

NASSCOM Sample Paper Questions

1) The ant is believed to be the most industrious creature.

- A) Sensible
- B) Hard working
- C) Intelligent
- D) Organized

2) The defendant was grateful for the judge's clemency.

- A) Patience
- B) Mercy
- C) Verdict
- D) Civility

3) Ravi was ravenous after the trek because he had eaten only biscuits.

- A) Ill
- B) Famished
- C) Tired
- D) Nauseous

Directions for Questions 4-6: Choose the answer option, which will CORRECTLY fill the blank.

4) While strolling on Janpath, I chanced to meet _____ European.

- A) The
- B) A
- C) An
- D) No article required

5) _____ few public libraries we have are under equipped.

- A) A
- B) An
- C) The
- D) No article required

6) Anil is in the habit of smoking before going to _____ bed at night.

- A) An
- B) A
- C) The
- D) No article required

Directions for Questions 7-8: Choose the option, which will CORRECTLY fill the blank.

7) He turned up early to make sure that he had a seat _____ the plane.

- A) In
- B) On
- C) At
- D) For

8) Dr. Robert Scaer examines dissociation and PTSD _____ the perspective of a neurologist.

- A) In
- B) By
- C) With
- D) From

Directions for Questions 9-10: Read the passage and answer the questions that follow on the basis of the information provided in the passage.

As India and Pakistan discuss peace at the level of the government, there is an active process of engagement taking place on the internet. In the past, Indians and Pakistanis may have hounded each other on internet chat forums but now, there is a sense of peace and

harmony on some sites, where diverse and open ended conversations genuinely bring people closer.

Huma Imtiaz Ali, a Content Development Associate at AAG TV, resides in the port city of Karachi. She is often found busy punching in her reply to a post about the Kashmir issue on an Indo-Pak discussion forum that she's part of. "The usage of mediums such as Orkut, Facebook and blogging websites has widely increased in over the past year or so, and has helped bridge gaps between the India and Pakistan," said Huma. "Every time there is an issue related to the subcontinent, I log on to Sepiamutiny.com or chapatimystery.com to read the views of Indian expats, and to get an idea of what their thoughts might be," she added. "I use

Facebook.com on the other hand to interact with people my age from the other side of the border, where we talk about rather fun topics such as about gossip in Bollywood, favourite movies, TV shows, etc, which has made me realize that despite 60 years of separation, we are still very much alike," Huma adds.

The issues discussed on such forums tend to be diverse but the aim of these websites is much the same - to encourage interaction between youth on either side of the border. And it was one such website that forged a cross-border friendship. "In my last year at art school, my class was in the process of planning an educational trip to India. Since we didn't know the specifics about how to plan the trip, where to stay, and what to see first, I attempted to get some information by posting a topic on the Pak/India community on orkut (which is wildly popular both here and across the border)," said Khizra Munir, Creative Executive, Interflo Communications Ltd, Karachi. "A Delhiite replied to my 'plea' and after exchanging email addresses we exchanged information. We later went on to meet him in Delhi, he took us around Janpath and he continues to be a friend," she said.

Often enough, such forums can provide a common ground for complete strangers as Flickr.com did for Ali Khurshid and Jaya. "My maternal grandparents came to Pakistan from Bhopal and have forever told me so many stories about the little village with the one hill and the big lake and the small lake that the entire setting has occupied a legendary status in my mind, says Ali Khurshid, a secondyear student at the Indus Valley School of Art and Architecture, Karachi. "Around a year ago I met Jaya, also from Bhopal who was posting pictures from this "magical" place. For starters I was stunned by how close the images in my mind were to the pictures she had and secondly we became friends in spite of the illusory walls of religion, nationality and prejudice that would have otherwise come in between us," said Ali. In absence of all other means of communication, cyberspace is fast becoming one most important means of dialogue between the youths of India and Pakistan. Such interactive forums are a small yet positive step in the right direction but only time will tell if measures like these will change mindsets and bridge the gap created by 60 years of separation between the two countries.

9) The writer of this article generally believes that:

a) The youth of India and Pakistan do not attack each other at all on the Internet now.

b) There is more meaningful interaction on the net between these youth now than before.
c) Such interaction will definitely lead to the establishment of peace between the two countries.

d) It is the two governments which have brought the youth of these nations together.

A) i

B) ii

C) iii

D) iv

10) Which of the following statements about Huma Imtiaz Ali is FALSE?

A) Facebook helps her to realize what she shares with the Indian members.

B) She is actively involved in the discussion groups related to Kashmir.

C) She generally finds serious subjects discussed on Chapatimystery.

D) She finds only serious subjects discussed on the various sites.

Nasscom (NAC-Tech)Section 2 - Analytical Ability

Nasscom (NAC-Tech)No. Of Questions: 10

Duration in Minutes: 10

1) In a class of 40 students, 24 students speak Hindi and 20 students speak Kannada. Eight students speak none of the two languages. How many students speak both Hindi and Kannada?

A) 10

B) 18

C) 15

D) 12

2) In a class, 50% of the students are boys. Of the girls, 45% are good at physics, 65% are good at chemistry and 60% are good at maths. 30% are good at physics and chemistry, 35% are good at chemistry and maths and 25% are good at physics and maths. Given that all the girls are good at least one of the three subjects mentioned, what is the number of girls who are good in all the three subjects if there are 100 students in the class?

- A) 10
- B) 20
- C) 8
- D) 6

3) In a marathon, Sam was faster than Jack. Denise beat Jim but lost to Jack. Who is the winner?

- A) Sam
- B) Jack
- C) Denise
- D) Jim

Directions for Questions 4-5: In the following questions mark:

- 1, if the question can be answered with the help of statement I alone.
- 2, if the question can be answered with the help of statement II alone.
- 3, if the question can be answered with the help of both I and II.
- 4, if none of the above options is true.

4) What is the value of A/B , if A and B are not equal to zero?

Statement I: $A = 750\%$ of B

Statement II: B and A are >5

- A) 1
- B) 2
- C) 3
- D) 4

5) Is it possible to determine a unique positive two digit number?

Statement I: The two digit number is six times the sum of the digits of the number.

Statement II: The two digit number exceeds the number obtained by interchanging its digits by nine.

- A) 1
- B) 2
- C) 3
- D) 4

6) Two brothers, Amit and Puneet started from their home on their motorcycles. Puneet started 6 minutes after Amit but overtook him 2km away from home. However he forgot to give Amit the lunch packet. So, after having covered 5km, he turned back and now met Amit 4km away from home. At what speed was Puneet riding?

- A) 5km/hr
- B) 10km/hr
- C) 18km/hr
- D) 20km/hr

7) In the following question, three figures are given, that follow a certain sequence or pattern. Find the next figure in the sequence from the answer choices provided below.

8)

9) Complete the series: 2, 10, 30, 68, _____

- A) 88
- B) 130
- C) 82
- D) 102

10) Complete the series: 0, 14, 78, ...

- A) 252
- B) 84
- C) 140
- D) None of the options

Nasscom (NAC-Tech) Section 3 - Attention to Detail

Nasscom (NAC-Tech)No. Of Questions: 10

Duration in Minutes: 10

Directions for Questions 1-Follow the directions given below to answer the questions that follow. Your answer for each question below would be:

A, if ALL THREE items given in the question are exactly ALIKE.

B, if only the FIRST and SECOND items are exactly ALIKE.

C, if only the FIRST and THIRD items are exactly ALIKE.

D, if None of the above.

1) 4126724221 4121724221 4127724221

A) A

B) B

C) C

D) D

2) 778776.66544 778776.66544 7787765.6544

A) A

B) B

C) C

D) D

3) GPC19604812RL GPC19604812RL GPC19604812RL

A) A

B) B

C) C

D) D

4) If * stands for + , / stands for *, + stands for - and - stands for / , then which of the following is TRUE?

- A) $4/12*6+30-4 = 46.5$
- B) $12*4/6+30-4 = 14.5$
- C) $4*6/12+4-4 = -4$
- D) $4*4/6+30-4 = -12$

5) If + stands for 'division', * stands for 'addition', - stands for 'multiplication' and / stands for 'subtraction', then which of the following equations is CORRECT?

- A) $36 * 6 + 7 / 2 6 = 20$
- B) $36 / 6 + 3 * 5 - 3 =$
- C) $36 + 6 - 3 * 5 / 3 =$
- D) $36 - 6 + 3 * 5 / 3 =$

Directions for Questions 6-8

:The eligibility criteria for recruitment of a clerk in a bank are as follows:

- He must have a minimum percentage of 60 in class 10 and 12 exams.
 - He must have had Economics as a compulsory subject in Class 12.
 - He must be less than 25 years of age as on 25/07/2003.
 - He should pass the physical fitness test as prescribed in the norms.
-
- In case he satisfies all other criteria except the 1st, he will be required to pass an aptitude test.
 - In case he satisfies all other criteria except the 3rd, he will be interviewed by the HR.

6) Rajesh celebrated his 24th birthday on November 21st 2002. He has been a consistent performer with 75% and 85% marks in Class 10th and 12th respectively. Economics was the one subject in class 12th in which he was very weak, and managed to score only 47%. He passed the physical test prescribed by the bank without any problems. He will be:

- A) Recruited
- B) First required to pass the aptitude test
- C) Interviewed by the HR

D) Data insufficient

7) Kamla has passed both 10 and 12 in the first division. She passed the physical fitness test of the bank. She will be 26 this December (2003). Economics was one of her subjects in class 12. She will:

A) Have to give an aptitude test

B) Be interviewed by the HR

C) Be denied admission

D) Both A and B

8) Deepa is 23 years old, and Economics was her favourite subject in class 12. She passed both 10 and 12 in the a second division. She passed the physical fitness test of the bank without any hassles. She will:

A) Be admitted directly

B) Have to pass the aptitude test to be considered

C) Be denied admission

D) Data insufficient

Directions for Questions 9-10: A credit card company issues its credit cards to those who satisfy the following minimum criteria.

i) The candidate should not have filed for bankruptcy in the last 15 years.

ii) The candidate should have a minimum income of \$48,000 per annum.

iii) The candidate should have life insurance.

iv) The candidate should have at least a Car and a House registered in his name.

1. In case he satisfies all other criteria EXCEPT(iii), he must possess at least one credit card of any other company to be eligible.

2. In case he satisfies all other criteria EXCEPT(iv), he is interviewed by an agent of the credit card agency.

9) Gopal is 54, and has an annual income of \$120,000 per year. He had filed for bankruptcy 18 years back during recession. He has life insurance and property insurance, and has three mansions in three different states of US. He has 2 cars. He is:

A) Granted the credit card

- B) Interviewed by an agent of the credit card company
- C) Denied the credit card
- D) Data insufficient

10) Ben has a monthly income of \$4000, doesn't have Life Insurance, and has filed for bankruptcy twice in the last 8 years. He has two cars and a house in his name. He is:

- A) Issued the credit card immediately by the company
- B) Interviewed by an agent of the company
- C) Data insufficient
- D) Denied the credit card

Nasscom (NAC-Tech)Section 4 - Programming Fundamentals

Nasscom (NAC-Tech)No. Of Questions:10

Duration in Minutes: 10

Study the following scenario: A class has a combination of girls and boys as students. The age of girls is less than 21 years and the age of boys is greater than 20 years. Use the following rules to assign the grades to students based upon the marks obtained by them:

GRADE Obtained MARKS

- A Greater than 69%
- B Greater than 59 AND Less than 70%
- C Greater than 34 AND Less than 60%
- D Less than 35

Only students who got marks greater than 34% are eligible for the next semester. Assume that the class strength is 100.

1) Which of the following is the CORRECT Algorithm to calculate the total number of students who obtained Grade A?

A) STEP 1: START

STEP 2: SET stud_num equals to 1 and result equals to 0

STEP 3: IF stud_number is less than 101 THEN goto

STEP 4: IF marks of student stud_num is greater than 69% THEN goto

STEP 5 otherwise goto

STEP 7

STEP 5: INCREMENT result by 1

STEP 6: INCREMENT stud_num by 1 goto STEP 3

STEP 7:PRINT result number of students got the Grade B

STEP 8:END

B)

STEP 1: START

STEP 2: SET stud_num equals to 1 and result equals to 0

STEP 3: IF stud_number is less than 101 THEN goto STEP 4 otherwise goto STEP 7

STEP 4: IF marks of student stud_num is greater than 69% THEN goto STEP 5 otherwise goto

STEP 6

STEP 5: INCREMENT result by 1

STEP 6: INCREMENT stud_num by 1 goto STEP 3

STEP 7:PRINT result number of students got the Grade B

STEP 8:END

C)

STEP 1: START

STEP 2: SET stud_num equals to 0 and result equals to 1

STEP 3: IF stud_number is less than 100 THEN goto STEP 6 goto STEP 7

STEP 4: IF marks of student stud_num is greater than 69% THEN goto STEP 8 otherwise goto

STEP 6

STEP 5: INCREMENT result by 1

STEP 6: INCREMENT stud_num by 1 goto STEP 3

STEP 7:PRINT result number of students got the Grade B

STEP 8:END

D)

STEP 1: START

STEP 2: SET stud_num equals to 1 and result equals to 1

STEP 3: IF stud_number is less than 101 THEN goto STEP 5 goto STEP 7

STEP 4: IF marks of student stud_num is greater than 69% THEN goto STEP 6 otherwise goto

STEP 7

STEP 5: INCREMENT result by 1

STEP 6: INCREMENT stud_num by 1

STEP 7:PRINT result number of students got the Grade B

STEP 8:END

2) In which of the following areas do you measure the efficiency of algorithms?

- A) Time
- B) Precision
- C) Readability
- D) Accuracy

3) Which of the following statement types is/are essential for describing algorithms?

- A) Sequence
- B) Selection
- C) Repetition
- D) All the options

Directions for Questions 4-6:

Study the given state diagram of an ATM (Automatic Teller Machine) system and answer the questions given below.

A small black circle represents the initial state, wait states are represented by rounded rectangles, and a small black circle surrounded by a white circle represents the final state. Transitions are represented by arrows, and reflect change of state. The event is an activity either from the user or the system that causes a change of state.

4) What does the ATM system do as depicted in the state diagram?

- A) Verifies the user password
- B) Verifies the transaction
- C) Verifies the login details (User Id and Password)
- D) Prints out a mini account statement

5) Which of the following is an example for the user event?

- A) #Pressed/Display
- B) Cancel Pressed
- C) EnterPressed/Validate
- D) Invalid

6) Which of the following is an example for the system event?

- A) Cancel Pressed/Clear
- B) Invalid/Beep
- C) EnterPressed/Validate
- D) Valid

7) What does the given flowchart do?

- A) Prints the sum of all odd numbers, which are less than 1000.
- B) Prints the series of odd numbers that falls between 0 –
- C) Prints the sum of all even numbers, which are less than 1000.
- D) Prints the series of even numbers that falls below 1000

8) Which kind of testing is related to the Coding phase of SDLC?

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

9) In which of the following stages does decision making phase start with a Product?

- A) Dogs
- B) Stars
- C) Question marks
- D) Cash cows

10) Which of the following strategies ensure that the software system will meet the requirements of the product, as well as address future requirements?

- A) Software Architecture
- B) Implementation
- C) Specification
- D) Testing

Nasscom (NAC-Tech)Section 5 - Learning Ability (Passage)

Nasscom (NAC-Tech)Duration -5 Minutes

No fo question-1

Directions for Questions 1-5:Read the passage and answer the questions that follow on the basis of the information provided in the passage.

Methods Of File Organization

Records are stored in files using a file organization that determines how the records will be stored, located, and retrieved.

Sequential organization is the simplest way to store and retrieve records in a file. In a sequential file, records are stored one after the other without concern for the actual value of the data in the records. To read a sequential file, the system always starts at the beginning of the file and reads its way up to the record, one at a time. The system does not care what data values are stored in the fields within a record. In fact, sequential files do not use physical record keys; records are accessed in order of their appearance in the file. (For this reason, analysts refer to sequential files as non-keyed files.)

In contrast to sequential organization, processing a direct-access file does require the system to start at the first record in the file. Direct-access files are keyed files. They associate a record with a specific key value and a particular storage location. All records are

stored by key at the address rather than by position; if the program knows the record key, it can determine the location address of arecord and retrieve it independently of every other record in the file.

Direct addressing should have a data set with the following characteristics:

1. The key set (I.e., the range of key values assigned) is in a dense, ascending order with few unused values (unused values mean wasted storage space). Therefore few open gaps in the key values are wanted.
2. The record keys correspond to the numbers of the storage addresses: there is a storage address for each actual or possible key value in the file and there are no duplicate key values.

In a dense key list, for each key value there is a storage space with an address that is equivalent to the key. The key values are also in a close sequence; there are few skips in the sequence. This is important in the file design since, when storage is assigned for the file, it starts at the lowest value and extends to the highest key value. Skips in the range of keys results in wasted storage space. Storage must be allocated even though it will go unused.

Another problem prohibiting use of direct addressing arises when the keys for the records do not match storage addresses. Even if the analyst want to use direct addressing, it is impossible to do so if key values and addresses do not correspond. For example, if keys contain characters (e.g., a key of AB1CD), direct addressing is not possible, since there is no address for AB1CD.

When direct addressing is not possible but the direct access is necessary, the analyst specifies the alternative access method of hashing. Hashing (also called key transformation or randomizing) refers to the process of deriving a storage address from a record key. An algorithm (an arithmetic procedure) is devised to change a key value into another value that serves as a storage address.

Indexed Organization

The basic form of index includes a record key and the storage address for a record. To find a record when the storage address is unknown (as with direct address and hashing structures), it is necessary to scan the records. However, the search will be faster if an index is used, since it takes less time to search an index than an entire file of data.

An index is a separate file from the master file to which it pertains. (For this reason some of analysts refer to it as a detached index.) Each record in the index contains only two items of

data: a record key and a storage address. (It does not duplicate each data item in the master file record.)

To find specific record when the file is stored under an indexed organization, this index is first searched to find the key of the record wanted. When it is found, the corresponding storage address is noted and then the program accesses the record directly. This method uses a sequential scan of the index, followed by direct access to the appropriate record. The index helps speed the search compared

with a sequential file, but it is slower than direct addressing.

1) Indexed files can be:

- A) Sequential
- B) Non sequential
- C) Both A and B
- D) None of the options

2) Indexed search is used to find a file that the:

- A) Index has searched
- B) Record key has searched
- C) Corresponding storage contains
- D) All the options

3) The easiest way to store and retrieve records in a file is:

- A) Sequential organization
- B) Direct access organization
- C) Hashing
- D) Indexed Organisation

4) Which of the following can be inferred from the passage?

- A) Sequential files don't assign addresses to records.
- B) Sequential files assign addresses to records in a sequential way.
- C) Sequential files assign addresses to records in a random way.
- D) None of the options

5) The sentence "Direct-access files are keyed files" implies that:

- A) Every file has a key value associated with it
- B) Every file has a particular storage position
- C) Both A and B
- D) None of the options