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| QP CODE: | SSC/Q0501 |
| QP TITLE: | Software Developer |

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| OVERVIEW |

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| Test Modules and Duration | 150 minutes |
| SSC/N0501 - Design of software applications - Knowledge and Skills | 150 minutes |
| SSC/N0502 - Software Development -Knowledge and Analytical Skills |
| SSC/N0501 and SSC/N0502 -Programming (Program design and execution) Skills |
| SSC/N9001 - Management of work |
| SSC/N9002 - Team Work |
| SSC/N9003 - Health and Safety |
| SSC/N9004 - Data Formatting and Processing |
| SSC/N9005 - Develop your KSAs (Key Skill Areas) |
| Natural Language Options | English (Single language assessment at a time)  Can be translated to vernacular languages as well. |
| Distribution of Marks | As mentioned in the Qualification Pack |
| Pass Criteria | 70% Per NOS |
| Technology tools / Platforms Tested (Mandatory) | |
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| Technology tools / Platforms Tested (Select any one) | |
| 1. C | 1. C++ |
| 1. Java | 1. C# |
| Infrastructure Requirements | As per standard list provided to Assessment Centers |
| QP Specific Infrastructure Requirements (if any) – Not Applicable specific to QP | |
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| SAMPLE QUESTIONS |

**Programming Test**(Language(s): C/C++/Java/C#)

**NOS 1. SSC/N0501 (Contribute to the design of software products and applications)**

1. Problem Statement:

You are given a function,  
 Evaluate(int x, int y)

The function accepts two integers ‘x’ and ‘y’. Implement this function to find and return the value of (x - y) (x2 + xy + y2).

* Sample Input:

7

3

* Sample Output:

316

Difficulty Level: Easy

**NOS 2. SSC/N0502 (Develop software code to specification)**

1. Problem Statement:

You are given a function,  
int CheckPower(int n, int m);

The function accepts two integers ‘n’ and ‘m’ as its arguments. Implement the function to determine if it ‘n’ is a power of ‘m.’ If ‘n’ is a power of ‘m’, then return the power, else return -1. Assume n>0.

* Example:  
  Input:

n=36

m=2

Output:   
-1   
Explanation: 36 is not a power of 2 hence the output is -1.

Difficulty Level: Moderate

**Theory MCQ Test:**

**NOS 1. SSC/N0501 (Contribute to the design of software products and applications)**

Q 1. Sneha is creating a SRS (Software Requirement Specification) document for a software as per the requirements of the client. Which of the following should NOT be included in this document?

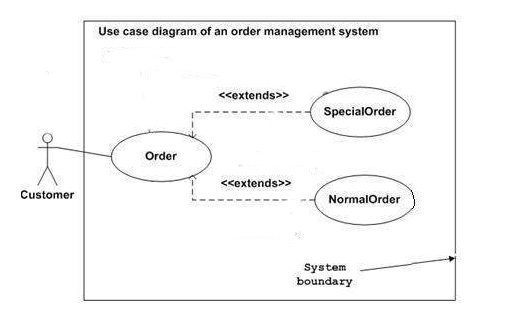
1. Screenshots
2. Code of different modules
3. Concise, correct and consistent text
4. Tools and format convenient to use

Difficulty Level: Easy

Q 2. As a system administrator, which of the following documents will Sachin use as a manual to understand inter-module interaction, database architecture and application architecture of a system?

1. High-level design document
2. Low-level design document
3. System-level design document
4. Internal development document

Difficulty Level: Moderate

Q 3. Consider the following use case diagram of an 'Order Management System' and match the two lists that follow.

**LIST 1:**

1. Customer

2. Order

3. extends

**LIST 2:**

A. Use case

B. Relationship

C. Actor

a) 1-C, 2-A, 3-B

b) 1-A, 2-C, 3-B

c) 1-C, 2-B, 3-A

d) 1-A, 2-B, 3-C

Difficulty Level: Easy

Q 4. Suppose a is character array declared as char a[ ] = "have a nice day!" ; and p is a char pointer that contains the base address of the array a, then p += 7 will point to:

1. e
2. n
3. i
4. A blank space

Difficulty Level: Difficult

Q 5. Periodic collection of all free memory space to form contiguous block of free space by an operating system is called as:

1. Concatenation
2. Garbage Collection
3. Collision
4. Dynamic Memory Allocation

Difficulty Level: Easy

**NOS 2. SSC/N0502 (Develop software code to specification)**

Q 1. Consider the below C code. Which of the following lines will show an error?

1) #include<stdio.h>

2) #include<math.h>

3) int main() {

4) int side;

5) float area, r\_4;

6) r\_4 = sqrt(3) / 4;

7) printf("Enter the Length of Side : ");

8) scanf( %d, side);

9) area = r\_4 \* side \* side;

10) printf("\nArea of Equilateral Triangle : %f", area);

11) return (0);

12) }

1. Line number 5
2. Line number 6
3. Line number 8
4. Line numbers 5, 6 and 9

Difficulty Level: Difficult

Q 2. Which of the following SQL statements is used to insert new data in a database?

1. ADD RECORD
2. ADD NEW
3. INSERT INTO
4. INSERT NEW

Difficulty Level: Easy

Q 3. Sahin is a software tester in a technology firm. If he wants to examine a code without executing the program, then which of the following analysis methods will he follow?

1. Dynamic analysis
2. Static analysis
3. Either static or dynamic analysis
4. Analysis can’t be done without execution

Difficulty Level: Easy

Q 4. If there is a need to develop a " Text editor " in the current project, programmer can use the code already developed for the Text editor in other project from the company database. This concept falls in which of the following categories?

1. Reuse of full application
2. Reuse of interface specification
3. Algorithm reuse
4. Reuse of classes and instances

Difficulty Level: Easy

Q 5. Which among the following is a fault base testing technique?

1. Unit testing
2. Beta testing
3. Stress testing
4. Mutation testing

Difficulty Level: Moderate

**NOS 3. SSC/N9001 (Manage your work to meet requirements)**

Q 1. Deduce in which sequence should Ashish execute the following tasks.

I. Complete work on an important project that is to be delivered at end of the day.

II. Start work on a new assignment to be delivered in 7 days.

III. Take a regular 30 minutes Technical Skill Assessment online.

Choose the correct answer from the option given below:

1. I - II – III
2. III - II – I
3. I - III – II
4. II - III – I

Difficulty Level: Easy

Q 2. You have compiled a project just in the assigned time. While running a final check on it, you detect a bug which doesn't interfere with the project operation now but might pose a problem later.

Which among the following is/are NOT a suitable course of action?

1. Submit the project as such without notifying anyone

2. Notify the problem to your supervisor and ask for deadline extension so that you can fix the bug

3. Notify after submitting the project so that you don't need to work on it urgently

4. Notify the problem to your supervisor and check if it requires to be fixed now

Choose the correct answer from the options given below:

1. Only 1
2. Both 1 and 3
3. Only 3
4. 1, 2 and 4

Difficulty Level: Easy

Q 3. On a Monday morning, you enter the office and see that there is a lot of litter on the office floor. What will be the most appropriate response?

1. Ignore the litter and do your job
2. Scold the cleaner for not doing his job
3. Call the cleaner and ask him to clean the office immediately and warn him not to repeat such mistakes
4. Clean the office by yourself

Difficulty Level: Moderate

Q 4. At the end of a busy day at work, you forgot a file containing confidential information of customers in your colleague's desk. What is the most appropriate thing to do in that situation?

1. Decide to leave the office and deal with any problems tomorrow
2. Call your colleague and tell him about the file and get the file immediately
3. Colleague is your friend and trustworthy, so deal with him the next day
4. You go to your manager and tell him what you have done and let him deal with it

Difficulty Level: Moderate

Q 5. Rahul is given an assignment by his boss that involves preparing statements of all the transactions in the day. Which of the following questions does not need to be asked on his part to establish the requirement clearly?

1. What is the deadline to submit the statements?
2. In which format should he submit the statements?
3. What is the purpose of the assignment?
4. Why is the assignment being given to him?

Difficulty Level: Moderate

**NOS 4. SSC/N9002 (Work effectively with colleagues)**

Q 1. Sheetal and Bhavnish are assigned a project together. Bhavnish was unable to complete his part of work on time due to which Sheetal was unable to complete the remaining work on time. Bhavnish was given a warning from their manager for the same. What should he do?

1. He should talk to the manager and apologize for his mistake
2. He should blame Sheetal for the delay as the remaining work was assigned to her
3. He should try to talk to Sheetal and convince her to take the blame on both of them
4. He should ignore the warning given by his manager

Difficulty Level: Difficult

Q 2. Find out which part of the sentence below has an error and mark the correct option accordingly.

Your data are being entered.

1. Your data
2. are being
3. entered
4. No error

Difficulty Level: Easy

Q 3. A co-worker is undermining you. Currently, he is your junior but he is better educated than you and is also considered a fast learner. You know from a third party that he is interested in taking over some of your responsibilities. What would you do in such a situation?

1. You wait to see what happens in the future
2. Have a talk with him and tell him that co-operation is necessary for any workplace and you both can learn from one another
3. You report the matter to your supervisor
4. You confront the co-worker and tell him that his behavior is unacceptable

Difficulty Level: Moderate

Q 4. In the following question, a statement followed by two conclusions is given. You have to choose a conclusion that follows the statement.

Statement:

XYZ company have announced a discount of 50% on purchase of their new generation computers.

Conclusions:

I. The sale of computers may increase.

II. XYZ company will capture the market of Electronics.

1. Only conclusion (1) follows
2. Only conclusion (2) follows
3. Both conclusion (1) and (2) follow
4. Neither conclusion (1) nor conclusion (2) follows

Difficulty Level: Difficult

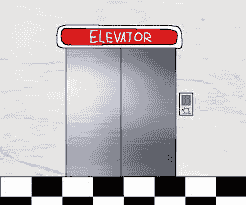
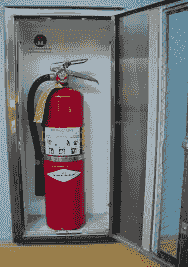
Q 5. One of your team members is lazy and has a laid back attitude. What should you do to make him an active team player?

1. You should scold him in front of other team members so that he gets embarrassed
2. You should talk to him and motivate him to work hard in order to have professional growth in the organization
3. You should ask your manager to terminate him for some days
4. You should ask other team members to timely humiliate him

Difficulty Level: Moderate

**NOS 5. SSC/N9003 (Maintain a healthy, safe and secure working environment)**

Q 1. Which of the following would you NOT use in case of fire in the office?

1. 
2. 
3. 
4. 

Difficulty Level: Easy

Q 2. You are joining a new company and on the first day you find that there are no fire exits from the office. Among the following points what is/are the most appropriate thing to do:

I. Go to your supervisor and tell him about the problem and the necessity of fire exits.

II. Search other exit ways that would be helpful during emergencies and inform about it to everyone.

III. Register a complaint against the security department.

Choose the correct answer from the options given below:

1. Only (I)
2. Only (I) and (II)
3. Only (II) and (III)
4. All (I), (II) and (III)

Difficulty Level: Difficult

Q 3. What is the course of action to deal with hazards?

I. Spot the hazard  
II. Make the changes  
III. Assess the risks

Choose the correct answer from the options given below.

1. I - II – III
2. III - II – I
3. I - III – II
4. II - III - I

Difficulty Level: Difficult

Q 4. You are a member of Health and Safety department of your organization. Which of the following will not be included in your training to be given to the employees of your organization?

1. Send papers containing safety information
2. For demonstration, jump in fire without using safety equipment
3. Send mails regarding safety policies
4. Demonstrate how to use fire extinguisher

Difficulty Level: Moderate

Q 5. You notice that one of your colleagues is in a lot of stress because of being constantly bullied by another colleague. What should be the appropriate response from your part?

1. Report the issue to the higher authority
2. You should ignore the matter as you have no role to play in it
3. You should discuss the matter with your colleagues
4. You should confront the bully by yourself

Difficulty Level: Moderate

**NOS 6. SSC/N9004 (Provide data/information in standard formats)**

Q 1. You are required to submit a daily report in a tabular format. Which of the following applications is most appropriate to create such tables?

1. Adobe Photoshop
2. Notepad
3. Corel Draw
4. MS Excel

Difficulty Level: Easy

Q 2. When you are doubtful about a concept in your project then which of the following is the most reliable source to clarify the doubt?

1. Internet
2. Team Member
3. An Acclaimed Research Paper
4. Client

Difficulty Level: Moderate

Q 3. Spiral model is a combination of iterative development process model and sequential linear development model i.e. waterfall model with very high emphasis on risk analysis. Which of the following is not a phase of Spiral Model?

1. Identification
2. Evaluation
3. Design
4. Profit analysis

Difficulty Level: Difficult

Q 4. Which of the following is the most secure format to share files with a client?

1. .html
2. .pdf
3. .jpg
4. .txt

Difficulty Level: Easy

Q 5. Which department should be contacted regarding the issues related to database of a Website?

1. Analysis department
2. Design department
3. Development department
4. Content department

Difficulty Level: Easy

**NOS 7. SSC/N9005 (Develop your knowledge, skills and competence)**

Q 1. You are stuck with some technical issues at an early stage of an important project, in such a case to ensure the completion of project in the timelines you will:

1. leave the assignment by giving excuses and get it assigned to someone else
2. complete the assignment by managing the issues on your own
3. go through the books and surf the internet to resolve the issues
4. get the help from your team members and seniors who are well versed with such issues

Difficulty Level: Moderate

Q 2. You know that you will be getting a project to work upon and the domain on which the project is based is out of your expertise. What should you do?

1. Refuse to take such projects as those are out of your expertise
2. Learn the technology before your new project starts
3. Complain to your seniors about the issues as it is a way to embarrass you
4. Plan to take help from your team members

Difficulty Level: Moderate

Q 3. One of your supervisors has recommended you to take an English course so that your communication skills can be improved. What should you do?

1. Ignore his advice
2. Listen to his advice and enroll on that course for self-improvement
3. Express your disinterest by yelling on him
4. Thank him politely while expressing your disinterest

Difficulty Level: Easy

Q 4. Consider a technology that you are interested in learning but you do not have the opportunity to apply this technology as a part of your current work. Which of the following is the most suitable course of action that you can take in this case?

1. Learn by working on the technology during your free time
2. Consider employment opportunities in that domain with your learning goals
3. Ignore your interests and learning goals and stick to your work
4. Discuss with your manager if there is any requirement related to the technology

Difficulty Level: Moderate

Q 5. In your company, there is a policy to test the performance of all employees every 6 months. By looking at your evaluation, you come to know about your weak areas. What would you do then?

1. Claim that the evaluation is false and incorrect
2. Analyze your weak areas and try to improve on them
3. Ask for a re-evaluation
4. Blame your colleagues for your bad performance

Difficulty Level: Moderate