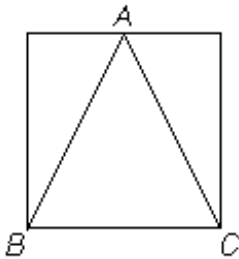


Hughes Systique (India) Limited

Q. The table shows data related to various Oil Companies for the year 2000:

COMPANY	Crude Production (‘000 barrel/ day)	Crude Reserves (million barrels/ year)	Oil Sales (‘000 barrel/ day)	Refining Capacity (‘000 barrel/ day)
Amoco	815	2746	1222	1072
Chevron	949	3179	2436	2231
Exxon	1804	7467	4625	3989
Mobil	761	3155	2595	2111
Texaco	833	2687	2187	1479
BP	1412	7035	2663	1848
Elf Aquitaine	520	1735	500	515
Shell	1851	9496	4940	4220

1. The total crude production, in million barrels, in 2000 was:
 a) 8945 b) 8045 c) 3265 d) 3146
2. What was the crude production as a percentage of the crude reserves in 2000?
 a) 9.1% b) 8.7% c) 12% d) 5.6%
3. How long will Amoco’s crude reserves last?
 a) 15 years b) 9 years c) 99 years d) Cannot be Determined
4. Which company has the highest ratio of crude production to oil sales?
 a) Elf Acquitaine b) Amoco c) Chevron d) BP
5. If a building, ‘b’ feet high, casts a shadow ‘f’ feet long, then at the same time of the day, how long a shadow will a tree, ‘t’ feet long cast?
 a) ft/ b b) fb/ t c) b/ ft d) tb/ f
6. Of the teams participating in World Archery Championship, twenty percent are from Europe. Half as many are from the US and one twentieth are from Africa. What fraction of teams are from neither Europe, the US nor Africa.
 a) 13/20 b) 15/20 c) 13/15 d) 17/20
7. A beam 9m long, 40cm wide and 20cm deep is made up of iron. Find the weight of the beam, if weight of iron is 50 kg per cubic meter.
 a) 36kg b) 50kg c) 24kg d) 30kg
8. If AB and AC inscribed in the Square are of 10 cms each (refer to the diagram), what is the area of the Square?



- a) 40 3 cm² b) 74 cm² c) 80 cm² d) 50 2 cm²
9. If the length and breadth of a rectangle were doubled, by what percentage would the area increase?
 a) 50% b) 100% c) 200% d) 300%
 10. A spherical ball of 6 cm diameter is melted into a cone of base 12 cm in diameter. Find its height.
 a) 3 cms b) 6 cms c) 9 cms d) 12cms
 11. Given that the first term of a series is 7 and the last term of the same to be 49. The sum of the series is 336. Find the number of the elements in the series.
 a) 5 b) 10 c) 12 d) 15
 12. A 4 -digit number divisible by 7 becomes divisible by 3 when 10 is added to it. The largest such number is :
 a) 9982 b) 9989 c) 9996 d) 9999
 13. If $f(x) = 2x+1$, $g(x) = (x-1)(2x+1)$; then $f(g(2))$ is –
 a) 11 b) 12 c) 13 d) 14

Hughes Systique (India) Limited

14. If the first bus of number 5A starts from Jadavpur at 5:00 am with the acceleration 5m/sec² then how far it can move within 5sec ? a) 100m
b) 250m c) 150m d) 62.5m

15. If the radius of a circle is 7cms., then its circumference and area will respectively be:

a) 154cms & 44sq.cms b) 145 cms & 45sq.cms c) 44cms & 154sq.cms d) 12cms & 54 sq. cms

16. $1 + 2 + 3 + \dots + 15 = \underline{\hspace{2cm}}?$ a) 55 b) 120 c) 150 d) 90 e) 107

17. Mohini is 2 year elder than Bikash, who is 1 year senior to Kapil. If Kapil is 15 years old, then what is Mohini's age?

a) 18 years b) 16 years c) 17 years d) 20 years e) 21 years

Directions (18-20): Read the following information carefully and answer the questions below:

A family consists of six members P, Q, R, S, T and U. There are two married couples. Q is a Doctor and the father of T. U is the grandfather of R and is a contractor. S is the grandmother of T and is a housewife. There is one doctor, one contractor, one nurse, one house-wife and two students in the family.

18. Who is the husband of P?

a) R b) U c) Q d) S

19. Which of the followings are two married couples?

a) US, QT b) US, QP c) TS, RU d) US, RP

20. Which of the following is definitely a group of male members ?

a) QU b) QUT c) QUP d) UT

21. A plane travels 70 feet in $\frac{1}{10}$ second. At this same speed, how many feet will it travel in $3\frac{1}{2}$ seconds

a) 2450 b) 2650 c) 2100 d) 3650

22. One number in the following series does not fit in with the pattern set by the others. What should that number be?

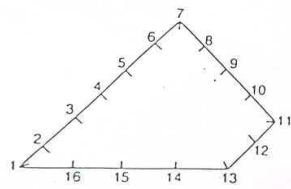
$\frac{1}{16}, \frac{1}{6}, \frac{1}{4}, \frac{1}{2}, 1, 2$

a) $\frac{1}{16}$ b) $\frac{1}{6}$ c) $\frac{1}{2}$ d) 1

23. When wire is selling at \$.0125 a foot, how many feet can you buy for a dollar?

a) 125 b) 80 c) 45 d) 50.5

24. This geometric figure can be divided by a straight line into two parts which will fit together in a certain way to make a perfect square. Draw such a line by joining two of the numbers. Then write the numbers as the answer



a) 3, 15 b) 4, 14 c) 5, 13 d) 6, 12

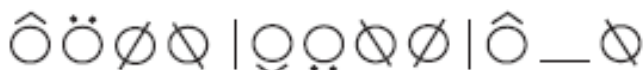
25. In printing an article of 21,000 words, a printer decides to use two sizes of type. Using the larger type, a printed page contains 1,200 words. Using the smaller type, a page contains 1,500 words. The article is allotted 16 full pages in a magazine. How many pages must be in the larger type.

a) 17.5 b) 10 c) 75 d) 14

Following set contains sequence questions that use a series of nonverbal, non number symbols. Look carefully at the sequence of symbols to find the pattern.



26.

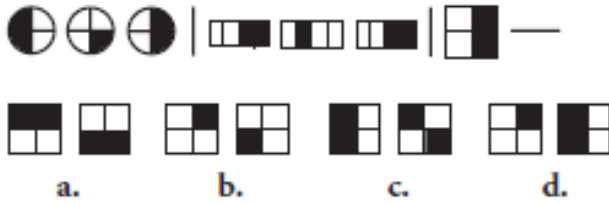


27.

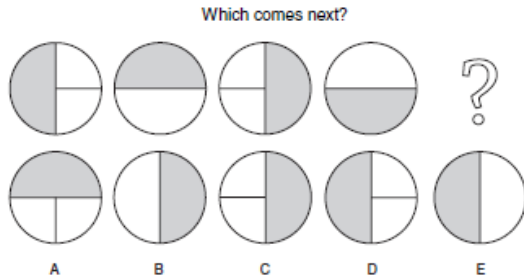


Hughes Systique (India) Limited

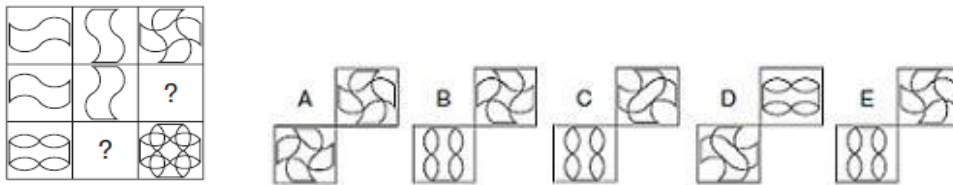
28.



29.



30. Which two squares are missing?



Technical

1. Which of the following functions are performed by a constructor?

- A. Construct a new class B. Construct a new object C. Construct a new function D. Initialize objects

2. Which of the following problem causes an exception?

- A. Missing semicolon in statement in main(). B. A problem in calling function. C. A syntax error. D. A run-time error.

3. Which one of the following options is correct about the statement given below? The compiler checks the type of reference in the object and not the type of object.

- A. Inheritance B. Polymorphism C. Abstraction D. Encapsulation

4. Which of the following is the correct way of declaring a function as constant?

- A. `const int ShowData(void) { /* statements */ }` B. `int const ShowData(void) { /* statements */ }`
 C. `int ShowData(void) const { /* statements */ }` D. Both A and B

5. Which of the following concepts is used to implement late binding?

- A. Virtual function B. Operator function C. Const function D. Static function

6. Which of the following statement is correct?

- A. C++ allows static type checking. B. C++ allows dynamic type checking.

Hughes Systique (India) Limited

- C. C++ allows static member function be of type const. D. Both A and B.
- 7.** Which of the following factors supports the statement that reusability is a desirable feature of a language?
A. It decreases the testing time. B. It lowers the maintenance cost. C. It reduces the compilation time. D. Both A and B.
- 8.** Which of the following ways are legal to access a class data member using this pointer?
A. this->x B. this.x C. *this.x D. *this-x
- 9.** Which of the following is a mechanism of static polymorphism?
A. Operator overloading B. Function overloading C. Templates D. All of the above
- 10.** Which of the following is correct about the statements given below?
I. All operators can be overloaded in C++. II. We can change the basic meaning of an operator in C++.
A. Only I is true. B. Both I and II are false. C. Only II is true. D. Both I and II are true.
- 11.** What happens if the base and derived class contains definition of a function with same prototype?
A. Compiler reports an error on compilation. B. Only base class function will get called irrespective of object.
C. Only derived class function will get called irrespective of object.
D. Base class object will call base class function and derived class object will call derived class function.
- 12.** Which of the following are available only in the class hierarchy chain?
A. Public data members B. Private data members C. Protected data members D. Member functions
- 13.** Which of the following is not a type of inheritance?
A. Multiple B. Multilevel C. Distributive D. Hierarchical
- 14.** Which of the following operators cannot be overloaded?
A. [] B. -> C. ?: D. *
- 15.** In which of the following a virtual call is resolved at the time of compilation?
A. From inside the destructor. B. From inside the constructor. C. From inside the main(). D. Both A and B.
- 16.** Which of the following statements regarding inline functions is correct?
A. It speeds up execution. B. It slows down execution. C. It increases the code size. D. Both A and C.
- 17.** Which one of the following is the correct way to declare a pure virtual function?
A. virtual void Display(void){0}; B. virtual void Display = 0; C. virtual void Display(void) = 0; D. void Display(void) = 0;
- 18.** Which of the following header file includes definition of cin and cout?
A. istream.h B. ostream.h C. iomanip.h D. iostream.h
- 19.** Which of the following keyword is used to overload an operator?
A. overload B. operator C. friend D. override
- 20.** What will happen if a class is not having any name?
A. It cannot have a destructor. B. It cannot have a constructor. C. It is not allowed. D. Both A and B.
- 21.** Which inheritance type is used in the class given below?
class A : public X, public Y {
A. Multilevel inheritance B. Multiple inheritance C. Hybrid inheritance D. Hierarchical Inheritance
- 22.** Which one of the following is correct about the statements given below?
I. All function calls are resolved at compile-time in Procedure Oriented Programming.
II. All function calls are resolved at compile-time in OOPS.
A. Only II is correct. B. Both I and II are correct. C. Only I is correct. D. Both I and II are incorrect.
- 23.** Which of the following is an invalid visibility label while inheriting a class?
A. public B. private C. protected D. friend

Hughes Systique (India) Limited

24. Which one of the following options is correct?

- A. Friend function can access public data members of the class. B. Friend function can access protected data members of the class.
C. Friend function can access private data members of the class. D. All of the above.

25. Which of the following statements is correct in C++?

- A. Classes cannot have data as protected members. B. Structures can have functions as members.
C. Class members are public by default. D. Structure members are private by default.

26. Which of the following is used to make an abstract class?

- A. Declaring it abstract using static keyword. B. Declaring it abstract using virtual keyword.
C. Making at least one member function as virtual function. D. Making at least one member function as pure virtual function.

27. Which of the following access specifier is used as a default in a class definition?

- A. protected B. public C. private D. friend

28. What is correct about the static data member of a class?

- A. A static member function can access only static data members of a class. B. A static data member is shared among all the object of the class.
C. A static data member can be accessed directly from main(). D. Both A and B.

29. Which of the following provides a reuse mechanism?

- A. Abstraction B. Inheritance C. Dynamic binding D. Encapsulation

30. Which of the following statement is correct?

- A. Class is an instance of object. B. Object is an instance of a class.
C. Class is an instance of data type. D. Object is an instance of data type.