

# National Testing Agency

**Question Paper Name :** PGQP26 24th Sep 2021 Shift 1  
**Subject Name :** PGQP26  
**Creation Date :** 2021-09-24 14:00:53  
**Duration :** 120  
**Total Marks :** 400  
**Display Marks:** Yes

## PGQP26

**Group Number :** 1  
**Group Id :** 864351336  
**Group Maximum Duration :** 0  
**Group Minimum Duration :** 120  
**Show Attended Group? :** No  
**Edit Attended Group? :** No  
**Break time :** 0  
**Group Marks :** 400  
**Is this Group for Examiner? :** No

## PART A - General

**Section Id :** 8643511216  
**Section Number :** 1  
**Section type :** Online  
**Mandatory or Optional :** Mandatory

<b>Number of Questions :</b>	25
<b>Number of Questions to be attempted :</b>	25
<b>Section Marks :</b>	100
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	8643511449
<b>Question Shuffling Allowed :</b>	Yes

**Question Number : 1 Question Id : 86435129330 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Select the correct word from the options:

After you \_\_\_\_\_ , your lifestyle usually changes.

1. play
2. sleep
3. go shopping
4. get married

**Options :**

864351101771. 1

864351101772. 2

864351101773. 3

864351101774. 4

**Question Number : 2 Question Id : 86435129331 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Select the most suitable synonym:

SWANKY

1. posh
2. poor
3. plain
4. modest

**Options :**

864351101775. 1

864351101776. 2

864351101777. 3

864351101778. 4

**Question Number : 3 Question Id : 86435129332 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which is the nearest meaning of the phrase **to rain cats and dogs**?

1. heavy rain
2. to rain non-stop
3. fight among cats and dogs
4. drizzling

**Options :**

864351101779. 1

864351101780. 2

864351101781. 3

864351101782. 4

**Question Number : 4 Question Id : 86435129333 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Fill in the blank with the right word :

\_\_\_\_\_ he is well known, he is very honest.

1. Despite the fact that
2. In spite of the fact that
3. notwithstanding
4. even if

**Options :**

864351101783. 1

864351101784. 2

864351101785. 3

864351101786. 4

**Question Number : 5 Question Id : 86435129334 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Select the most suitable antonym:

VAGABOND

1. unsettled
2. fly-by-night
3. aimless
4. permanent

**Options :**

864351101787. 1

864351101788. 2

864351101789. 3

864351101790. 4

**Question Number : 6 Question Id : 86435129335 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Choose the correct spelling:

1. opporponity
2. opportunity
3. oopportunity
4. aporponity

**Options :**

864351101791. 1

864351101792. 2

864351101793. 3

864351101794. 4

**Question Number : 7 Question Id : 86435129336 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Identify the meaning of the following idiom from the options given:

**spill the beans**

1. To be untidy
2. To be very talkative
3. To reveal something that is supposed to be kept a secret
4. To leave a place quickly

**Options :**

864351101795. 1

864351101796. 2

864351101797. 3

864351101798. 4

**Question Number : 8 Question Id : 86435129337 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which is the nearest meaning of the phrase **out of blue**

1. stranger
2. unexpectedly
3. to bring happiness
4. emerging out of blue colour

**Options :**

864351101799. 1

864351101800. 2

864351101801. 3

864351101802. 4

**Question Number : 9 Question Id : 86435129338 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Fill in the blank with the right option :

A treasurer must \_\_\_\_ the money he spends.

1. allow for
2. give account for
3. account for
4. ask for

**Options :**

864351101803. 1

864351101804. 2

864351101805. 3

864351101806. 4

**Question Number : 10 Question Id : 86435129339 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The phrase, **A hard nut to crack** means

1. an interesting problem
2. a difficult problem
3. a unique problem
4. a simple problem

**Options :**

864351101807. 1

864351101808. 2

864351101809. 3

864351101810. 4

**Question Number : 11 Question Id : 86435129340 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Choose the number which is different from others in the group.

1. 8
2. 64
3. 125
4. 28

**Options :**

864351101811. 1

864351101812. 2

864351101813. 3

864351101814. 4

**Question Number : 12 Question Id : 86435129341 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In a row of trees, one tree is fifth from either end of the row. How many trees are there in the row?

1. 8
2. 9
3. 10
4. 11

**Options :**

864351101815. 1

864351101816. 2

864351101817. 3

864351101818. 4

**Question Number : 13 Question Id : 86435129342 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If  $-$  means  $\times$ ,  $\times$  means  $+$ ,  $+$  means  $\div$ , and  $\div$  means  $-$ , then

$$40 \times 12 + 3 - 6 \div 60 = ?$$

1. 7.95
2. 16
3. 44
4. None of these

**Options :**

864351101819. 1

864351101820. 2

864351101821. 3

864351101822. 4

**Question Number : 14 Question Id : 86435129343 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



Choose the correct answer:

$$39798 + 3798 + 378 = ?$$

1. 43576
2. 43974
3. 43984
4. 49532

**Options :**

864351101823. 1

864351101824. 2

864351101825. 3

864351101826. 4

**Question Number : 15 Question Id : 86435129344 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Find the lowest common multiple of 24, 36 and 40.

1. 120
2. 240
3. 360
4. 480

**Options :**

864351101827. 1

864351101828. 2

864351101829. 3

864351101830. 4

**Question Number : 16 Question Id : 86435129345 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Find the number which when multiplied by 15 increased by 196.

1. 14
2. 20
3. 26
4. 28

**Options :**

864351101831. 1

864351101832. 2

864351101833. 3

864351101834. 4

**Question Number : 17 Question Id : 86435129346 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Choose the correct alternative based on relationship:

Planet : Orbit :: Projectile : ?

1. Trajectory
2. Track
3. Milky Way
4. Path

**Options :**

864351101835. 1

864351101836. 2

864351101837. 3

864351101838. 4

**Question Number : 18 Question Id : 86435129347 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Choose the word which is least like the other words in the group:

1. Pistol
2. Sword
3. Gun
4. Rifle

**Options :**

864351101839. 1

864351101840. 2

864351101841. 3

864351101842. 4

**Question Number : 19 Question Id : 86435129348 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Choose the number which is different from others in the group.

1. 21
2. 36
3. 49
4. 56

**Options :**

864351101843. 1

864351101844. 2

864351101845. 3

864351101846. 4

**Question Number : 20 Question Id : 86435129349 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Find out the missing number in the following sequence :

1, 3, 3, 6, 7, 9, ?, 12, 21.

1. 10
2. 11
3. 12
4. 13

**Options :**

864351101847. 1

864351101848. 2

864351101849. 3

864351101850. 4

**Question Number : 21 Question Id : 86435129350 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If in a certain code TWENTY is written as 863985 and ELEVEN is written as 323039, how is TWELVE written in that code ?

1. 863203
2. 863584
3. 863903
4. 863063

**Options :**

864351101851. 1

864351101852. 2

864351101853. 3

864351101854. 4

**Question Number : 22 Question Id : 86435129351 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

DGCA stands for

1. Director General of Civil Association
2. Direct General of Civil Aviation
3. Director General of Cost Accounts
4. Director General of Coal Authority

**Options :**

864351101855. 1

864351101856. 2

864351101857. 3

864351101858. 4

**Question Number : 23 Question Id : 86435129352 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The 46<sup>th</sup> President of the USA is

1. Donald Trump
2. Joe Biden
3. Kamala Harris
4. Mike Pence

**Options :**

864351101859. 1

864351101860. 2

864351101861. 3

864351101862. 4

**Question Number : 24 Question Id : 86435129353 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

According to the NEP 2020, the school system will change to

1. 5+2+2+4
2. 5+3+3+4
3. 5+2+3+4
4. 5+4+3+4

**Options :**

864351101863. 1

864351101864. 2

864351101865. 3

864351101866. 4

**Question Number : 25 Question Id : 86435129354 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Russian vaccine for COVID-19 is

1. Sputnik V
2. Sputnik VI
3. Sputnik
4. Sputnik IV

**Options :**

864351101867. 1

864351101868. 2

864351101869. 3

864351101870. 4

## **PART B - COMPUTER SCIENCE**

**Section Id :** 8643511217

**Section Number :** 2

<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	75
<b>Number of Questions to be attempted :</b>	75
<b>Section Marks :</b>	300
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	8643511450
<b>Question Shuffling Allowed :</b>	Yes

**Question Number : 26 Question Id : 86435129355 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The difference between two sets  $\{1, 2, 3\}$  and  $\{1, 2, 5\}$  is the set

1.  $\{1\}$
2.  $\{5\}$
3.  $\{3\}$
4.  $\{2\}$

**Options :**

864351101871. 1

864351101872. 2

864351101873. 3

864351101874. 4

**Question Number : 27 Question Id : 86435129356 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The set of positive integers is

1. infinite
2. finite
3. subset
4. empty

**Options :**

864351101875. 1

864351101876. 2

864351101877. 3

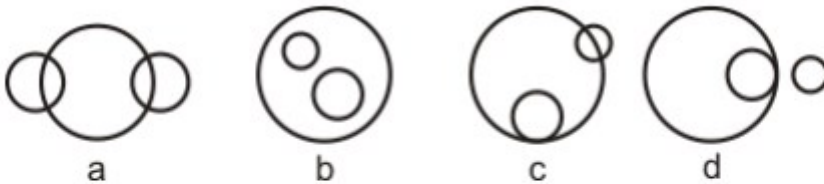
864351101878. 4

**Question Number : 28 Question Id : 86435129357 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following Venn diagram represents the relation between Currency, Rupee and Dollar?



1. a
2. b
3. c
4. d

**Options :**

864351101879. 1

864351101880. 2

864351101881. 3

864351101882. 4

**Question Number : 29 Question Id : 86435129358 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**



**Correct Marks : 4 Wrong Marks : 1**

Let  $n(X)$  denotes the number of elements in set  $X$ . If  $n(A) = p$  and  $n(B) = q$ , then how many ordered pairs  $(a, b)$  are there with  $a \in A$  and  $b \in B$ ?

1.  $p^2$
2.  $p \times q$
3.  $p + q$
4.  $2pq$

**Options :**

864351101883. 1

864351101884. 2

864351101885. 3

864351101886. 4

**Question Number : 30 Question Id : 86435129359 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The number of elements in the power set  $P(S)$  of the set  $S = [ [\Phi], 1, [2, 3] ]$  is

1. 2
2. 4
3. 6
4. 8

**Options :**

864351101887. 1

864351101888. 2

864351101889. 3

864351101890. 4

**Question Number : 31 Question Id : 86435129360 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A set which contains a definite number of elements is called

1. proper subset
2. universal set
3. finite set
4. unit set

**Options :**

864351101891. 1

864351101892. 2

864351101893. 3

864351101894. 4

**Question Number : 32 Question Id : 86435129361 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Determine the characteristics of the relation  $aRb$ , if  $a^2 = b^2$ .

1. Transitive and symmetric
2. Reflexive and asymmetric
3. Trichotomy, antisymmetric and irreflexive
4. Symmetric, Reflexive and transitive

**Options :**

864351101895. 1

864351101896. 2

864351101897. 3

864351101898. 4

**Question Number : 33 Question Id : 86435129362 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In a room containing 28 people, there are 18 people who speak English, 15 people who speak Hindi and 22 people who speak Kannada, 9 people speak both English and Hindi, 11 people speak both Hindi and Kannada whereas 13 people speak both Kannada and English. How many people speak all the three languages?

1. 6
2. 7
3. 8
4. 9

**Options :**

864351101899. 1

864351101900. 2

864351101901. 3

864351101902. 4

**Question Number : 34 Question Id : 86435129363 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following commands is used to delete a table in SQL?

1. Delete
2. Drop
3. Truncate
4. Remove

**Options :**

864351101903. 1

864351101904. 2

864351101905. 3

864351101906. 4

**Question Number : 35 Question Id : 86435129364 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following standard algorithms is **not** a greedy algorithm?

1. Prim's algorithm
2. Kruskal algorithm
3. Dijkstra's shortest path algorithm
4. Bellman-Ford shortest path algorithm

**Options :**

864351101907. 1

864351101908. 2

864351101909. 3

864351101910. 4

**Question Number : 36 Question Id : 86435129365 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The waterfall model of software development is

1. the best model to use for moderate size projects
2. the best model to use for projects with high risk of requirements change
3. a reasonable model when requirements are well defined
4. a good approach when a working program is required quickly

**Options :**

864351101911. 1

864351101912. 2

864351101913. 3

864351101914. 4

**Question Number : 37 Question Id : 86435129366 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A graph is a collection of

1. rows and columns
2. vertices and edges
3. equations
4. matches

**Options :**

864351101915. 1

864351101916. 2

864351101917. 3

864351101918. 4

**Question Number : 38 Question Id : 86435129367 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Normal distribution is also known as

1. Cauchy's distribution
2. Laplacian distribution
3. Gaussian distribution
4. Lagrangian distribution

**Options :**

864351101919. 1

864351101920. 2

864351101921. 3

864351101922. 4

**Question Number : 39 Question Id : 86435129368 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

How many distinguishable permutations of the letters are there in the word BANANA?

1. 720
2. 120
3. 60
4. 360

**Options :**

864351101923. 1

864351101924. 2

864351101925. 3

864351101926. 4

**Question Number : 40 Question Id : 86435129369 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The probability of getting a job for a person is  $x/3$ . If the probability of not getting the job is  $2/3$ , then the value of  $x$  is

1. 2
2. 1
3. 3
4. 1.5

**Options :**

864351101927. 1

864351101928. 2

864351101929. 3

864351101930. 4

**Question Number : 41 Question Id : 86435129370 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If the standard deviation of  $x$ ,  $y$  and  $z$  is  $p$ , then the standard deviation of  $3x + 5$ ,  $3y + 5$ ,  $3z + 5$  is

1.  $3p + 5$
2.  $3p$
3.  $p + 5$
4.  $9p + 15$

**Options :**

864351101931. 1

864351101932. 2

864351101933. 3

864351101934. 4

**Question Number : 42 Question Id : 86435129371 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A man has 6 friends. In how many ways he can invite one or more of his friends at a dinner?

1. 61
2. 62
3. 63
4. 64

**Options :**

864351101935. 1

864351101936. 2

864351101937. 3

864351101938. 4

**Question Number : 43 Question Id : 86435129372 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Find the value of  $a_4$  for the recurrence relation  $a_n = 2a_{n-1} + 3$ , with  $a_0 = 6$ .

1. 320
2. 221
3. 141
4. 65

**Options :**

864351101939. 1

864351101940. 2

864351101941. 3

864351101942. 4

**Question Number : 44 Question Id : 86435129373 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following scheduling algorithms gives minimum average waiting time?

1. Shortest job first
2. Round robin
3. Priority
4. First come first serve

**Options :**

864351101943. 1

864351101944. 2

864351101945. 3

864351101946. 4

**Question Number : 45 Question Id : 86435129374 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



If for a square matrix  $A$ ,  $A^2 = A$ , then such a matrix is known as

1. idempotent matrix
2. orthogonal matrix
3. null matrix
4. None of the above

**Options :**

864351101947. 1

864351101948. 2

864351101949. 3

864351101950. 4

**Question Number : 46 Question Id : 86435129375 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

According to the principle of mathematical induction, if  $P(k+1) = m^{(k+1)} + 5$  is true, then \_\_\_\_\_ must be true.

1.  $P(k) = 3m^{(k)}$
2.  $P(k) = m^{(k)} + 5$
3.  $P(k) = m^{(k+2)} + 5$
4.  $P(k) = m^{(k)}$

**Options :**

864351101951. 1

864351101952. 2

864351101953. 3

864351101954. 4

**Question Number : 47 Question Id : 86435129376 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The network topology supports bidirectional links between each possible node is

1. mesh
2. star
3. ring
4. tree

**Options :**

864351101955. 1

864351101956. 2

864351101957. 3

864351101958. 4

**Question Number : 48 Question Id : 86435129377 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If  $A = \begin{bmatrix} a & b \\ b & a \end{bmatrix}$  and  $A^2 = \begin{bmatrix} \alpha & \beta \\ \beta & \alpha \end{bmatrix}$ , then

1.  $\alpha = 2ab, \beta = a^2 + b^2$
2.  $\alpha = a^2 + b^2, \beta = 2ab$
3.  $\alpha = a^2 + b^2, \beta = a^2 - b^2$
4.  $\alpha = 2ab, \beta = a^2 + b^2$

**Options :**

864351101959. 1

864351101960. 2

864351101961. 3

864351101962. 4

**Question Number : 49 Question Id : 86435129378 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A CPU-bound program might have

1. a few long CPU bursts
2. a few short CPU bursts
3. many short CPU bursts
4. None of the above

**Options :**

864351101963. 1

864351101964. 2

864351101965. 3

864351101966. 4

**Question Number : 50 Question Id : 86435129379 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Let us consider a square matrix  $A$  of order  $n$  with eigen values of  $a, b, c$ . Then the eigen values of the matrix  $A^T$  could be

1.  $a, b, c$
2.  $-a, -b, -c$
3.  $a-b, b-a, c-a$
4.  $a^{-1}, b^{-1}, c^{-1}$

**Options :**

864351101967. 1

864351101968. 2

864351101969. 3

864351101970. 4

**Question Number : 51 Question Id : 86435129380 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following operations is **not**  $O(1)$  for an array of sorted data? You may assume that array elements are distinct.

1. Find the  $i$ th largest element
2. Delete an element
3. Find the  $i$ th smallest element
4. All of the above

**Options :**

864351101971. 1

864351101972. 2

864351101973. 3

864351101974. 4

**Question Number : 52 Question Id : 86435129381 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Informal high-level description of an algorithm in English is called

1. function
2. class
3. pseudo code
4. None of the above

**Options :**

864351101975. 1

864351101976. 2

864351101977. 3

864351101978. 4

**Question Number : 53 Question Id : 86435129382 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

To evaluate an expression without any embedded function calls

1. one stack is enough
2. two stacks are needed
3. as many stacks as the height of the expression tree are needed
4. a Turing machine is needed in the general case

**Options :**

864351101979. 1

864351101980. 2

864351101981. 3

864351101982. 4

**Question Number : 54 Question Id : 86435129383 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of these operators is used to allocate memory to array variable in Java?

1. Malloc
2. Alloc
3. New
4. New malloc

**Options :**

864351101983. 1

864351101984. 2

864351101985. 3

864351101986. 4

**Question Number : 55 Question Id : 86435129384 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the worst-case time complexity of linear search algorithm?

1.  $O(n)$
2.  $O(l)$
3.  $O(\log n)$
4.  $O(n^2)$

**Options :**

- 864351101987. 1
- 864351101988. 2
- 864351101989. 3
- 864351101990. 4

**Question Number : 56 Question Id : 86435129385 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Consider the following function implemented in C :

```
void test_fun(int x, int y) {  
    int *p;  
    x = 0;  
    p = &x;  
    y = * p;  
    * p = 1;  
    printf ("%d, %d", x, y);  
}
```

The output of invoking test\_fun (10, 10) is

1. 0, 0
2. 1, 0
3. 0, 1
4. 1, 1

**Options :**

- 864351101991. 1
- 864351101992. 2
- 864351101993. 3
- 864351101994. 4

**Question Number : 57 Question Id : 86435129386 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following data structures is a linear type?

1. Graph
2. Tree
3. Binary tree
4. Queue

**Options :**

864351101995. 1

864351101996. 2

864351101997. 3

864351101998. 4

**Question Number : 58 Question Id : 86435129387 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The smallest integer than can be represented by an 8-bit number in 2's complement form is

1. -256
2. -128
3. -127
4. 0

**Options :**

864351101999. 1

864351102000. 2

864351102001. 3

864351102002. 4

**Question Number : 59 Question Id : 86435129388 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which among the following best describes polymorphism?

1. It is the ability for a message/data to be processed in more than one form
2. It is the ability for a message/data to be processed in only one form
3. It is the ability for many messages/data to be processed in one way
4. It is the ability for undefined message/data to be processed in at least one way

**Options :**

864351102003. 1

864351102004. 2

864351102005. 3

864351102006. 4

**Question Number : 60 Question Id : 86435129389 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which among the following is the language which supports classes but not polymorphism?

1. SmallTalk
2. Ada
3. Java
4. C++

**Options :**

864351102007. 1

864351102008. 2

864351102009. 3

864351102010. 4



**Question Number : 61 Question Id : 86435129390 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

\_\_\_\_\_ is a template for entities that have common behavior.

1. Class
2. Object
3. Data
4. Polymorphism

**Options :**

864351102011. 1

864351102012. 2

864351102013. 3

864351102014. 4

**Question Number : 62 Question Id : 86435129391 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following codes is used in Java to represent characters?

1. ASCII code
2. Unicode
3. Byte code
4. None of the above

**Options :**

864351102015. 1

864351102016. 2

864351102017. 3

864351102018. 4

**Question Number : 63 Question Id : 86435129392 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which operator is having the highest precedence?

1. Postfix
2. Unary
3. Shift
4. Equality

**Options :**

864351102019. 1

864351102020. 2

864351102021. 3

864351102022. 4

**Question Number : 64 Question Id : 86435129393 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The given numbers are inserted into an empty binary search tree in the given order: 10, 1, 3, 5, 15, 12 and 16. What is the height of the binary search tree, considering the root node is at height 0?

1. 3
2. 4
3. 5
4. 6

**Options :**

864351102023. 1

864351102024. 2

864351102025. 3

864351102026. 4

**Question Number : 65 Question Id : 86435129394 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Quicksort is a

1. greedy algorithm
2. divide and conquer algorithm
3. dynamic programming algorithm
4. backtracking algorithm

**Options :**

864351102027. 1

864351102028. 2

864351102029. 3

864351102030. 4

**Question Number : 66 Question Id : 86435129395 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What happens if the following program is executed in C and C++?

```
#include <stdio.h>
int main(void)
{
    int new = 1;
    printf("%d", new);
}
```

1. Error in both C and C++
2. A successful run in both C and C++
3. Error in C and successful execution in C++
4. Error in C++ and successful execution in C

**Options :**

864351102031. 1

864351102032. 2

864351102033. 3

864351102034. 4

**Question Number : 67 Question Id : 86435129396 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is *not* a member of class?

1. Static function
2. Friend function
3. Const function
4. Virtual function

**Options :**

- 864351102035. 1
- 864351102036. 2
- 864351102037. 3
- 864351102038. 4

**Question Number : 68 Question Id : 86435129397 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is *not* an application of binary search?

1. To find the lower/upper bound in an ordered sequence
2. Union of intervals
3. Debugging
4. To search in unordered list

**Options :**

- 864351102039. 1
- 864351102040. 2
- 864351102041. 3
- 864351102042. 4

**Question Number : 69 Question Id : 86435129398 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the output of this C code?

```
#include <stdio.h>

void main()
{
    int x = 18;
    void *ptr = &x;
    printf("%f\n", *(float*)ptr);
}
```

1. Compile time error
2. Undefined behaviour
3. 10
4. 0.000000

**Options :**

864351102043. 1

864351102044. 2

864351102045. 3

864351102046. 4

**Question Number : 70 Question Id : 86435129399 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Prim's algorithm is a/an

1. divide and conquer algorithm
2. greedy algorithm
3. dynamic programming
4. approximation algorithm

**Options :**

864351102047. 1

864351102048. 2

864351102049. 3

864351102050. 4

**Question Number : 71 Question Id : 86435129400 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following ways can be used to represent a graph?

1. Only Adjacency List
2. Only Adjacency Matrix
3. Only Incidence Matrix
4. All of the above

**Options :**

864351102051. 1

864351102052. 2

864351102053. 3

864351102054. 4

**Question Number : 72 Question Id : 86435129401 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In a B<sup>+</sup> tree, if the search-key value is 8 bytes long, the block size is 512 bytes and the block pointer size is 2 bytes, then maximum order of the B<sup>+</sup> tree is

1. 50
2. 51
3. 52
4. 54

**Options :**

864351102055. 1

864351102056. 2

864351102057. 3

864351102058. 4

**Question Number : 73 Question Id : 86435129402 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The minimum number of functions should be present in a C++ program for its execution is

1. 0

2. 1

3. 2

4. 3

**Options :**

864351102059. 1

864351102060. 2

864351102061. 3

864351102062. 4

**Question Number : 74 Question Id : 86435129403 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given an array  $A = \{55,66,77,88,99\}$  and a key = 88. How many iterations are done until the element is found?

1. 1

2. 3

3. 4

4. 2

**Options :**

864351102063. 1

864351102064. 2

864351102065. 3

864351102066. 4

**Question Number : 75 Question Id : 86435129404 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

When one object reference variable is assigned to another object reference variable, then

1. a copy of the object is created
2. a copy of the reference is not created
3. it is illegal to assign one object reference variable to another object reference variable
4. a copy of the reference is created

**Options :**

864351102067. 1

864351102068. 2

864351102069. 3

864351102070. 4

**Question Number : 76 Question Id : 86435129405 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The number of different binary trees with 6 nodes is

1. 6
2. 42
3. 132
4. 256

**Options :**

864351102071. 1

864351102072. 2



864351102073. 3

864351102074. 4

**Question Number : 77 Question Id : 86435129406 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the scope of the variable declared in the user-defined function?

1. In whole program
2. Only inside the {} block
3. Both 1 and 2
4. None of these

**Options :**

864351102075. 1

864351102076. 2

864351102077. 3

864351102078. 4

**Question Number : 78 Question Id : 86435129407 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is a valid class declaration?

1. `class A { int x; };`
2. `class B { }`
3. `public class A { }`
4. `object A { int x; };`

**Options :**

864351102079. 1

864351102080. 2

864351102081. 3

864351102082. 4

**Question Number : 79 Question Id : 86435129408 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The time factor when determining the efficiency of an algorithm is measured by

1. counting microseconds
2. counting the number of key operations
3. counting the number of statements
4. counting the kilobytes of algorithm

**Options :**

864351102083. 1

864351102084. 2

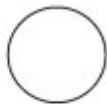
864351102085. 3

864351102086. 4

**Question Number : 80 Question Id : 86435129409 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The geometrical figure shown below in flowchart represents



1. input
2. connector
3. decision
4. looping

**Options :**

864351102087. 1

864351102088. 2

864351102089. 3

864351102090. 4

**Question Number : 81 Question Id : 86435129410 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The complexity of binary search algorithm is

1.  $O(n)$
2.  $O(\log n)$
3.  $O(n^2)$
4.  $O(n \log n)$

**Options :**

864351102091. 1

864351102092. 2

864351102093. 3

864351102094. 4

**Question Number : 82 Question Id : 86435129411 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In the expression  $Y + X'.Y$ , which operator will be evaluated first?

1. ' (prime)
2. +
3. . (dot)
4. , (comma)

**Options :**

864351102095. 1

864351102096. 2

864351102097. 3

864351102098. 4

**Question Number : 83 Question Id : 86435129412 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is false?

1.  $x + y = y + x$

2.  $x \cdot y = y \cdot x$

3.  $x \cdot x' = 1$

4.  $x + x' = 1$

**Options :**

864351102099. 1

864351102100. 2

864351102101. 3

864351102102. 4

**Question Number : 84 Question Id : 86435129413 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A Boolean function  $x'y' + xy + x'y$  is equivalent to

1.  $x' + y'$

2.  $x + y$

3.  $x + y'$

4.  $x' + y$

**Options :**

864351102103. 1

864351102104. 2

864351102105. 3

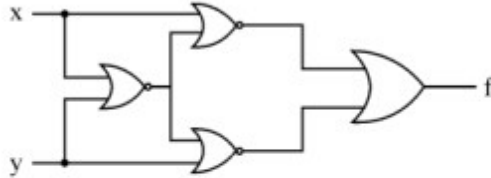
864351102106. 4

Question Number : 85 Question Id : 86435129414 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following logic operations is performed by the following given combinational circuit?



1. Exclusive-OR
2. Exclusive-NOR
3. NAND
4. NOR

Options :

864351102107. 1

864351102108. 2

864351102109. 3

864351102110. 4

Question Number : 86 Question Id : 86435129415 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The output of an AND gate with three inputs  $A$ ,  $B$  and  $C$  is HIGH when

1.  $A = 1, B = 1, C = 0$
2.  $A = 0, B = 0, C = 0$
3.  $A = 1, B = 1, C = 1$
4.  $A = 1, B = 0, C = 1$

Options :

864351102111. 1

864351102112. 2

864351102113. 3

864351102114. 4

**Question Number : 87 Question Id : 86435129416 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

2's complement of 1011011 is

1. 0100011
2. 0110101
3. 0100111
4. 0100101

**Options :**

- 864351102115. 1
- 864351102116. 2
- 864351102117. 3
- 864351102118. 4

**Question Number : 88 Question Id : 86435129417 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A digital circuit that can store only one bit is a/an

1. register
2. NOR gate
3. flip-flop
4. XOR gate

**Options :**

- 864351102119. 1
- 864351102120. 2
- 864351102121. 3
- 864351102122. 4

**Question Number : 89 Question Id : 86435129418 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

How much input and output needed for demultiplexer?

1. Many inputs one output
2. One input many outputs
3. One input one output
4. None of the above

**Options :**

864351102123. 1

864351102124. 2

864351102125. 3

864351102126. 4

**Question Number : 90 Question Id : 86435129419 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If  $A$ ,  $B$  and  $C$  are the inputs of a full adder, then the sum is given by

1.  $A \text{ AND } B \text{ AND } C$
2.  $A \text{ OR } B \text{ AND } C$
3.  $A \text{ XOR } B \text{ XOR } C$
4.  $A \text{ OR } B \text{ OR } C$

**Options :**

864351102127. 1

864351102128. 2

864351102129. 3

864351102130. 4

**Question Number : 91 Question Id : 86435129420 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The decimal equivalent of the binary number  $(1011.011)_2$  is

1.  $(11.375)_{10}$
2.  $(10.123)_{10}$
3.  $(11.175)_{10}$
4.  $(9.23)_{10}$

**Options :**

864351102131. 1

864351102132. 2

864351102133. 3

864351102134. 4

**Question Number : 92 Question Id : 86435129421 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Don't care conditions can be used for simplifying Boolean expressions in

1. registers
2. terms
3. K-maps
4. latches

**Options :**

864351102135. 1

864351102136. 2

864351102137. 3

864351102138. 4

**Question Number : 93 Question Id : 86435129422 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**



**Correct Marks : 4 Wrong Marks : 1**

A *D* flip-flop can be constructed from a/an \_\_\_\_\_ flip-flop.

1. *S-R*
2. *J-K*
3. *T*
4. *S-K*

**Options :**

864351102139. 1

864351102140. 2

864351102141. 3

864351102142. 4

**Question Number : 94 Question Id : 86435129423 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

How many full adder and half adder are required to add 16-bit numbers?

1. 8 half adders, 8 full adders
2. 1 half adder, 15 full adders
3. 16 half adders, no full adder
4. 4 half adders, 12 full adders

**Options :**

864351102143. 1

864351102144. 2

864351102145. 3

864351102146. 4

**Question Number : 95 Question Id : 86435129424 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which flip-flops serve to be the fundamental building blocks of counters?

1. *S-R* flip-flops
2. *J-K* flip-flops
3. *T* flip-flops
4. *D* flip-flops

**Options :**

864351102147. 1

864351102148. 2

864351102149. 3

864351102150. 4

**Question Number : 96 Question Id : 86435129425 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the difference between a shift-right register and a shift-left register?

1. There is no difference
2. The direction of the shift
3. Propagation delay
4. The clock input

**Options :**

864351102151. 1

864351102152. 2

864351102153. 3

864351102154. 4

**Question Number : 97 Question Id : 86435129426 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which is **not** characteristic of a shift register?

1. Serial in/parallel in
2. Serial in/parallel out
3. Parallel in/serial out
4. Parallel in/parallel out

**Options :**

864351102155. 1

864351102156. 2

864351102157. 3

864351102158. 4

**Question Number : 98 Question Id : 86435129427 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In the expression  $A + BC$ , the total numbers of minterms will be

1. 2
2. 3
3. 4
4. 5

**Options :**

864351102159. 1

864351102160. 2

864351102161. 3

864351102162. 4

**Question Number : 99 Question Id : 86435129428 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is a structured programming technique that graphically represents the detailed steps required to solve a program?

1. Algorithm
2. Pseudocode
3. Flowchart
4. Top-down design

**Options :**

864351102163. 1

864351102164. 2

864351102165. 3

864351102166. 4

**Question Number : 100 Question Id : 86435129429 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is a group of bits that tells the computer to perform a particular operation?

1. Accumulator
2. Register
3. Instruction code
4. None of these

**Options :**

864351102167. 1

864351102168. 2

864351102169. 3

864351102170. 4