



**EHF**  
LEARNING FOR LIFE

**EDUHEAL  
FOUNDATION**

**CLASS  
12**

**LEVEL - 1**

**Set A1**

**EHF OLYMPIADS**

- 4000 schools • 6 lakh students
- 10 olympiads • Global outreach



**EHF**

**INTERNATIONAL  
CYBER OLYMPIAD**

Name : .....

Roll No : .....

Class : .....

School : .....



**art and cricket clinic contest**

**NATIONAL  
BIOTECHNOLOGY  
OLYMPIAD**



**NATIONAL  
MATHS  
OLYMPIAD**



**NATIONAL  
SCIENCE  
OLYMPIAD**



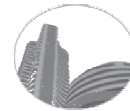
**INTERNATIONAL  
CYBER  
OLYMPIAD**



**INTERNATIONAL  
ENGLISH  
OLYMPIAD**



**INTERNATIONAL  
GENERAL KNOWLEDGE  
OLYMPIAD**



**BSE**  
INVESTORS' PROTECTION FUND

**BSE international finance olympiad (BIFO)**



**NATIONAL IIT-PMT OLYMPIAD (NIPO)**

**Level - 1 :** All Level-1 successful\* participants will get certificate, aptitude report and online subscription, and school toppers will be eligible for school hero medals.

**Level - 2 :** School toppers\* will be selected for level-2-National level - online computer based interactive test held at exam centres all over India. Besides selection for level-3, winner will get merit certificate, medals, educational CDs, laptop, scholarship and other prizes. There is no level-2 in Art and Cricket.

**Level - 3 :** Toppers will qualify\* for level-3-International level-where you will compete with students globally. Get selected for EHF's International Olympiad training camp. Only Indian organization giving students exposure to global competitions. Represent India & win laurels. Guidance by top scientists. Prizes ranges from cash (millions of \$), gadgets, foreign trips, publicity, fame, scholarships, Internships, conference participation and more.

\* # See prospectus website for details

**Instructions for the Candidate**

1. You are allowed additional 10 minutes to fill the required details in the RESPONSE SHEET (OMR).
2. The question paper is made as per syllabus guidelines & pattern given in the information Booklet. The Question Paper for Classes 1 to 6 contains 25 Questions each to be answered in 40 minutes. The Question paper for classes 7 to 12 contains 50 Questions each to be answered in 60 minutes. All questions are compulsory. Further instructions are given in the instruction letter to the teacher.
3. Use the response sheet to mark your responses by darkening the required circle. The response sheet has to be returned to the foundation, duly filled in. THE STUDENT CAN RETAIN THE QUESTION PAPER.

WEBSITE : [WWW.EDUHEALFOUNDATION.ORG](http://WWW.EDUHEALFOUNDATION.ORG)  
E-MAIL : [INFO@EDUHEALFOUNDATION.ORG](mailto:INFO@EDUHEALFOUNDATION.ORG)

# ROUGH WORK

# MENTAL ABILITY

1. If Q means 'add to', J means 'multiply by', T means 'subtract from' and K means 'divide by' then  $30 K 2 Q 3 J 6 T 5 = ?$

- (1) 18 (2) 28  
(3) 31 (4) None of these

2. Various terms of an alphanumerical series are given with one term missing as shown by (?). Choose the missing term out of the given alternatives:

2Z5, 7Y7, 14X9, 23W11, 34V13, ?.

- (1) 47U15  
(2) 47V14  
(3) 45U15  
(4) None of these

3. Choose the missing term out of the given alternatives: ADVENTURE, DVENTURE, DVENTUR, ?, VENTU.

- (1) VENTURE  
(2) VENTUR  
(3) DVENT  
(4) None of these

4. 8 is related to 81 in the same way as 64 is related to \_\_\_\_\_

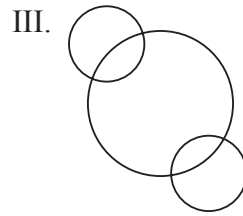
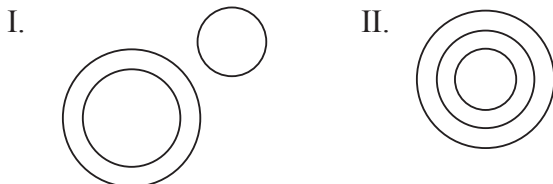
- (1) 225 (2) 425  
(3) 625 (4) None of these

5. Select the best alternative.

Igloos : Canada :: Rondavels : ?

- (1) Russia  
(2) Africa  
(3) Indonesia  
(4) None of these

6. Select from the three alternative diagrams, the one that best illustrates the relationship among the three classes : Truck, Ship, Goods.



- (1) I (2) III  
(3) II (4) None of these

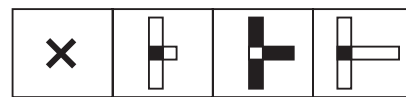
7. A man is facing north. He turns 45 degrees in the clockwise direction and then another 180 degrees in the same direction and then 45 degrees in the anticlockwise direction. Find which direction he is facing now.

- (1) North (2) East  
(3) West (4) None of these

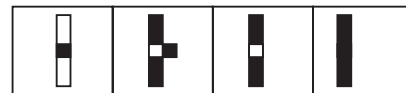
8. A girl counted in the following way on the fingers of her left hand. She started by calling the thumb 1, the index finger 2, middle finger 3, ring finger 4, little finger 5 and then reversed direction calling the ring finger 6, middle finger 7 and so on. She counted upto 1994. She ended counting on which finger?

- (1) Thumb (2) Index finger  
(3) Middle finger (4) None of these

9. What will come in the  ?



A B C D



- (1) A (2) B  
(3) C (4) None of these

10. All the six members of a family A, B, C, D, E and F are travelling together. B is the son of C but C is not the mother of B. A and C are a married couple. E is the brother of C. D is the daughter of A. F is the brother of B. Who is the mother of B?

- (1) D (2) F  
(3) A (4) None of these

# COMPUTERS

11. What command is used to reset a MODEM when using the "AT Command Set"?
- (1) ATR (2) ATZ  
(3) DTR (4) None of these
12. Passwords for Windows Server 2008, Windows Vista, Windows Server 2003, and Microsoft Windows XP clients can be \_\_\_\_\_ characters in length.
- (1) 97 (2) 64  
(3) 127 (4) None of these
13. A C++ program contains a function with the header `int function(double d, char c)`. Which of the following function headers could be used within the same program?
- (1) `char function(double d, char c)`  
(2) `int function(int d, char c)`  
(3) both (1) and (2)  
(4) none of these
14. Time complexities of three algorithms are given. Which should execute the slowest for large values of N?
- (1)  $O(N^{1/2})$  (2)  $O(N)$   
(3)  $O(\log N)$  (4) None of these
15. The \_\_\_\_\_ contains a set of tables and views that Oracle uses as a reference to the database.
- (1) PGA (2) Library cache  
(3) Data dictionary (4) None of these
16. Which is not a common control event?
- (1) Click (2) Single-Click  
(3) Double-Click (4) None of these
17. To back up Active Directory, you must install what feature from the Server Manager console?
- (1) Active Directory Backup Client  
(2) Windows Backup Utility  
(3) Windows Server Backup  
(4) None of these
18. After doing a low-level format, what would be the next step in configuring the hard drive in a system?
- (1) Format DOS partition  
(2) Install operating system  
(3) Configure DMA channel and backup interrupt  
(4) None of these
19. When you pass a variable \_\_\_\_\_, C++ passes only the contents of the variable to the receiving function.
- (1) by reference (2) by value  
(3) globally (4) none of these
20. Map entities, attributes and relations in Oracle is represented by \_\_\_\_\_
- (1) Conceptual Schema  
(2) Logical Schema  
(3) Physical Schema  
(4) None of these
21. What is the worst case time complexity of linear search algorithm?
- (1)  $O(1)$  (2)  $O(n)$   
(3)  $O(n^2)$  (4) None of these
22. `Asc("A")` is 65. What is `Asc("C")`?
- (1) 66 (2) 67  
(3) 68 (4) None of these
23. Microsoft Windows Server 2008 uses the Windows Installer with Group Policy to install and manage software. In what type of file is it packaged?
- (1) .exe (2) .msi  
(3) .mse (4) None of these
24. Which is the best choice for a specification for a video card?
- (1) AGP (2) SCSI  
(3) Both (1) and (2) (4) None of these
25. What is actual syntax of destructor in C++?
- (1) `@Classname()` (2) `$Classname()`  
(3) `~Classname()` (4) None of these

26. Which of the following sorting algorithm is of divide-and-conquer type?  
 (1) Bubble sort (2) Insertion sort  
 (3) Quick sort (4) None of these
27. What operator is used to prevent the error: 'ORA-01427: single row sub query returns more than one row'?  
 (1) Use the IN operator  
 (2) Use the >= operator  
 (3) Use the CAN EXIST operator  
 (4) None of these
28. Some bits of a Visual Basic 6 application, like most APIs, can be easily migrated to VB.NET; other parts are not so straightforward. Which of the following will NOT have to be re-architected during a VB 6-to-VB.NET migration?  
 (1) DHTML pages  
 (2) ADO to ADO via Interop  
 (3) ActiveX documents  
 (4) None of these
29. The vbc.exe compiler generates  
 (1) IL Code (2) Native Code  
 (3) Byte Code (4) None of these
30. Which motherboard form factor uses one 20 pin connector?  
 (1) AT (2) BABY AT  
 (3) Both (1) and (2) (4) None of these
31. In June 2012, Microsoft revealed that one of its key products was running on Windows Server 2012. This was  
 (1) Bing (2) Office 365  
 (3) Skydrive (4) None of these
32. Which design patterns benefit from the multiple inheritance?  
 (1) Adapter and observer pattern  
 (2) Code pattern  
 (3) Glue pattern  
 (4) None of these
33. The complexity of merge sort algorithm is  
 (1)  $O(\log n)$  (2)  $O(n^2)$   
 (3)  $O(n \log n)$  (4) None of these
34. What type of failure occurs when Oracle fails due to an operating system or computer hardware failure?  
 (1) Application Failure (2) Instance Failure  
 (3) Media Failure (4) None of these
35. Visual Basic forms are identified by a  
 (1) ".frm" suffix (2) ".mak" suffix  
 (3) ".for" suffix (4) None of these
36. Which part of the laser printer should NOT be exposed to sunlight?  
 (1) Transfer corona assembly  
 (2) PC drum  
 (3) Primary corona wire  
 (4) None of these
37. Which of the following is a valid Visual Basic conditional statement?  
 (1)  $2 < n \text{ or } < 5$  (2)  $2 < n \text{ or } 5$   
 (3)  $(2 < n) \text{ or } (n < 5)$  (4) None of these
38. Which of the following is not the keyword in C++?  
 (1) Volatile (2) Friend  
 (3) Extends (4) None of these
39. Which of the following converts the expression to double data type in VB.NET?  
 (1) CDbl(expression)  
 (2) CDec(expression)  
 (3) CInt(expression)  
 (4) None of these
40. An analog signal carries 4 bits in each signal unit. If 1000 signal units are sent per second, then baud rate and bit rate of the signal will be respectively.  
 (1) 2000 bauds \ sec & 1000 bps  
 (2) 1000 bauds \ sec & 500 bps  
 (3) 1000 bauds \ sec & 4000 bps  
 (4) None of these

# INTERACTIVE SECTION

41. Which one of the following media is multidrop?

- (1) Shielded Twisted pair cable
- (2) Unshielded Twisted pair cable
- (3) Thick Coaxial cable
- (4) None of these

42. Which C++ header file(s) will be essentially required to be included to run/execute the following C++ code?

```
void main( )
{
    char name[20] ;
    cin >> name;
    toupper(name[0]);
    cout << name << endl;
}
```

- (1) iostream.h (for cin and cout)
- (2) stdio.h (puts)
- (3) stdlib.h (randomize)
- (4) none of these

43. Ramesh works for Info Solutions Bangalore. He was signing in the attendance register daily till now. Recently his employers started taking attendance by registering his thumb impression on an electronic device. Name the category of these devices used for individual's recognition using physical traits like thumb impression or retina recognition?

- (1) Biometric sensor
- (2) Disk-Defragmenter
- (3) Both (1) and (2)
- (4) None of these

44. Ravi is unaware of the possible cyber-threats. He receives an email from an unknown person containing an attractive offer. He is asked to download a file looking like a MS-Word document. His computer gets infected soon after he clicks the link. Which type of Security threat he was subjected to?

- (1) Buffer overflow
- (2) Trojan horse
- (3) SQL Injection
- (4) None of these

45. Abhinav wants to create a GUI using the swing controls JLabel, JTextField, JComboBox, JRadioButton, JTextArea, JListbox. Suggest him the control for the following: To select gender from male and female

- (1) Text Area or JLabel or JListbox
- (2) JRadioButton or JComboBox or JListbox
- (3) JListbox or CheckBox or JLabel
- (4) None of these

46. If one link fails, only that link is affected. All other links remain active. Which topology does this?

- (1) Mesh topology
- (2) Star topology
- (3) Bus topology
- (4) None of these

47. You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, default gateway, and DNS information. Which protocol will you use to accomplish this?

- (1) SMTP
- (2) SNMP
- (3) DHCP
- (4) None of these

48. Find the correct match for each item in Column A from Column B:

Column A		Column B	
(a)	QR code	(i)	Secondary memory
(b)	USB flash drives	(ii)	Internet connectivity
(c)	Bridge	(iii)	Bar code reader
(d)	FTTH	(iv)	Network device

- (1) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)
- (2) (a) - (i), (b) - (ii), (c) - (iii), (d) - (iv)
- (3) (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)
- (4) None of these

49. Which of the following is not user defined data type?

1. 

```
struct book
{
    char name[10];
    float price;
    int pages;
};
```
2. 

```
long int l = 2.35;
```
3. 

```
enum day {Sun, Mon, Tue, Wed};
```

- (1) 1
- (2) 2
- (3) 3
- (4) None of these

50. The correct way of writing the expression  $\frac{NV^2}{2} + \frac{GH}{3D}$  in Pascal is

- (1)  $N * V * V / 2 + G * H / 3D$
- (2)  $N * V * V / 2.0 + G * H / (3.0 * D)$
- (3)  $N * V * V / 2.0 + G * H / 3.0 * D$
- (4) None of these



**END OF THE EXAM**