

## Innova Systems(India) Pvt Ltd

### Aptitude

1. Three friends divided some bullets equally. After all of them shot 4 bullets the total number of bullets remaining is equal to the bullets each had after division. Find the original number divided.

**Ans: 18**

2. In a class composed of  $x$  girls and  $y$  boys what part of the class is composed of girls

A.  $y/(x + y)$

B.  $x/xy$

C.  $x/(x + y)$

D.  $y/xy$

**Ans.C**

3 What is the maximum number of half-pint bottles of cream that can be filled with a 4-gallon can of cream(2 pt.=1 qt. and 4 qt.=1 gal)

A.16

B.24

C.30

D.64

**Ans.D**

4. If the operation,  $\wedge$  is defined by the equation  $x \wedge y = 2x + y$ , what is the value of  $a$  in  $2 \wedge a = a \wedge 3$

A.0

B.1

C.-1

D.4

**Ans.B**

5. A coffee shop blends 2 kinds of coffee,putting in 2 parts of a 33p. a gm. grade to 1 part of a 24p. a gm.If the mixture is changed to 1 part of the 33p. a gm. to 2 parts of the less expensive grade,how much will the shop save in blending 100 gms.

A.Rs.90

B.Rs.1.00

C.Rs.3.00

D.Rs.8.00

**Ans.C**

6. There are 200 questions on a 3 hr examination. Among these questions are 50 mathematics problems. It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on mathematics problems

- A.36
- B.72
- C.60
- D.100

**Ans.B**

7. In a group of 15, 7 have studied Latin, 8 have studied Greek, and 3 have not studied either. How many of these studied both Latin and Greek

- A.0
- B.3
- C.4
- D.5

**Ans.B**

8. If  $13 = 13w/(1-w)$ , then  $(2w)^2 =$

- A.1/4
- B.1/2
- C.1
- D.2

**Ans.C**

9. In June a baseball team that played 60 games had won 30% of its games played. After a phenomenal winning streak this team raised its average to 50%. How many games must the team have won in a row to attain this average? A. 12

- B. 20
- C. 24
- D. 30

**Ans. C**

10. A company contracts to paint 3 houses. Mr. Brown can paint a house in 6 days while Mr. Black would take 8 days and Mr. Blue 12 days. After 8 days Mr. Brown goes on vacation and Mr. Black begins to work for a period of 6 days. How many days will it take Mr. Blue to complete the contract?

- A. 7
- B. 8
- C. 11
- D. 12

**Ans.C**

11. 2 hours after a freight train leaves Delhi a passenger train leaves the same station travelling in the same direction at an average speed of 16 km/hr. After travelling 4 hrs the passenger train overtakes the freight train. The average speed of the freight train was?A. 30

- B. 40
- C.58
- D. 60

**Ans. B**

12 x,y and z are odd no. not necessarily in sequence.then y=?

- (1)mean of x and z is 114.
- (2)mean of y and z is 113.

**Ans: 115**

13. ram is 27 year old then mohan. after 7 year ram age is thrice as mohan age .find ram age?

**Ans : 67/2**

14 if three tapes are filling a tank of capacity of 500lit with speed of 30lit/sec,48lit/sec and 36lit/sec.

Find after how long time tank will fill?

**Ans : 500/114**

15. suppose in a pot 20 cards are there label 1-20 on that. find the probability of getting two prime.

**Ans :  $\frac{8}{20} = \frac{2}{5}$**

16. If a person sells a product for rs141/- he suffers a loss of 6%.if he has to have a profit of 10%,

at what price should he sell it?

- (a) rs250
- (b) rs.175
- (c) rs 195.
- (d) rs.165

**Ans.rs.165**

17. A ball falls from a height of 8ft ,bounces back to half the distance & continues till it comes to rest.

what is the total distance traveled by the ball?

- (a) 24ft
- (b)30 ft
- (c) infinite
- (d) cannot be determined

**Ans:(a)**

18. If 3 houses are to be painted,mr A can paint a house in 6 days(nos are not same)...mr B can do the same in 8

days...& mr.C in 12 days.if mr A does the work for 8 days & leaves for vacation, & mr B continues the work for

the next 6 days, for how many days should mr.C work?

**Ans:11 days(check)**

19. one student takes 20 mins to reach school if he goes at a speed of 15kmph .At what speed should he go to

reach in 15 mins ( nos are not same)

**Ans: 16kmph**

20. How many rational numbers are there between 0 & 5 ?

**Ans:infinite**

21. A cube of 3 unit has 6 surface is painted. If u cut the cube of 1 unit each how many cubes remain unpainted

on all sides ?

**Ans.1**

22. one questions in profit and loss a person sold an article at Rs.141 at 6% loss, to gain a profit of 10% at what price

the article should be sold.

**Ans: 165 Rs**

23. 1st day of the year 1999 is sunday and what will be last day of the same year

**Ans: sunday**

24. 6 squares of equal size are placed side by side to form a rectangle whose perimeter is 182.

find the perimeter of

the single square.

**Ans: 52**

25 .The average age of students in a class is 16.when a teacher of age 40 is added , the average becoems 17. what is

the total number of students

**Ans.23**

26. One person travelled 4 laps with the speed of 10, 20, 40 ( or 30) and 60 kmph and what is the average speed.

**Ans: 20**

27. If Rs20/- is available to pay for typing a research report & typist A produces 42 pages and typist B produces

28 pages. How much should typist A receive?

**Ans: :Rs12/-**

28. 4 thieves rob a bakery of the bread one after the other. each thief takes half of what is present, & half

a bread...if at the end 3 bread remains, what is the no of bread that was present initially?

**Ans:63**

29. Six squares of same dimension are kept side by side to make a rectangle with a perimeter of 182cm.

what is the perimeter of each square ?

**Ans: 52**

29. one student takes 20 mins to reach school if he goes at a speed of 15kmph .At what speed should he go to

reach in 15 mins ( nos are not same)

Ans: 16kmph( check)

30. A clerk multiplied a number by ten when it should have been divided by ten. The ans he got was 100.what should

the answer have been?

**Ans::1**

## English

Each Question Carry One (01) Mark.

1. Simon ..... very tall.

(A) is                      (B) are                      (C) has

2. She ..... like football very much.

(A) don't                      (B) doesn't                      (C) hasn't

3. How ..... does one lesson cost?

(A) many                      (B) much                      (C) is

4. There ..... a big super market next to my house.

(A) Is (B) are (C) have

5. I ..... agree with you.

(A) doesn't (B) haven't (C) don't

6. Neil can't ..... tennis .He's broken his arm.

(A) to play (B) playing (C) play

7. .... some more tea?

(A) Would you like (B) Do you like (C) You'd like

8. Last week we ..... to Warsaw.

(A) go (B) went (C) goes

9. I ..... the film we saw at the cinema on Wednesday.

(A) doesn't like (B) haven't liked (C) didn't like

10. Magda ..... In England for her Holiday last year.

(A) was (B) were (C) is

Each Question Carry One (02) Mark.

Please read the below mentioned passage an answer the following questions.

The piranha is a much-maligned fish. Most people think that this is a deadly creature that swarms through rivers and creeks of the Amazon rainforest looking for victims to tear apart. And woe betide anyone unlucky enough to be in the same water as a shoal of piranhas. It takes only a few minutes for the vicious piranhas to reduce someone to a mere skeleton.

The truth is that the piranha is really a much more nuanced animal than the mindless killer depicted in the media. In fact, piranhas are a group made up of approximately twelve different species. Each piranha species occupies its own ecological niche. One type of piranha takes chunks out of the fins of other fish. Another type eats fruit falling from trees into the river. Each piranha species plays a unique role in the ecology of the rainforest floodplains. So what should you do next time you hear someone talking about the "deadly piranha"? You can remind them that the piranha is not always the notorious killer fish that the tough, muscular heroes of popular nature television shows would have us believe.

11. The primary purpose of the author is to

- A. correct misconceptions about the piranha
- B. illustrate the importance of piranhas in rainforest ecology
- C. describe two different species of piranhas
- D. instruct the reader on what to say if someone describes the piranha as "deadly"

12. In paragraph 1, the author most likely uses the old-fashioned expression "woe betide" to

- A. highlight the danger posed by piranhas
- B. suggest that the reputation of the piranha is well-deserved

- C. emphasize the sarcastic tone
- D. indicate that the passage was written in the 19th century

**13. In paragraph 1, the author uses hyperbole—characterized by the use of exaggeration for effect—to describe the piranha. The author most likely uses hyperbole to**

- A. frame an argument that is supported in a later paragraph
- B. create ambiguity so the reader cannot be sure which position the writer supports
- C. juxtapose the myth of the piranha with the truth about the fish
- D. evoke vivid images of nature television shows in the reader's mind

**14. As used in paragraph 2, which is the best definition for unique?**

- A. irreplaceable
- B. important
- C. individual
- D. unusual

**15. As used in paragraph 2, which is the best synonym for notorious?**

- A. celebrated
- B. disreputable
- C. notable
- D. renowned

**16. Write an essay (within 200 words) on the any of the following topics:-**

- A. This is Life.
  - B. Present Indian political scenario.
  - C. Education system in India.
  - D. Can 'Satyamev Jayete' the television show hosted by Aamir Khan eradicate the social issues faced by India?
- Discuss.

## Technical

**1. Which of the following statements are correct about data types?**

1. If the integer literal exceeds the range of byte, a compilation error will occur.
2. We cannot implicitly convert non-literal numeric types of larger storage size to byte.
3. Byte cannot be implicitly converted to float.
4. A char can be implicitly converted to only int data type.
5. We can cast the integral character codes.

A. 1, 3, 5 B. 2, 4 C. 3, 5 D. 1, 2, 5

Answer: D

**2. Which of the following is an 8-byte Integer?**

A. Char B. Long C. Short D. Byte E. Integer

Answer: B

**3. Which of the following statements is correct?**

- A. Information is never lost during narrowing conversions.
- B. The CInteger() function can be used to convert a Single to an Integer.
- C. Widening conversions take place automatically.
- D. Assigning an Integer to an Object type is known as Unboxing.
- E. 3.14 can be treated as Decimal by using it in the form 3.14F.

Answer: Option C

**4. What will be the output of the following code snippet when it is executed?**

```
int x = 1;

float y = 1.1f;

short z = 1;

Console.WriteLine((float) x + y * z - (x += (short) y));
```

A. 0.1B. 1.0C. 1.1D. 11

Answer: Option A

**5. Which of the following statements is correct about the C#.NET code snippet given below?**

```
short s1 = 20;

short s2 = 400;

int a;

a = s1 * s2;
```

- A. A value 8000 will be assigned to a.
- B. A negative value will be assigned to a.
- C. During arithmetic if the result exceeds the high or low value of the range the value wraps around till the other side of the range.
- D. An error is reported as widening conversion cannot take place.
- E. An overflow error will be reported since the result of the multiplication exceeds the range of a Short Integer.

Answer: Option A

**6. Which of the following statements are correct about datatypes in C#.NET?**

- 1. Every datatype is either a value type or a reference type.
- 2. Value types are always created on the heap.

3. Reference types are always created on the stack.
4. Mapping of every value type to a type in Common Type System facilitates Interoperability in C#.NET.
5. Every reference type gets mapped to a type in Common Type System.

A.1, 3

B.2, 5

C.1, 4

D.3, 4

Answer: Option C

**7. Which of the following statements are TRUE about the .NET CLR?**

1. It provides a language-neutral development & execution environment.
2. It ensures that an application would not be able to access memory that it is not authorized to access.
3. It provides services to run "managed" applications.
4. The resources are garbage collected.
5. It provides services to run "unmanaged" applications.

A.Only 1 and 2

B.Only 1, 2 and 4

C.1, 2, 3, 4

D.Only 4 and 5

E.Only 3 and 4

Answer: Option C

**8. Which of the following are valid .NET CLR JIT performance counters?**

1. Total memory used for JIT compilation
2. Average memory used for JIT compilation
3. Number of methods that failed to compile with the standard JIT
4. Percentage of processor time spent performing JIT compilation
5. Percentage of memory currently dedicated for JIT compilation

A.1, 5

B.3, 4

C.1, 2

D.4, 5

Answer: Option B

**9. Which of the following statements is correct about Managed Code?**

- A.Managed code is the code that is compiled by the JIT compilers.
- B.Managed code is the code where resources are Garbage Collected.
- C.Managed code is the code that runs on top of Windows.
- D.Managed code is the code that is written to target the services of the CLR.
- E.Managed code is the code that can run on top of Linux.

Answer: Option D

**10.Which of the following utilities can be used to compile managed assemblies into processor-specific native code?**

- A.gacutil B.ngen C.sn D.dumpbin E.ildasm

Answer: Option B

**11. Which of the following are NOT true about .NET Framework?**

1. It provides a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.
2. It provides a code-execution environment that minimizes software deployment and versioning conflicts.
3. It provides a code-execution environment that promotes safe execution of code, including code created by an unknown or semi-trusted third party.
4. It provides different programming models for Windows-based applications and Web-based applications.
5. It provides an event driven programming model for building Windows Device Drivers.

A.1, 2

B.2, 4

C.4, 5

D.1, 2, 4

Answer: Option C

**12. Which of the following components of the .NET framework provide an extensible set of classes that can be used by any .NET compliant programming language?**

- A..NET class libraries
- B.Common Language Runtime
- C.Common Language Infrastructure
- D.Component Object Model
- E.Common Type System

Answer: Option A

**13. Which of the following jobs are NOT performed by Garbage Collector?**

1. Freeing memory on the stack.
2. Avoiding memory leaks.
3. Freeing memory occupied by unreferenced objects.
4. Closing unclosed database collections.
5. Closing unclosed files.

A.1, 2, 3

B.3, 5

C.1, 4, 5

D.3, 4

Answer: Option C

**14. Which of the following .NET components can be used to remove unused references from the managed heap?**

A.Common Language Infrastructure

B.CLR

C.Garbage Collector

D.Class Loader

E.CTS

Answer: Option C

**15. Which of the following statements correctly define .NET Framework?**

A.It is an environment for developing, building, deploying and executing Desktop Applications, Web Applications and Web Services.

B.It is an environment for developing, building, deploying and executing only Web Applications.

C.It is an environment for developing, building, deploying and executing Distributed Applications.

D.It is an environment for developing, building, deploying and executing Web Services.

E.It is an environment for development and execution of Windows applications.

Answer: Option A

**16. Which of the following constitutes the .NET Framework?**

1. ASP.NET Applications
2. CLR
3. Framework Class Library
4. WinForm Applications
5. Windows Services

Answer: Option B

**17. Which of the following assemblies can be stored in Global Assembly Cache?**

- A.Private Assemblies
- B.Friend Assemblies
- C.Shared Assemblies
- D.Public Assemblies
- E.Protected Assemblies

Answer: Option C

**18. Code that targets the Common Language Runtime is known as**

- A.Unmanaged
- B.Distributed
- C.Legacy
- D.Managed Code
- E.Native Code

Answer: Option D

**19. Which of the following statements is correct about the .NET Framework?**

- A. .NET Framework uses DCOM for achieving language interoperability.
- B. .NET Framework is built on the DCOM technology.
- C. .NET Framework uses DCOM for making transition between managed and unmanaged code.
- D. .NET Framework uses DCOM for creating unmanaged applications.
- E. .NET Framework uses COM+ services while creating Distributed Applications.

Answer: Option C

**20. Which of the following is the root of the .NET type hierarchy?**

- A. System.Object
- B. System.Type
- C. System.Base
- D. System.Parent
- E. System.Root

Answer: Option A

**21. Which four options describe the correct default values for array elements of the types indicated?**

int -> 0

String -> "null"

Dog -> null

char -> '\u0000'

float -> 0.0f

boolean -> true

- A. 1, 2, 3, 4 B. 1, 3, 4, 5  
C. 2, 4, 5, 6 D. 3, 4, 5, 6

Answer: Option B

**22. Which one of these lists contains only Java programming language keywords?**

- A. class, if, void, long, Int, continue  
B. goto, instanceof, native, finally, default, throws  
C. try, virtual, throw, final, volatile, transient  
D. strictfp, constant, super, implements, do  
E. byte, break, assert, switch, include

Answer: Option B

**23. Which will legally declare, construct, and initialize an array?**

- A. `int [] myList = {"1", "2", "3"};`  
B. `int [] myList = (5, 8, 2);`  
C. `int myList [] [] = {4,9,7,0};`  
D. `int myList [] = {4, 3, 7};`

Answer: Option D

**24. Which is a reserved word in the Java programming language?**

- A. method B. native

- C. subclasses
- D. reference
- E. array

Answer: Option B

**25. Which is a valid keyword in java?**

- A. interface
- B. string
- C. Float
- D. unsigned

Answer: Option A

**26. The DBMS acts as an interface between what two components of an enterprise-class database system?**

- A. Database application and the database
- B. Data and the database
- C. The user and the database application
- D. Database application and SQL

Answer: Option A

**27. The XSLT processor copies the elements of the stylesheet until it finds a command in the format:**

- A. SELECT ... FROM ... WHERE.
- B. {item, action}.
- C. {for-each select}.
- D. <HTML>...<\HTML>.

Answer: Option B

**28. What standard, protocol or language was generalized to become a standard protocol for sending messages of any type, using any protocol?**

- A. SOAP
- B. SGML
- C. SQL
- D. ADO

Answer: Option A

**29. The most popular way to materialize XML documents is to use:**

- A. DTD.      B. XSLT.
- C. HTML.    D. SOAP.

Answer: Option B

**30. With XML:**

- A. views are not limited to one multi-valued path only.
- B. documents can automatically be generated from database data only.
- C. database data can automatically be extracted from XML documents only.
- D. With XML, all of the above are true.

Answer: Option D

**31. In the relational modes, cardinality is termed as:**

- (A) Number of tuples. (B) Number of attributes.
- (C) Number of tables. (D) Number of constraints.

Ans: A

**32. Relational calculus is a**

- (A) Procedural language. (B) Non- Procedural language.
- (C) Data definition language. (D) High level language.

Ans: B

**33. The view of total database content is**

- (A) Conceptual view. (B) Internal view.
- (C) External view. (D) Physical View.

Ans: A

**34. ODBC stands for**

- (A) Object Database Connectivity.
- (B) Oral Database Connectivity.
- (C) Oracle Database Connectivity.
- (D) Open Database Connectivity.

Ans: D

**35. Architecture of the database can be viewed as**

- (A) two levels. (B) four levels.

(C) three levels. (D) one level.

Ans: C

**36. The database schema is written in**

(A) HLL (B) DML

(C) DDL (D) DCL

Ans: C

**37. In the architecture of a database system external level is the**

(A) physical level. (B) logical level.

(C) conceptual level (D) view level.

Ans: D

**38. An entity set that does not have sufficient attributes to form a primary key is a**

(A) strong entity set. (B) weak entity set.

(C) simple entity set. (D) primary entity set.

Ans: B

**39. In an E-R diagram attributes are represented by**

(A) rectangle. (B) square.

(C) ellipse. (D) triangle.

Ans: C

**40. In case of entity integrity, the primary key may be**

(A) not Null (B) Null

(C) both Null & not Null. (D) any value.

Ans: A

**41. The language used in application programs to request data from the DBMS is referred**

to as the

(A) DML (B) DDL

(C) VDL (D) SDL

Ans: A

**42. A relational database developer refers to a record as**

(A) a criteria. (B) a relation.

(C) a tuple. (D) an attribute.

Ans: C

**43. A DBMS query language is designed to**

- (A) support end users who use English-like commands.
- (B) support in the development of complex applications software.
- (C) specify the structure of a database.
- (D) all of the above.

Ans: D

**44. Transaction processing is associated with everything below except**

- (A) producing detail, summary, or exception reports.
- (B) recording a business activity.
- (C) confirming an action or triggering a response.
- (D) maintaining data.

Ans: C

**45. Transponders are used for which of the following purposes**

- (a) Uplinking
- (b) Downlinking
- (c) Both (a) and (b)
- (d) None of the above

Ans. (c)

**46. The format specifier "-%d" is used for which purpose in C**

- (a) Left justifying a string
- (b) Right justifying a string
- (c) Removing a string from the console
- (d) Used for the scope specification of a char[] variable

Ans. (a)

**47. In an absolute loading scheme, which loader function is accomplished by assembler**

- (a) Reallocation
- (b) Allocation
- (c) Linking
- (d) Both (a) and (b)

Ans. (d)

**48. Banker's algorithm for resource allocation deals with**

- (a) Deadlock prevention
- (b) Deadlock avoidance
- (c) Deadlock recovery
- (d) None of these

Ans. (b)

**49. Which of the following communications lines is best suited to interactive processing applications?**

- (a) Narrowband channels
- (b) Simplex channels
- (c) Full-duplex channels
- (d) Mixed band channels

Ans. (b)

**50. What is the main function of a data link content monitor?**

- (a) To detect problems in protocols
- (b) To determine the type of transmission used in a data link
- (c) To determine the type of switching used in a data link
- (d) To determine the flow of data

Ans. (a)