**Interview Questions**

**Sites**

<http://www.mainframetutorials.com/COBOLFAQ.html>

<http://dev.fyicenter.com/Interview-Questions/COBOL/>

<http://www.mainframegurukul.com/ibmmainframeforums/viewtopic.php?t=5508>

<https://sites.google.com/site/indusitfactory/cobol-interview-questions>

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**Questions**

**001 COBOL BASICS**

**Q. Declaration of variable what levels it can take?**

**ANS**

Level specifies the hierarchy of data within a record. It can take a value from the

set of integers between **01-49 or from one of the special level-numbers 66 77 88**

01 level. Specifies the record itself. It may be either a group item or an

Elementary item. It must begin in Area A.

02-49 levels. Specify group or elementary items within a record. Group level items

must not have picture clause.

**66 level. Identify the items that contain the RENAMES clause.**

**77 level. Identify independent data item.**

**88 level. Condition names.**

**Q. To describe a record the level numbers may be chosen from:**ANS - 01 to 49 (77 is for constant literals may be)

**Q. Hierarchy of the execute of logical operators is**

ANS. NOT, AND, OR

**Q. In the EBCDIC collating sequence, a blank has the lowest value and the SORT verb does not distinguish between upper- and lowercase letters.**

ANS. False.

 Letters are considered “less than” numbers in EBCDIC, and letters are considered “greater than” numbers in ASCII.

  Lowercase letters are considered “less than” uppercase letters in EBCDIC and “greater than” uppercase letters in ASCII.

**Q. What is the result of the following?**

MOVE 1 TO VAR1

MOVE 2 TO VAR2

EVALUATE TRUE

WHEN VAR1=1

PERFORM PARA-1

WHEN VAR2=2

PERFORM PARA-2

WHEN OTHER

NEXT SENTENCE

END-EVALUATE.

**A) PARA-1 will be performed**

**B) PARA-2 will be performed**

**C) Both PARA-1 and PARA-2 will be performed.**

**D) Compile error for incorrect use of NEXT sentence**

ANS. A

**Q. Explain the different USAGEs in COBOL.**

The Memory Space calculation – how much storage space, a COBOL Variable occupies – 1 byte, 2 bytes, 3 bytes, how much - is done by looking at the USAGE Clause.

In COBOL, you generally process two types of data – (i) Textual Character Strings like 'Hello','RAM MUMBAI','1000.00' and (ii) Numeric Data that is used in arithmetic computations such as 1456, –123.28.

In the picture, the COBOL storage area WS-TEXT stores the Textual String-data 'HELLO' and the COBOL Storage Area WS-NUMBER stores the Number 67542. The question is to tell, how much space in bytes does WS-TEXT and WS-NUMBER occupy in the Memory?

1) USAGE IS **DISPLAY** : In the above declaration, no USAGE Clause has been specified. When no explicit-usage is mentioned, it defaults to DISPLAY Format. You can also tell explicitly, "I want the data to be stored in DISPLAY Format, by writing USAGE IS DISPLAY Clause."

What’s DISPLAY Format? When you store data in DISPLAY Format, the data is stored or represented on the Mainframe Computer, as it is DISPLAYed – 1 Byte for each character. In EBCDIC System, the character 'H' is represented as 1100 0100 or x'C8'. The character 'E' is stored as 1100 0101 or x'C5'. The character 'L' is represented as 1101 0101 or x'D3', 'O' is stored as 1101 0110 or x'D6'.

In EBCDIC System, the numeric-character '1' is stored as 1111 0001 or x'F1',the character '2' is stored as 1111 0010 or x'f2' and so on. Note that, the numeric character '1' is not the same as numeric Digit 1. This way each character is stored in 1 byte – simple – stored as it is DISPLAY'ed. This is how it looks, when you store data like 'HELLO' or 67542 on a Mainframe. So, 'HELLO' occupies 5 bytes, 67542 also occupies 5 Bytes.

2) **COMP** : Whilst DISPLAY Format is easy-to-use, when numeric data like 67542 is stored in DISPLAY-Format, it is not very computationally-efficient. So, when storing Integer-data in COBOL, which is used in arithmetic-Computations, you should store them in COMPUTATIONAL Format. The COMPUTATIONAL or COMP format, stores the entire-Number in pure-binary Format. In other words, find out what is the Binary-equivalent for the Decimal number 67542. For example, 67542 is stored as 0000 0000 0000 0001 0000 0111 1101 0110 or x'000107D6'. This occupies 4 bytes only. Here’s how you store 67542 in COMP-Format.

This is how 67542 looks, when you store it in WS-NUMBER COBOL Variable –

a PIC 9(05) COMP.

By looking at the below chart, you can tell how much storage space a COMP-Variable will occupy. Now, say you are storing the number 12345678 in

PIC 9(08). This occupies 8 Bytes. As opposed to this if you store the number 12345678 in PIC 9(08) COMP, it occupies far less space, just 4-Bytes.

3) COMP-3 – COMP-3 Format provides the maximum packing-ability or compression of data. Its packing-density is very good. COMP-3 Format can pack upto 2 digits in one single-byte of space. COMP-3 Format stores the number as BCD(Binary Coded Decimal). What’s BCD? The idea stems from the fact that, to store any numeric-digit(from 0-9) on a computer you just need half-byte(nibble).

What’s the BCD for 67542? Here’s how you calculate it. Look-up the Binary-code for each digit of the number separately.

6 7 5 4 2

0000 0110 0111 0101 0100 0010 (3-Bytes)

When 67542 is stored in COMP-3 Format, it occupies even less space – just 3 Bytes. Here’s, how you code it in COBOL -

This is how 67542 would look, when you store it in COMP-3 Format.

**Q. What is COMP-1 and COMP-2?**

COMP-1 and COMP-2 Formats are meant for storing numbers with a Decimal Point – Real Numbers(Floating-Pt. Numbers). COMP-1 is Single-precision Floating Point Format. It always occupies 4 Bytes. COMP-2 is Double-precision Floating Point Format. COMP-2 occupies 8 Bytes.

**Q. How many bytes does S9(07) COMP-3 occupy?**

In COMP-3 Format, since two digits can be packed into one byte, 7 digits can be packed into 4 bytes. In general, the space occupied by a PIC 9(n) COMP-3 Variable is (n+1)/2.

**Q. How many bytes does PIC S9(07) occupy?**

PIC S9(07) would occupy 7 bytes of storage space.

**Q. How many bytes does a S9(7) SIGN TRAILING SEPARATE field occupy ?**

S9(07) SIGN TRAILING SEPARATE Field occupies 8 bytes(1 extra byte for the sign).

**Q. What is COMP SYNC?**

SYNC Keyword is used in COBOL to align the data(storage-area) to a Word-Boundary (Any address which is a multiple of 4). This is because, on Mainframes reading data from a word-boundary is computationally efficient.

Causes the item to be aligned on natural boundaries. Can be SYNCHRONIZED LEFT or RIGHT.

For binary data items, the address resolution is faster if they are located at word boundaries in the memory. For example, on main frame the memory word size is 4 bytes. This means that each word will start from an address divisible by 4. If my first variable is X(3) and next

one is s9(4) comp, then if you do not specify the SYNC clause, S9(4) COMP will start from byte 3 (assuming that it starts from 0). If you specify SYNC, then the binary data item will start from address 4. You might see some wastage of memory, but the access to this computational field is faster.

**42. How is Sign stored in a COMP-3 Field?**

In the COMP-3 Format, the sign is stored in the last nibble. Positive numbers contain 1100 or x'C' in the Last nibble. Negative numbers contain 1101 or x'D' in the last nibble. The below picture shows, how +67542 and –67542 looks, when stored in the COMP-3 Format.

**Q. How many bytes will comp-2 occupy?**

ANS. 8 bytes

**Q. What are the different forms of EVALUATE statement?**

EVALUATE

WHEN A=B AND C=D

imperative stmt

WHEN (D+X)/Y = 4

imperative stmt

WHEN OTHER

imperative stmt

END-EVALUATE

EVALUATE SQLCODE ALSO FILE-STATUS

WHEN 100 ALSO '00'

imperative stmt

WHEN -305 ALSO '32'

imperative stmt

WHEN OTHER

imperative stmt

END-EVALUATE

EVALUATE SQLCODE ALSO A=B

WHEN 100 ALSO A=B

imperative stmt

WHEN -305 ALSO (A/C=4)

imperative stmt

END-EVALUATE

EVALUATE SQLCODE ALSO TRUE

WHEN 100 ALSO TRUE

imperative stmt

WHEN -305 ALSO FALSE

imperative stmt

END-EVALUATE

**002 COBOL Functions**

**Q. The INSPECT statement can be used to check whether the value in a data name is numeric.**False

**Q. What is NUMVAL in COBOL? – FAQ interview Question**

**ANS..**

The NUMVAL and NUMVAL-C functions convert character strings to numbers. Use these functions to convert alphanumeric data items that contain free format character representation numbers to numeric form, and process them numerically. For example:  
01 R PIC X(20) VALUE "- 1234.5678".  
01 S PIC X(20) VALUE "-$12,345.67CR".  
01 TOTAL USAGE IS COMP-2.

**Q. Which of the following is not a procedure division verb?**

a) Start

b) Seek

c) Rerun

d) Delete

**ANS**. b

**Q. Date Handling in Cobol like adding one day to the current date.**

**ANS.**

Gregorian-date = 20140119

COMPUTE integer-date = FUNCTION INTEGER-OF-DATE (Gregorian-date).

add 1 to integer-date

COMPUTE Gregorian-date-new = FUNCTION DATE-OF-INTEGER (integer-date)

**003 COBOL File Handling**

**Q. Where is the association between a filename and corresponding file medium done?**  
ENVIRONMENT DIVISION

INPUT-OUTPUT SECTION

FILE-CONTROL

**Q. How would you set the variable record length and what is the use of defining a file as variable length format?**

ANS. The 2 main reasons to use Variable Length records is

1. to save space
2. improve performance.

The **four bytes preceding the logical record is the Record Descriptor Word.** The content is as follows. Bytes Description

1-2 This is the length of the logical record plus the length of the four-byte Descriptor Word.

3-4 Usually low values

**Q. In place of a WRITE statement in an INPUT PROCEDURE, the \_\_\_\_\_\_\_ verb is used to write records onto the sort or work file.**

**Answer: RELEASE** SORT-REC FROM IN\_REC

**Q. In place of a READ statement in an OUTPUT PROCEDURE, the \_\_\_\_\_\_\_ verb is used to read records from the sort or work file.**

**Answer:**

**RETURN** SORT-FILE-NAME

AT END

NOT AT END

END-RETURN

**Q. (T or F) The RELEASE statement uses a file-name, as does the RETURN statement.**

**Answer:**

False. RELEASE statement uses the record name and RETURN uses the file name.

**Q. (T or F) A WORK or SORT file is required when sorting.**

**Answer:** True

**Q. If a file is described by an SD, it is not defined in a SELECT clause and does not**

**have an FD.**

**Ans.** False. It is defined in the SELECT clause, But does not have FD, It has SD.

**Q.** **How do you define a sort file in JCL that runs the COBOL program?**

Use the SORTWK01, SORTWK02, DD names in the step. Number of sort datasets depends on the volume of data being sorted, but a minimum of 3 is required.

**Q. A sort can be performed with a minimum of two files: the input file and the file of sorted output records.**

**ANS.** False

Sort work file is required.

**Q.The syntax for SORT and MERGE are very different.**

**ANS.**False

Sort can have INPUT procedure, Merge cannot. The input to merge has to come directly using **“USING”.**

**Q. Relative key clause must be mentioned in case of a relative file organisation.**True

**Q. The START statement enables the programmers to start processing from any record position.**True

**Q. What is File status 02 ?**

a) Record Key duplicate

b) End of file

c) Alternate Key Duplicate

d) File open Error

ANS. A

**004 COBOL Implementation**

**Q. Editing a Copybook - How to?**

**You have some changes to be made in a copybook. Like adding a new field and renaming another field.**

Ans.

Just search in the program library to identify all the programs which use this copybook. Then do a mass search whether any of them will use the field to be changed too. Then change the programs accordingly. I mean name change, record layout change etc. Then do a recompile too for all the members which use the copybook.

**Q. There is a PS file that gets created everyday with one record and with a character 'A' in it in different positions. How to write COBOL logic to find it's position in the file?**

A. You could use a loop starting at the first byte and counting the positions until the A is found or the end of record is reached.

or

You could use INSPECT/TALLYING. Read here:

**INSPECT** source-string **TALLYING** tally-counter **FORLEADING** ‘A’

**Q. Compare two files say file1 and file2 and write the results matched and unmatched records in two files say file3 and file4 – FAQ interview**

ANS. first sort the two input files

**file1**

hari

mahesh

sandeep

srinivas

**file2**

amir

sandeep

srinivas

zaheer

**LOGIC**

Loop thru data

if (eof-file1 = n and eof-file2 = n)

Evaluate True

\*writing unmatched fields when both files donot have same records

When File1 End of File

write File2 into file4 until end of file2

When File2 End of File

write File1 into file4 until end of file1

When File-1-rec = File-2

write File-1-rec into File-3-rec

read file-1-rec

read file-2-rec.

\*here we compare file1 with file2 if f1<f2 then it implies we cant find any more match in second file since both are sorted \*files

When file-1-rec-key < File-2-rec-key

write File-1-rec into File-4-rec

read file-1-rec.

When file-1-rec-key > File-2-rec-key

write File-2-rec into File-4-rec

read file-2-rec.

end-if

end loop

Output

file3

sandeep

srinivas

file4

amir

hari

mahesh

zaheer

**Q. IF NOT PRICE LESS THAN 20 AND 30 GO TO PARA-BUY.  
The control will go to PARA-BUY if :**

**Options**  
- PRICE is greater than 30  
- PRICE is greater than 20  
- PRICE is greater than or equal to 20 but less than 30  
- PRICE is less than 30  
  
CORRECT ANSWER : PRICE is greater than 30

Not Price Less than 20 and 30 = not price less than 20 and not price less than 30

= price >= 20 and price >= 30

= price >= 30

**Q. How do you resolve S0C7 Error?**

When a COBOL Program terminates pre-maturely, due to Bad-data, most installations provide you a dump for run time abend. These dumps provide the offset of the last instruction at which the abend occurred.

Once you have the offset of the abending-Instruction +00000440, you must lookup this in the Compile-Listing to find out, at which COBOL Line-of-code or COBOL-Instruction, the program was terminated. I have generated the Compile-Listing with the following options 'SSRANGE,XREF,MAP,OFFSET,FLAG(W,W)'.

In the Compile-Listing, jump to Condensed-Verbs Listing. You can hit a

F ALL 'HEXLOC' in the Compile-Listing to locate this. The

condensed-Verbs Listing gives the COBOL Line-no.(LINE), COBOL Verb coded on that line(VERB), Hex-address of the COBOL Verb from the origin of the Program(HEXLOC).

Hex-address 440 lies between Line# 33 ADD and Line# 34 DISPLAY Instructions. This implies, the ADD instruction was last instruction, at which the Program failed due some error. Now, note down the name of the fields occurring in the Abending COBOL Line. The abending COBOL Instruction is -

ADD +1 TO WS-NUMBER

WS-NUMBER is populated from NUMBER-IN of the file. We need to establish where these fields are located in the Memory. To do this, you can use the Data Division Map in the Compile Listing.

**7. Which of the following is not allowed to assign a value to a data name in a REPORT SECTION?**  
Correct answer: TOTAL  
  
**8. Which of the following is true about physical map and symbolic map?**Correct answer: Physical map is load module, Symbolic map is data structure.  
  
**9. A map was generated. What is the output created as a result?**ANS. Map copy book and Load module  
  
**10. Which working storage fields are used for every field on the map?**ANS. Length, Attribute and I/O fields  
  
**11. Which of the following resets MDT?**  
Correct answer: FRSET  
  
**12. Attribute byte is received at EOF in symbolic map?**True

**13. BUFFER option in RECEIVE brings the entire datastream from the terminal buffer.**True  
  
**14. You want dynamic memory allocated within a CICS application program. What would you do?**  
Use a GETMAIN  
  
**15. What are TDQ and TSQ used for?**Correct answer: Temporary Data Storage  
  
**16. Which task control commands are used to make tasks serially re-usable?**ANS. Both ENQ and DEQ  
  
**17. To use dynamic calls in CICS:**Correct answer: Called routine must be defined in PPT, Calling program must use call identifier.  
  
**18. If program A passes 40 bytes to program B through common area and program B has defined its DFHCOMMAREA to be 60 bytes. Can there be a problem?**  
Correct answer: Yes, if B tries to access bytes from 41-60  
  
**19. Which of the following is true about START and XCTL?**

**ANS.**   
- START is used to start a new task  
- XCTL is used to pass control to a program within the same task.  
- START is an INTERVAL control command, XCTL is a program control command  
  
**20. What will be the value of EIBCALEN at START?**Zero  
  
**21. You can access ESDS files from CICS.**True  
  
**22. Which of the following is true about DCB?**- DCB stands for Data Control Block  
- It is a keyword for DD statement  
- It is used to describe Data Sets  
  
**23. You want to pass parameters to a program coded in EXEC statement. How** would you do that?  
- By coding PARM clause on EXEC statement.  
- Parameter will be defined in Linkage section of COBOL program.  
  
**24. Which of the following statements are correct about GDG?**  
i.) It means Generation Data Group  
ii.) It allows users to create multiple data sets with same base name.  
iii.)Data sets are distinguished by a logical number  
  
  
**25. What is the maximum number of GDG that can be created?**ANS. 255

**26. What does E37 error show?**Insufficient space

**27. How would you resolve SOC7 abend?**You answered: Debugging the program  
Correct answer: Eliminating the bad program by debugging the program  
  
**28. How do you eliminate duplicate values in DB2 SELECT?** Use SELECT DISTINCT  
  
**29. You can use MAX on a CHAR column.**True  
  
**30. Which of the following is true about UNION, UNION ALL?**UNION eliminates duplicates, UNION ALL retains duplicates  
  
**31. What do BETWEEN and IN in WHERE clause do?**BETWEEN supplies a range of values, IN supplies a list of values  
  
**32. Underscore (‘\_’) in the LIKE statement is the match for a single character.**True  
  
**33. Which of the following statements are true about a Leaf pages?**- Leaf pages are opposite of root pages  
- Leaf pages are lowest level index pages  
  
**34. How many clustering indexes can be built on a table?**Correct answer: 1  
  
**35. The cursor is declared in the “working storage” in a program:**Correct answer: True

**36. What happens when you perform update/ delete via a cursor?**  
**ANS**

Only the current row is updated/ deleted.

**37. Which of the following is true about Primary key values and Alternate key values?  
ANS.**

Primary key values must be unique, alternate key values need not be

**38. Which error condition do codes 22 and 90 signify?**ANS-

22- Attempt to write a record causing duplicate key

90- Failed to open/close/read/write VSAM logic error

**39. You want to load the data in a VSAM cluster. What ways can you take?**Ans - Use the COBOL program, also IDCAMS Repro can be used  
  
**40. What does a file status of 02 on a VSAM indicate?**  
Ans - Duplicate alternate key which is allowed as per definition of Alternate index(need not be unique)  
  
**41. What are these? : KSDS, ESDS, RRDS, LDS.**  
Ans - Datasets in VSAM

**01. Name the divisions in a COBOL Program.**

The four divisions in a COBOL Program are IDENTIFICATION DIVISION, ENVIRONMENT DIVISION, DATA DIVISION and PROCEDURE DIVISION.

**02. Tell us briefly about each division.**

IDENTIFICATION DIVISION is used to establish the Identity of the program, and assigns a unique name to the Program.

ENVIRONMENT DIVISION tells the environment – SOURCE-COMPUTER and OBJECT-COMPUTER on which the COBOL Program would run. It also declares the Input and Output file-names, accessed by the COBOL Program.

DATA DIVISION is the place in the COBOL Program, that creates Storage areas(COBOL Variables) for storing Data. Generally, COBOL Programs read data-records from Input-File, or Write records to Output-file. When the data-record from the Input-file is read, there's got to be a place in the COBOL Program, where the Input File Data arrives, its received and it has to be stored. COBOL Programs may do some rough-work. Such variables which act like a temporary scratch-pad, where you could do some rough-work, and which are there only as long as the COBOL Program runs are called WORKING-STORAGE Areas.

PROCEDURE DIVISION is the starting-point of the COBOL Program, where the Program begins to run. You code the Instructions that you to perform one-by-one in the PROCEDURE DIVISION.

**03. What are the different data-types in COBOL?**

Alpha-numeric (X), alphabetic (A) and numeric (9).

**04. What does the INITIALIZE Verb do?**

Alphabetic, Alpha-numeric fields and alpha-numeric edited items are initialized to SPACES.

Numeric and Numeric-edited items are set to ZEROES. FILLER and OCCURS Clause items are left untouched.

**05. What is 77 level used for ?**

Say, that you want to store the details about the Employees working in the Company. Each EMPLOYEE-RECORD detail is generally 56 characters. To store Employee data in the COBOL Program, I create an EMPLOYEE-RECORD Storage Area as follows.

I know that, EMPLOYEE-RECORD data contains the Name of the Employee(30 chars) and the address of the employee(26 chars). I break down EMPLOYEE-RECORD into NAME and EMP-ADDRESS Fields as follows.

But, the name itself consists of First-name(10), Middle-name(10) and Last-name(10). Employee-Address Data consists of Street(10), City(10) and Pin-code(06). I can provide an extra-level of detailed breakup.

This way, you can take a 01-Level Data-item, and break it down further into smaller storage-areas, depending on the granularity-of-detail, you wish to capture.

77-level storage-areas are independent data-items, they cannot be broken down further into smaller storage areas. Moreover, they cannot participate under a bigger storage area.

If EMPLOYEE-RECORD were to be an 77-Level Independent Variable, it would look like this. Note that, now you can’t chop it!

06. Is there a difference between PIC 9.9 and PIC 9V9?

When you use PIC 9V9, COBOL assumes a decimal-point, and treats the number as a real(fractional) number with Integer-part before the decimal-pt and Fractional-part after the decimal-pt in all Arithmetic-Operations.

When you use PIC 9.9, COBOL does not treat it like a Real(Decimal) Number. The decimal-Point is merely used for display-formatting purposes, the '.' character is simply force-inserted in between the 2-digits. It does not tell COBOL to treat the number as Decimal-number.

Also note that, WS-A occupies just 2-bytes of Storage space. WS-B on the other hand occupies 3-bytes of storage space, as you have force-inserted the decimal-point '.' character(which occupies 1 byte).

07. What is 88-Level used for?

Used for assigning labels to data-values that a COBOL-Variable can take. Very useful in detecting special-conditions. They work like flags or switches.

01 TEMPERATURE PIC 9(03).

88 HIGH-TEMPERATURE VALUES 75 THRU 100.

88 MEDIUM-TEMPERATURE VALUES 50 THRU 74.

88 LOW-TEMPERATURE VALUES 32 THRU 49.

MOVE 60 TO TEMPERATURE

IF MEDIUM-TEMPERATURE(You need not write TEMPERATURE=60)

...

END-IF

08. Can you pass an Index to another COBOL Program, via LINKAGE SECTION?

No, an INDEX is not a Working-storage area. It is maintained by the System. You can only send the data which is in Working-storage areas(Rough-work area) or in File Input-Output Areas to a COBOL Program.

You can pass a Subscript to another COBOL Program.

09. What is the difference between STOP RUN, GO BACK and EXIT PROGRAM?

STOP RUN terminates the entire run-unit – the Main Driver Program along with all its sub-programs. GO BACK returns the control back to the calling program. GO BACK when used the Main Driver Program, returns the control back to the OS. EXIT PROGRAM only works in sub-programs, and transfers control to the calling Program. If used in the Main Driver Program, it causes 4038 Abend.

10. 01 WS-I USAGE IS INDEX. Is this a valid Working-storage definition?

Yes this is a valid working-storage definition of an Index.

11. What are HIGH-VALUES and LOW-VALUES in COBOL?

How does the Mainframe Computer store data and information? Every character or alphabet is represented as a unique 8-bit pattern of 0s and 1s.

For example, A is stored as 1100 0001 or X'C1' in hex. B is stored as 1100 0010 or X'C2' in Hex.

Similarly, the LOW-VALUE character is stored as 0000 0000 or X'00' in Hex.

The HIGH-VALUE Character is stored as 1111 1111 or X'FF' in Hex. Understand, that these are non-displayable characters.

12. What is level 66 used for ?

Level-66 Data-item is used for RENAMES Clause. RENAMES clause is used to regroup(Re-arrange), club together existing fields under a new name.

01 RECORDS.

05 GROUP-A.

10 FIELD-1 PIC 9(02).

10 FIELD-2 PIC 9(02).

05 GROUP-B.

10 FIELD-3 PIC 9(02).

10 FIELD-4 PIC 9(02).

66 GROUP-C RENAMES FIELD-2 THRU FIELD-3.

13. What does the IS NUMERIC clause establish ?

IS NUMERIC is used to check if the data is numeric or not.

01 WS-TEXT PIC X(05).

MOVE '15623' TO WS-TEXT.

IF WS-TEXT IS NUMERIC

DISPLAY 'NUMBER'

ELSE

DISPLAY 'TEXTUAL CHARACTERS’

END-IF.

Output:

NUMBER

MOVE 'HE123' TO WS-TEXT

IF WS-TEXT IS NUMERIC

DISPLAY 'NUMBER'

ELSE

DISPLAY 'TEXTUAL CHARACTERS’

END-IF.

Output:

TEXTUAL CHARACTERS

14. How do you define a table or array in COBOL?

01 CONTACT-LIST.

05 CONTACT-RECORD OCCURS 5 TIMES.

10 NAME PIC X(10).

10 PHONE PIC 9(08).

15. Can the OCCURS clause be at the 01 level?

No.

16. At a minimum, what are the divisions you are required to code in COBOL?

IDENTIFICATION DIVISION entry is required at a minimum to build a working COBOL Program.

17. What is the difference between Index and Sub-script?

Subscript is the slot-no. or position in the table. Index is the displacement (in no of bytes)/actual address from the beginning of the array. Indexes are much faster than subscripts. Subscripts have to be converted internally to the address.

For example,

01 WS-TABLE.

05 WS-NAME OCCURS 5 TIMES PIC X(10).

-----------------------

Subscript Index

-----------------------

0 0

1 10

2 20

3 30

.. ..

-----------------------

Since index is much more efficient, you should declare a table and Index it.

01 WS-TABLE.

05 WS-NAME OCCURS 5 TIMES PIC X(3) INDEXED BY I.

You use indexes just like subscripts, except for the fact that they are much faster and efficient.

PERFORM 1000-DISPLAY-DATA VARYING I FROM 1 BY 1 UNTIL I > 5

1000-DISPLAY-DATA.

DISPLAY WS-NAME(I).

To increment or decrement an Index, SET Verb is used.

SET I UP BY WS-LIT-ONE.

SET I TO 1.

You cannot MOVE data to Indexes. You also cannot perform Arithmetic Operations on an Index.

**18. What is the difference between SEARCH and SEARCH ALL?**

SEARCH - is a Linear(sequential) search. It performs a full top-to-bottom scan for the data.

\*---------------------------------------------------------------\*

\* PRE-FILLED CONTACT-LIST COBOL ARRAY \*

\*---------------------------------------------------------------\*

01 WS-CONTACT-LIST-VALUES.

05 FILLER PIC X(10) VALUE 'QUASAR'.

05 FILLER PIC X(08) VALUE '28941365'.

05 FILLER PIC X(10) VALUE 'MUMBAI'.

05 FILLER PIC X(10) VALUE 'RAMESH'.

05 FILLER PIC X(08) VALUE '28941305'.

05 FILLER PIC X(10) VALUE 'PUNE'.

05 FILLER PIC X(10) VALUE 'ARJUN'.

05 FILLER PIC X(08) VALUE '42334160'.

05 FILLER PIC X(10) VALUE 'DELHI'.

01 WS-CONTACT-LIST REDEFINES WS-CONTACT-LIST-VALUES.

05 WS-CONTACT-RECORD OCCURS 3 TIMES INDEXED BY I.

10 WS-NAME PIC X(10).

10 WS-PHONE PIC X(08).

10 WS-CITY PIC X(10).

To search the Contact-List, by names you have to code -

**SEARCH WS-CONTACT-RECORD VARYING I**

**AT END**

**GO TO 2000-SEARCH-EXIT**

**WHEN WS-NAME(I) = 'RAMESH'**

**DISPLAY 'NAME : ' WS-NAME(I)**

**DISPLAY 'PHONE : ' WS-PHONE(I)**

**DISPLAY 'CITY : ' WS-CITY(I)**

**END-SEARCH.**

SEARCH ALL - is a binary search & the table must be sorted (ASCENDING/DESCENDING KEY clause to be used & data loaded in this order) before using SEARCH ALL.

**19. What should be the sorting order for SEARCH ALL?**

It can be either ASCENDING or DESCENDING. ASCENDING is default. If you want the search to be done on an array sorted in descending order, then while defining the array, you should give DESCENDING KEY clause. (You must load the table in the specified order).

**20. What is binary search?**

Search on a sorted array. Compare the item to be searched with the item at the centre. If it matches, fine else repeat the process with the left half or the right half depending on where the item lies.

**21. My program has an array defined to have 10 items. Due to a bug, I find that even if the program accesses the 11th item in this array, the program does not abend. What is wrong with it?**

Use the compiler option SSRANGE if you want array bounds checking. Default is NOSSRANGE.

22. How do you access SYSIN Data and PARM Parameters passed to a COBOL Program?

You can access SYSIN Data in a COBOL Program using the ACCEPT Verb. To access the PARM Data, you code a LINKAGE SECTION Entry after the Working Storage Areas.

For example,

//STEP010 EXEC PGM=PROG01,PARMS='GEMIMG8LN’

LINKAGE SECTION.

01 JCL-PARMS.

05 JCL-PARMS-LENGTH PIC 9(04) COMP. <--First 2bytes store length

05 JCL-PARMS-STEPID PIC X(08).

05 JCL-PARM-DEBUG-SWITCH PIC X.

**24. How do you sort in a COBOL program? Give sort file definition, sort statement syntax and meaning?**

SORT file-1 ON ASCENDING/DESCENDING KEY key....

USING file-2

GIVING file-3.

USING can be substituted by INPUT PROCEDURE IS para-1 THRU para-2

GIVING can be substituted by OUTPUT PROCEDURE IS para-1 THRU para-2.

file-1 is the sort workfile and must be described using SD entry in FILE SECTION.

file-2 is the input file for the SORT and must be described using an FD entry in FILE SECTION and SELECT clause in FILE CONTROL.

file-3 is the outfile from the SORT and must be described using an FD entry in FILE SECTION and SELECT clause in FILE CONTROL.

**25. What is the difference between performing a SECTION and a PARAGRAPH?**

Performing a SECTION will cause all the paragraphs that are part of the section, to be performed. Performing a PARAGRAPH will cause only that paragraph to be performed.

26. What is the use of EVALUATE statement?

Evaluate is like a case statement and can be used to replace nested Ifs. The difference between EVALUATE and case is that no 'break' is required for EVALUATE i.e. control comes out of the EVALUATE as soon as one match is made.

27. How do you come out of an EVALUATE statement?

After the execution of one of the when clauses, the control is automatically passed on to the next sentence after the EVALUATE statement. There is no need of any extra code.

**28. In an EVALUATE statement, can I give a complex condition on a when clause?**

Yes.

**29. How do you do in-line PERFORM?**

PERFORM [varying I from 1 BY 1] [UNTIL Boundary-condition|5 TIMES]

Instruction-1

Instruction-2

...

END PERFORM

**30. What is the difference between CONTINUE & NEXT SENTENCE ?**

CONTINUE is like a null statement (do nothing) , while NEXT SENTENCE transfers control to the next sentence (!!) (A sentence is terminated by a period)

IF WS-NUMBER > 3

NEXT SENTENCE

ELSE

DISPLAY 'WS-NUMBER IS MORE THAN 3'

END-IF

DISPLAY 'SENTENCE-1'.

DISPLAY 'SENTENCE-2'.

STOP RUN.

Output:

SENTENCE-2

IF WS-NUMBER > 3

CONTINUE

ELSE

DISPLAY 'WS-NUMBER IS MORE THAN 3'

END-IF

DISPLAY 'SENTENCE-1'.

DISPLAY 'SENTENCE-2'.

STOP RUN.

Output:

SENTENCE-1

SENTENCE-2

31. What does EXIT do?

Does nothing! If used, must be the only sentence within a paragraph. It is generally used as an exit-point for the Paragraphs.

32. Can I redefine an X(100) field with a field of X(200)?

Yes. Redefines just causes both fields to start at the same location. For example:

01 WS-TOP PIC X(1)

01 WS-TOP-RED REDEFINES WS-TOP PIC X(2).

If you MOVE '12' to WS-TOP-RED,

DISPLAY WS-TOP will show 1 while

DISPLAY WS-TOP-RED will show 12.

33. Can I redefine an X(200) field with a field of X(100) ?

Yes.

**34. What are S0C1, S0C4, S0C7, S0CB Errors in COBOL?**

**S0C1 error is an Operation-Exception.** This happens when you attempt to execute an invalid machine-instruction. S0C1 errors occur in COBOL, due to:

- Table-handling overlay (MOVEs to table/sub-scripts out of range – and which over-write PROCEDURE DIVISION Instructions).

- Statements referencing LINKAGE SECTION Fields incorrectly.

- CALLs to an invalid or un-available module-name.

**S0C4 error is an Address-Exception.** You try to access Storage-area, which is restricted. Any storage-access violation results in S0C4 Error.

S0C7 error is a Data-Exception. This generally happens when you try to perform an Arithmetic-Operation on non-numeric data.

S0CB error is a Divide-by-Zero exception. This generally occurs when you try to divide by zero in COBOL.

**Q. How do you do in-line PERFORM?**

**ANS.**

PERFORM

     COMPUTE AMT = SAL+EXT-INCME

     DISPLAY 'TOTAL INCOME' AMT

    ......

END-PERFORM

PERFORM VARYING COUNT FROM 1 BY 1 UNTIL COUNT > 100

............

END-PERFORM

**Q. When would you use in-line perform?**

When the body of the perform will not be used in other paragraphs. If the body of the perform is a generic type of code (used from various other places in the program), it would be better to put the code in a separate para and use PERFORM paraname rather than in-line perform.

**Q. How is sign stored in Packed Decimal fields and Zoned Decimal fields?**

Packed Decimal fields: Sign is stored as a hex value in the last nibble (4 bits) of the storage.

Zoned Decimal fields: As a default, sign is over punched with the numeric value stored in the last bite.

**Q. How is sign stored in a COMP field?**

In the most significant bit. Bit is on if -ve, off if +ve.

**Q. How many bytes does a S9(7) COMP-3 field occupy?**

Will take 4 bytes. Sign is stored as hex value in the last nibble.

General formula is INT((n/2) + 1)), where n=7 in this example.

**Q. How many bytes does a S9(7) SIGN TRAILING SEPARATE field occupy ?**

Will occupy 8 bytes (one extra byte for sign).

**Q. How many bytes will a S9(8) COMP field occupy ?**

4 bytes.

**Q. What is the maximum value that can be stored in S9(8) COMP?**

99999999

**Q. How do you reference the following file formats from COBOL programs:**

**Fixed Block File** - Use ORGANISATION IS SEQUENTIAL. Use RECORDING MODE IS F, BLOCK CONTAINS 0 .

**Fixed Unblocked** - Use ORGANISATION IS SEQUENTIAL. Use RECORDING MODE IS F, do not use BLOCK CONTAINS

**Variable Block File** - Use ORGANISATION IS SEQUENTIAL. Use RECORDING MODE IS V, BLOCK CONTAINS 0. Do not code the 4 bytes for record length in FD ie JCL rec length will be max rec length in pgm + 4

**Variable Unblocked** - Use ORGANISATION IS SEQUENTIAL. Use RECORDING MODE IS V, do not use BLOCK CONTAINS. Do not code 4 bytes for record length in FD ie JCL rec length will be max rec length in pgm + 4.

**ESDS VSAM file** - Use ORGANISATION IS SEQUENTIAL.

**KSDS VSAM file** - Use ORGANISATION IS INDEXED, RECORD KEY IS, ALTERNATE RECORD KEY IS

**RRDS File** - Use ORGANISATION IS RELATIVE, RELATIVE KEY IS

**Printer File** - Use ORGANISATION IS SEQUENTIAL. Use RECORDING MODE IS F, BLOCK CONTAINS 0. (Use RECFM=FBA in JCL DCB)

**Q. In the JCL, how do you define the files referred to in a subroutine?**

Supply the DD cards just as you would for files referred to in the main program.

**Q. Can you REWRITE a record in an ESDS file? Can you DELETE a record from it?**

Can rewrite(record length must be same), but not delete.

**Q. What is file status 92?**

Logic error. e.g., a file is opened for input and an attempt is made to write to it.

**Q. What is file status 39 ?**

Mismatch in LRECL or BLOCKSIZE or RECFM between your COBOL pgm & the JCL (or the dataset label). You will get file status 39 on an OPEN.

**Q. What is Static, Dynamic linking ?**

In static linking, the called subroutine is link-edited into the calling program, while in dynamic linking, the subroutine & the main program will exist as separate load modules. You choose static/dynamic linking by choosing either the DYNAM or NODYNAM link edit option. (Even if you choose NODYNAM, a CALL identifier (as opposed to a CALL literal), will translate to a DYNAMIC call).

A statically called subroutine will not be in its initial state the next time it is called unless you explicitly use INITIAL or you do a CANCEL. A dynamically called routine will always be in its initial state.

**Q. What is AMODE(24), AMODE(31), RMODE(24) and RMODE(ANY)? ( applicable to only MVS/ESA Enterprise Server).**

These are compile/link edit options.

AMODE - Addressing mode. RMODE - Residency mode.

AMODE(24) - 24 bit addressing. AMODE(31) - 31 bit addressing. AMODE(ANY) - Either 24 bit or 31 bit addressing depending on RMODE.

RMODE(24) - Resides in virtual storage below 16 Meg line. Use this for 31 bit programs that call 24 bit programs. (OS/VS Cobol pgms use 24 bit addresses only).

RMODE(ANY) - Can reside above or below 16 Meg line.

**Q. What compiler option would you use for dynamic linking?**

DYNAM.

**Q. What is SSRANGE, NOSSRANGE ?**

These are compiler options w.r.t subscript out of range checking. NOSSRANGE is the default and if chosen, no run time error will be flagged if your index or subscript goes out of the permissible range.

**Q. How do you set a return code to the JCL from a COBOL program?**

Move a value to RETURN-CODE register. RETURN-CODE should not be declared in your program.

**Q. How can you submit a job from COBOL programs?**

Write JCL cards to a dataset with

//xxxxxxx SYSOUT=(A,INTRDR) where 'A' is output class, and dataset should be opened for output in the program. Define a 80 byte record layout for the file.

**Q. What are the differences between OS VS COBOL and VS COBOL II?**

OS/VS Cobol pgms can only run in 24 bit addressing mode, VS Cobol II pgms can run either in 24 bit or 31 bit addressing modes.

Report writer is supported only in OS/VS Cobol.

USAGE IS POINTER is supported only in VS COBOL II.

Reference modification eg: WS-VAR(1:2) is supported only in VS COBOL II.

EVALUATE is supported only in VS COBOL II.

Scope terminators are supported only in VS COBOL II.

OS/VS Cobol follows ANSI 74 stds while VS COBOL II follows ANSI 85 stds.

Under CICS Calls between VS COBOL II programs are supported.

**Q. What are the steps you go through while creating a COBOL program executable?**

DB2 precompiler (if embedded sql used), CICS translator (if CICS pgm), Cobol compiler, Link editor.

If DB2 program, create plan by binding the DBRMs.

**Q. Can you call an OS VS COBOL pgm from a VS COBOL II pgm?**

In non-CICS environment, it is possible. In CICS, this is not possible.

**Interview Questions**

**Sites**

<http://www.mainframetutorials.com/COBOLFAQ.html>

<http://mainframewizard.com/content/cobol-interview-questions-1>

<http://www.mainframegurukul.com/interview-questions/COBOL>

<http://mainframewizard.com/content/cobol-interview-questions-answers>

<http://dev.fyicenter.com/Interview-Questions/COBOL/>

<http://www.mainframes360.com/2010/09/cobol-interview-questions.html>

<http://www.mainframegurukul.com/ibmmainframeforums/viewtopic.php?t=5508>

<https://sites.google.com/site/indusitfactory/cobol-interview-questions>

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**Questions**

Q.Editing a Copybook - How to?

You have some changes to be made in a copybook.

Like adding a new field and renaming another field.

A. just give a search in program library to identify all the programs which uses this copybook.Then do a mass search whether any of them will use the field to be changed too.then change the programs accoringly. i mean name change ,record layout change etc.the do a recompile too for all the members which uses the copybook.

Q.There is a PS file that gets created everyday with one record and with a character 'A' in it in different positions. How to write a cobol logic to find it's position in the file?

A.You could use a loop starting at the first byte and counting the positions until the A is found or the end of record is reached.

or

You could use INSPECT/TALLYING. Read here:

Q.What is the result of the following?

MOVE 1 TO VAR1

MOVE 2 TO VAR2

EVALUATE TRUE

WHEN VAR1=1

PERFORM PARA-1

WHEN VAR2=2

PERFORM PARA-2

WHEN OTHER

NEXT SENTENCE

END-EVALUATE.

A) PARA-1 will be performed

B) PARA-2 will be performed

C) Both PARA-1 and PARA-2 will be performed.

D) Compile error for incorrect use of NEXT sentence

ANS. A

Q.how would you set the variable record length and what is the use of defining file as variable length format.

ANS.the 2 main reasons to use Variable Length records is to save space and improve performance.

The four bytes preceding the logical record is the Record Descriptor Word. The content is as follows. Bytes Description

1-2 This is the length of the logical record plus the length of the four-byte Descriptor Word.

3-4 Usually low values

Q. Date Handling in Cobol like adding one day to current date.

ANS.

Gregorian-date = 20140119

COMPUTE integer-date = FUNCTION INTEGER-OF-DATE (Gregorian-date).

add 1 to integer-date

COMPUTE Gregorian-date-new = FUNCTION DATE-OF-INTEGER (integer-date)

Q.Hierarchy of the execute of logical operators is

ANS.NOT AND OR

Q. What is File status 02 ?

a) Record Key duplicate

b) End of file

c) Alternate Key Duplicate

d) File open Error

ANS. A

Q. Which of the following is not a procedure division verb?

a) Start

b) Seek

c) Rerun

d) Delete

ANS. b

Q. Compare two files say file1 and file2 and write the results matched and unmatched records in two files say file3 and file4

ANS. first sort the two input files

file1

hari

mahesh

sandeep

srinivas

file2

amir

sandeep

srinivas

zaheer

LOGIC

setup loop

if (eof-file1 = n and eof-file2 = n)

Evaluate True

\*writing unmatched fields when both files donot have same records

When File1 End of File

write File2 into file4 until end of file2

When File2 End of File

write File1 into file4 until end of file1

When File-1-rec = File-2

write File-1-rec into File-3-rec

read file-1-rec

read file-2-rec.

\*here we compare file1 with file2 if f1<f2 then it implies we cant find any more match in second file since both are sorted \*files

When file-1-rec-key < File-2-rec-key

write File-1-rec into File-4-rec

read file-1-rec.

When file-1-rec-key > File-2-rec-key

write File-2-rec into File-4-rec

read file-2-rec.

end-if

Output

file3

sandeep

srinivas

file4

amir

hari

mahesh

zaheer

**Q.In place of a WRITE statement in an INPUT PROCEDURE, the \_\_\_\_\_\_\_ verb is used to write records onto the sort or work file.**

**Answer: RELEASE** SORT-REC FROM IN\_REC

**Q.In place of a READ statement in an OUTPUT PROCEDURE, the \_\_\_\_\_\_\_ verb is used to read records from the sort or work file.**

**Answer:**

**RETURN** SORT-FILE-NAME

AT END

NOT AND END

END-RETURN

**Q.(T or F) The RELEASE statement uses a file-name, as does the RETURN statement.**

**Answer:**

False. RELEASE statement uses the record name and RETURN uses the file name.

**Q.(T or F) A WORK or SORT file is required when sorting.**

**Answer:** True

**Q.If a file is described by an SD, it is not defined in a SELECT clause and does not**

**have an FD.**

**Ans.**False.It is defined in SELECT clause, But does not have FD, It has SD.

Q.In the EBCDIC collating sequence, a blank has the lowest value and the SORT verb does not distinguish between upper- and lowercase letters.

ANS. False.

 Letters are considered “less than” numbers in EBCDIC, and letters are considered “greater than” numbers in ASCII.

  Lowercase letters are considered “less than” uppercase letters in EBCDIC and “greater than” uppercase letters in ASCII.

**Q.The syntax for SORT and MERGE are very different.**

**ANS.**False

Sort can have INPUT procedure, Merge cannot. The input to merge has to come directly using USING.

**Q. A sort can be performed with a minimum of two files: the input file and the file of sorted output records.**

**ANS.**False

Sort work file is required.

Q. How many bytes will comp-2 occupy?

ANS. 8 bytes

Q. The START statement enables the programmers to start processing from any record position.

True

False

|  |
| --- |
|  |
|  |
|  |
|  |

Q. The INSPECT statement can be used to check whether the value in a data name is numeric.

|  |
| --- |
| True |
| False |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Q. Which of the following is true about physical map and symbolic map?  1.Physical map is load module, Symbolic map is data structure.  2.Physical map is load module, Symbolic map is data structure.  3.Physical map is load module, Symbolic map is data structure.  4.Both Physical as well as Symbolic maps are data structure.  9. A map was generated. What is the output created as a result?   |  | | --- | | Map copy book | | Load module | | Both the above | | None of the above |   13. BUFFER option in RECEIVE brings the entire datastream from the terminal buffer.  |  | | --- | | True | | False | |

#### 16. Which task control commands are used to make tasks serially re-usable?

|  |
| --- |
| ENQ |
| DEQ |
| Both a and b |
| None of the above |

#### 17. To use dynamic calls in CICS:

|  |
| --- |
| Called routine must be defined in PPT |
| Calling program must use call identifier |
| Called routine must be defined in PPT, Calling program must use call identifier. |
| Calling program must be defined in PPT, Calles routine must use call identifier. |

#### 19. Which of the following is true about START and XCTL?

|  |
| --- |
| START is used to start a new task |
| XCTL is used to pass control to a program within the same task. |
| START is an INTERVAL control command, XCTL is a program control command |
| All the above |
| Both a and b |

#### 20. What will be the value of EIBCALEN at START?

|  |
| --- |
| 0 |
| 1 |
| -1 |
| 10 |

|  |
| --- |
| Q.DCB stands for Data Control Block |
| It is a keyword for DD statement |
| It is used to describe Data Sets |
| Only a and b |
| Only a and c |
| All – a, b, c 33. Which of the following statements are true about a Leaf pages?  |  | | --- | | Leaf pages are opposite of root pages | | Leaf pages are lowest level index pages | | Both a and b | | None of the above |  34. How many clustering indexes can be built on a table?  |  | | --- | | 1 | | 2 | | 5 | | None |  37. Which of the following is true about Primary key values and Alternate key values?  |  | | --- | | Primary key values need not be unique, alternate key values must be unique | | Primary key values must be unique, alternate key values need not be | | Both a and b are true | | None of the above are true  Ans- Primary key values must be unique, alternate key values need not be | | |

#### 38. Which error condition do codes 22 and 90 signify?

|  |
| --- |
| 22 - duplicate key, 90- VSAM logic error. |
| 22- VSAM logic error, 90 – duplicate key |
| 22- record not found, 90 – VSAM logic error |
| 22- duplicate key, 90 – space problem |

Ans- 22 - duplicate key, 90- VSAM logic error.

#### 40. What does a file status of 02 on a VSAM indicate?

|  |
| --- |
| Duplicate alternate key |
| Duplicate primary key |
| No key |
| None of the above |

## Mainframe Test Breakdown:

**1. IF NOT PRICE LESS THAN 20 AND 30 GO TO PARA-BUY.  
The control will go to PARA-BUY if :**  
**You answered:** PRICE is greater than 30  
**Incorrect**  
  
**Correct answer:** PRICE is greater than or equal to 20 but less than 30  
  
**2. Where is the association between a filename and corresponding file medium done?**  
**Correct**  
  
**3. To describe a record the level numbers may be chosen from:**  
**You answered:** 01 to 49 and 77  
**Incorrect**  
  
**Correct answer:** 01 to 49  
  
**4. Relative key clause must be mentioned in case of a relative file organisation.**  
**Correct**  
  
**5. The START statement enables the programmers to start processing from any record position.**  
**You answered:** False  
**Incorrect**  
  
**Correct answer:** True  
  
**6. The INSPECT statement can be used to check whether the value in a data name is numeric.**  
**Correct**  
  
**7. Which of the following is not allowed to assign a value to a data name in a REPORT SECTION?**  
**You answered:** SOURCE  
**Incorrect**  
  
**Correct answer:** TOTAL  
  
**8. Which of the following is true about physical map and symbolic map?**  
**You answered:** Physical map is data structure, Symbolic map is load module.  
**Incorrect**  
  
**Correct answer:** Physical map is load module, Symbolic map is data structure.  
  
**9. A map was generated. What is the output created as a result?**  
**Correct**  
  
**10. Which working storage fields are used for every field on the map?**  
**Correct**  
  
**11. Which of the following resets MDT?**  
**You answered:** RMDT  
**Incorrect**  
  
**Correct answer:** FRSET  
  
**12. Attribute byte is received at EOF in symbolic map?**  
**Correct**  
  
**13. BUFFER option in RECEIVE brings the entire datastream from the terminal buffer.**  
**Correct**  
  
**14. You want dynamic memory allocated within a CICS application program. What would you do?**  
**Correct**  
  
**15. What are TDQ and TSQ used for?**  
**You answered:** Permanent Data Storage  
**Incorrect**  
  
**Correct answer:** Temporary Data Storage  
  
**16. Which task control commands are used to make tasks serially re-usable?**  
**Correct**  
  
**17. To use dynamic calls in CICS:**  
**You answered:** Calling program must be defined in PPT, Calles routine must use call identifier.  
**Incorrect**  
  
**Correct answer:** Called routine must be defined in PPT, Calling program must use call identifier.  
  
**18. If program A passes 40 bytes to program B through common area and program B has defined its DFHCOMMAREA to be 60 bytes. Can there be a problem?**  
**You answered:** No  
**Incorrect**  
  
**Correct answer:** Yes, if B tries to access bytes from 41-60  
  
**19. Which of the following is true about START and XCTL?**  
**Correct**  
  
**20. What will be the value of EIBCALEN at START?**  
**Correct**  
  
**21. You can access ESDS files from CICS.**  
**Correct**  
  
**22. Which of the following is true about DCB?**  
**Correct**  
  
**23. You want to pass parameters to a program coded in EXEC statement. How would you do that?**  
**Correct**  
  
**24. Which of the following statements are correct about GDG?  
  
i.) It means Generation Data Group  
ii.) It allows users to create multiple data sets with same base name.  
iii.)Data sets are distinguished by a logical number**  
**Correct**  
  
**25. What is the maximum number of GDG that can be created?**  
**Correct**  
  
**26. What does E37 error show?**  
**Correct**  
  
**27. How would you resolve SOC7 abend?**  
**You answered:** Debugging the program  
**Incorrect**  
  
**Correct answer:** Eliminating the bad program by debugging the program  
  
**28. How do you eliminate duplicate values in DB2 SELECT?**  
**Correct**  
  
**29. You can use MAX on a CHAR column.**  
**Correct**  
  
**30. Which of the following is true about UNION, UNION ALL?**  
**Correct**  
  
**31. What do BETWEEN and IN in WHERE clause do?**  
**Correct**  
  
**32. Underscore (‘\_’) in the LIKE statement is the match for a single character.**  
**Correct**  
  
**33. Which of the following statements are true about a Leaf pages?**  
**You answered:** Leaf pages are opposite of root pages  
**Incorrect**  
  
**Correct answer:** Both a and b  
  
**34. How many clustering indexes can be built on a table?**  
**You answered:** 5  
**Incorrect**  
  
**Correct answer:** 1  
  
**35. The cursor is declared in the “working storage” in a program:**  
**You answered:** False  
**Incorrect**  
  
**Correct answer:** True  
  
**36. What happens when you perform update/ delete via a cursor?**  
**Correct**  
  
**37. Which of the following is true about Primary key values and Alternate key values?**  
**Correct**  
  
**38. Which error condition do codes 22 and 90 signify?**  
**Correct**  
  
**39. You want to load the data in a VSAM cluster. What ways can you take?**  
**You answered:** Either a or b  
**Incorrect**  
  
**Correct answer:** Use the COBOL program  
  
**40. What does a file status of 02 on a VSAM indicate?**  
**You answered:** No key  
**Incorrect**  
  
**Correct answer:** Duplicate alternate key  
  
**41. What are these? : KSDS, ESDS, RRDS, LDS.**  
**You answered:** Data structures in VSAM  
**Incorrect**  
  
**Correct answer:** Datasets in VSAM