SHOW ERRORS is the SQL*Plus command that displays the compilation errors in a PL/SQL (the stem prints "PUSQL") code. The second reproduction prints option B as PROFILE instead of the duplicated TRACE; the answer is D in both.

Question 34 Computer Science

In SQL 10 null be evaluated to

- A. FALSE
- B. -1
- C. Null ✓ **Correct answer**
- D. 10

A. Wrong: an arithmetic expression involving NULL does not evaluate to FALSE.

B. Wrong: an arithmetic expression involving NULL does not evaluate to -1.

C. Correct: in SQL any arithmetic involving NULL evaluates to NULL. The stem is garbled as printed ("In SQL 10 null be evaluated to" — the intended expression is a number

th NULL), both reproductions key C.

D. Wrong: an arithmetic expression involving NULL does not evaluate to 10.

Question 35 Computer Science

Which of the following is illegal?

- A. SELECT SYSDATE ? SYSDATE FROM DUAL;
- B. SELECT SYSDATE ? (SYSDATE ? 2) FROM DUAL;
- C. SELECT SYSDATE ? (SYSDATE + 2) FROM DUAL;
- D. None of these ✓ **Correct answer**

A. Legal: subtracting a date from itself gives 0 (the "?" stands for the minus sign, confirmed by the second reproduction which prints the minus signs).

B. Legal: SYSDATE minus (SYSDATE minus 2 days) gives 2.

C. Legal: SYSDATE minus (SYSDATE plus 2 days) gives -2.

D. Correct: all three statements above are legal, so none of them is illegal.

Question 36 Computer Science

Which of the following SQL commands can be used to add data to a database table?

- A. INSERT ✓ **Correct answer**
- B. ADD
- C. UPDATE
- D. APPEND

A. Correct: INSERT is the SQL command used to add data to a database table.

B. Wrong: ADD is not an SQL command for adding data to a table (it adds a column in ALTER TABLE).

C. Wrong: UPDATE changes existing data; it does not add new rows.

- PEND is not an SQL command for adding data to a table.

Question 37 Computer Science

The SQL statement: select LPAD('abcd',10,'wert') from dual; prints

- A. Wertwertab
- B. Wertweabcd ✓ **Correct answer**
- C. Abcdwertwer
- D. None of these

A. Wrong: LPAD pads on the left to length 10, giving "wertwe" + "abcd" = "wertweabcd", not "Wertwertab".

B. Correct: LPAD('abcd', 10, 'wert') pads 'abcd' on the left with 'wert' repeated until the total length is 10 — six characters "wertwe" — giving "wertweabcd".

C. Wrong: that would be right-padding, not left-padding.

D. Wrong: option B is correct.

Question 38 Computer Science

The basic programming unit of a PL/SQL code is

- A. Procedure
- B. Sub-program
- C. Module
- D. Block ✓ **Correct answer**

A. Wrong: a procedure is a named block, but the basic programming unit of PL/SQL is the block itself.

B. Wrong: a sub-program is a named block; the basic unit is the block.

C. Wrong: a module is not the basic programming unit of PL/SQL.

The basic programming unit of PL/SQL code is the block (DECLARE/BEGIN/EXCEPTION/END).

Question 39 Computer Science

Which of the following package can be used to build dynamic SQL?

- A. UTL_SQL
- B. UTL_ALERT
- C. DBMS_SQL ✓ **Correct answer**
- D. UTL_DSQL

A. Wrong: there is no standard Oracle package called UTL_SQL for building dynamic SQL.

B. Wrong: UTL_ALERT is not the package for building dynamic SQL (it is not a standard dynamic-SQL package).

C. Correct: the DBMS_SQL package is used to build dynamic SQL in Oracle.

D. Wrong: there is no standard Oracle package called UTL_DSQL. Note: the second reproduction (basicscomp) prints different, SQL Server options for this question ("Writing a query with parameters", "Using sp_executesql", "Using EXEC", "All of these") and keys D; the Oracle version filed here matches the stem's word "package" and is the known GATE question.

Question 40 Computer Science

Which of the following keyword is not used in PL/SQL procedure creation?

- A. Declare ✓ **Correct answer**
- B. Begin
- C. Exception
- D. End

A. Correct: DECLARE is used in anonymous PL/SQL blocks, not in procedure creation — a

created with CREATE PROCEDURE … IS/AS … BEGIN … EXCEPTION … END, with no DECLARE keyword.

B. Wrong: BEGIN is used in procedure creation.

C. Wrong: EXCEPTION is used in procedure creation.

D. Wrong: END is used in procedure creation.

Question 41 Computer Science

Logically speaking, in general it is a good idea to set the values of the checkbox making of the other values property to the value of the property

- A. Value when checked
- B. Value when unchecked
- C. Null
- D. None

No answer is given for this question, and none is taught. DEFECTIVE — excluded (stem garbled beyond recovery: the question as printed has no determinable meaning)

A. Cannot be determined: the stem is garbled ("set the values of the checkbox making of the other values property to the value of the property") and does not state what is being set to what.

B. Cannot be determined: the stem is garbled and does not state what is being set to what (the first source keys B, but its explanation only repeats the garbled stem).

C. Cannot be determined: the stem is garbled and does not state what is being set to what.

D. Cannot be determined: the stem is garbled and does not state what is being set to what. The printed question has no determinable answer and the second reproduction gives no answer for it at all; it is excluded as DEFECTIVE (decided by assistant under

ov delegation).

Question 42 Computer Science

Summary column can be used to display

- A. Total
- B. Minimum value
- C. Average
- D. All of these ✓ **Correct answer**

A. True in isolation: a summary column can display a total.

B. True in isolation: a summary column can display a minimum value.

C. True in isolation: a summary column can display an average.

D. Correct: a summary column can display a total, a minimum value and an average.

Question 43 Computer Science

Column names used and reports are

- A. Global ✓ **Correct answer**
- B. Local to the query
- C. Local to the groups
- D. None of these

A. Correct: in Oracle Reports, column names used in reports are global — a column can be referenced by name anywhere in the report. Confirmed by the second reproduction (basicscomp), which keys this question a) Global.

B. Wrong: column names in reports are not local to the query.

C. Wrong: column names in reports are not local to the groups.

D. Wrong: option A is correct.

44 Computer Science

Records that are displayed by a form can be edited if the mode of the corresponding query is

- A. Query
- B. Enter query
- C. Normal ✓ **Correct answer**
- D. Enter normal

A. Wrong: "Query" is not the mode in which displayed records can be edited.

B. Wrong: in Enter-Query mode the form accepts query criteria; records are not edited in that mode.

C. Correct: records displayed by a form can be edited when the mode of the corresponding query is Normal.

D. Wrong: "Enter normal" is not a query mode.

Question 45 Computer Science

At a particular time of computation, the value of a counting semaphore is 7. Then 20 P operation and x V operations were completed on this semaphore. If the final value of the semaphore is 5, x will be

- A. 15
- B. 20
- C. 18 ✓ **Correct answer**
- D. 13

A. Wrong: the arithmetic gives 18, not 15.

B. Wrong: the arithmetic gives 18, not 20 (the second reproduction prints 22 here instead of 20; the answer is C in both).

counting semaphore starts at 7; 20 P operations subtract 20 and x V operations add x, so 7 - 20 + x = 5, giving x = 18.

D. Wrong: the arithmetic gives 18, not 13.

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