



SAMPLE PAPER

International Olympiad Foundation

EXCELLENCE IN EDUCATION

International Olympiad Foundation

14+

OLYMPIADS

MCQ

FORMAT

0

NEGATIVE MARKS

OLYMPIAD

Cyber Olympiad

International Olympiad Foundation (IOF) · www.iof.education

CLASS / GRADE

Class 9

SUBJECT

IFCO

DURATION

60 Min

MAX MARKS

50

GENERAL INSTRUCTIONS

- All questions are Multiple Choice Questions (MCQs) with options A, B, C, D, E
- Each correct answer carries 1 mark. No negative marking for wrong answers.
- Rough work should be done separately. Do not write on question paper.

PAPER HIGHLIGHTS

- **Multiple Choice Questions (MCQ)**
Five options per question (A, B, C, D, E). Select the single most appropriate answer.
- **No Negative Marking**
1 mark per correct answer. Zero deductions — attempt every question.
- **Conducted by IOF**
International Olympiad Foundation — fostering excellence among students across India.

SUBJECTS

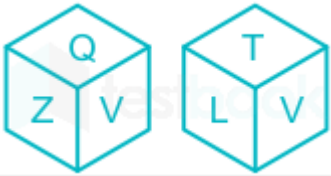
- Cyber English Entrepreneurship Mathematics Commerce Economics GK & Current Affairs Science Western Music
Sanskrit Indian Music Hindi Reasoning & Aptitude Spell Talent

ALL IOF OLYMPIAD PROGRAMMES

IFCO International Foundation Cyber Olympiad	IFEOL International Foundation English Olympiad	IFEnO International Foundation Entrepreneurship Olympiad	IFMO International Foundation Mathematics Olympiad	ICS Institute of Company Secretaries of India Commerce Olympiad	IFEcO International Foundation Economics Olympiad	IFGCO International Foundation General Knowledge & Current Affairs Olympiad
IFSO International Foundation Science Olympiad	IFWMuO International Foundation Western Music Olympiad	IFSaO International Foundation Sanskrit Olympiad	IFIMuO International Foundation Indian Music Olympiad	IFHO International Foundation Hindi Olympiad	IFRAO International Foundation Reasoning & Aptitude Olympiad	IFSTO International Foundation Spell Talent Olympiad

- Q1.** Six letters Q, Z, V, T, L and A are written on different faces of a dice. Two positions of this dice are shown in the figures below. Find the letter on the face opposite to Q.

[+1]
[-0]



- A. T
B. V
C. Z
D. A
E. None of the option is correct
- Q2.** How many Triangles are there in the given figure ?

[+1]
[-0]



- A. 18
B. 17
C. 15
D. 16
E. None of the option is correct
- Q3.** Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster (from the options)that is different.

[+1]
[-0]

- A. MQUY
B. ORVZ
C. TXBF
D. JNRV
E. None of the option is correct

- Q4.** Assume that there are three statements followed by several conclusions. You have to take the given statements to be true, even if they seem to be at variance from commonly-known facts and then decide which of the given conclusion/s logically follows. [+1]
[-0]

Statements : P. All Pens are Tables
Q. Some tables are rulers.
R. Some rulers are chalk.

Conclusion : I. Some tables are chalk.
II. Some pens are chalk.
III. Some rulers are pens.
IV. Some chalk are rulers.

- A. Only IV follows.
B. Only II and I follows.
C. Only III follows.
D. Only I, II and III follows.
E. None of the option is correct
- Q5.** Select the number from among the given options that can replace the question mark (?) in the following series. [+1]
[-0]

11, 19, 35, 59, ?, 131

- A. 89
B. 87
C. 91
D. 85
E. None of the option is correct
- Q6.** Sundar runs 20 m towards East and turns to right and runs 10 m. Then he turns to the right and runs 9 m. Again he turns to right and runs 5 m. After this he turns to left and runs 12 m and finally he turns to right and runs 6 m. Now which direction is Sundar facing? [+1]
[-0]
- A. East
B. North
C. West
D. South
E. None of the option is correct

- Q7.** In a line of students , X is 8th from the left and Y is 10th from the right. There are 7 students between X and Y . Z is immediately to the right of Y. If two additional students join the line at the end (to the right of all the students), What is Z's new position from the right ? [+1]
[-0]
- A. 11th
B. 10th
C. 8th
D. 9th
E. None of the option is correct

Q8. Select the word that has the same relationship as in the first pair to complete the second pair.

[+1]
[-0]

SEDATIVE : PAIN :: SOLACE : ___?___

- A. Irritation
- B. Grief
- C. Kill
- D. Hurt
- E. None of the option is correct

Q9. Study the following arrangement of two digit numbers and symbols to answer the question given below.

[+1]
[-0]

37 43 87 & 32 54 @ % 89 65 44 \$ 67 34 # 78
Which is the 8th term to the right of 15th term from the right end in the above series?

- A. 65
- B. 32
- C. 89
- D. 54
- E. None of the option is correct

Q10. Alok is 300 days older than Varun and Sandeep is 50 weeks older than Alok. If Sandeep was born on Tuesday, then on which day was Varun born?

[+1]
[-0]

- A. Sunday
- B. Monday
- C. Tuesday
- D. Wednesday
- E. None of the option is correct

Q11. In question, find the missing number from the given responses.

[+1]
[-0]

3	6	7	45
8	12	5	68
11	15	3	?

- A. 34
- B. 59
- C. 56
- D. 64
- E. None of the option is correct

Q12. Choose the correct option to continue the series .

[+1]
[-0]

19 , 2 , 38 , 3 , 114 , 4 , ___?___

- A. 228
- B. 256
- C. 352
- D. 456
- E. None of the option is correct

- Q13.** Eight friends A, B, C, D, E, F, G, H are sitting around a square table in such a way that four of them sit at four corners while four sit in the middle of each of the four sides. Those who sit at the four corners face the center while those who sit in the middle of the sides face outside. C sits second to the right of F. F sits in the middle of one of the sides. G sits third to the right of D. D is not an immediate neighbor of C. B sits third to the left of H. H is not an immediate neighbor of D. E sits second to the right of A. Who sits exactly between A and D when counted from the right of A? [+1]
[-0]
- A. B
 - B. E
 - C. G
 - D. H
 - E. None of the option is correct
- Q14.** S is the sister of T. R is the brother of S. U is the wife of W. T is the father of U. How is T related to W? [+1]
[-0]
- A. Father in law
 - B. Son
 - C. Father
 - D. Maternal Uncle
 - E. None of the option is correct
- Q15.** Which letter - cluster will replace the question mark (?) to complete the given series? [+1]
[-0]
- ZFKQ, BCMN, ?, FWQH, HTSE
- A. DAOL
 - B. DBOM
 - C. DZPJ
 - D. DZOK
 - E. None of the option is correct
- Q16.** A system administrator needs to allocate virtual memory for running multiple demanding applications simultaneously. Which component of the operating system is primarily responsible for managing how memory is allocated and deallocated to different processes, including the use of swap space? [+1]
[-0]
- A. Memory Management Unit (MMU) within the OS
 - B. Process Scheduler
 - C. File Management System
 - D. Device Driver
 - E. None of the option is correct
- Q17.** A programmer is writing a script that needs to be executed directly by the operating system's command interpreter without prior compilation. Which type of language is the programmer most likely using? [+1]
[-0]
- A. A low-level assembly language
 - B. A declarative language like SQL
 - C. An interpreted scripting language like Python or Bash
 - D. A compiled language like C++
 - E. None of the option is correct

- Q18.** A company wants to secure its internal network from external threats while allowing its employees to access the internet. Which network security device acts as a barrier, controlling incoming and outgoing network traffic based on a set of predetermined security rules? [+1]
[-0]
- A. Router
 - B. Firewall
 - C. Switch
 - D. Modem
 - E. None of the option is correct
- Q19.** A large e-commerce website experiences a sudden, massive influx of traffic from thousands of compromised computers, causing its servers to become overwhelmed and inaccessible to legitimate users. What type of cyber-attack is this? [+1]
[-0]
- A. Brute Force Attack
 - B. Trojan Horse
 - C. Cross-Site Scripting (XSS)
 - D. Distributed Denial-of-Service (DDoS) attack
 - E. None of the option is correct
- Q20.** A student is designing a relational database for a school library. To uniquely identify each book record in the 'Books' table, which type of key should be assigned to the 'ISBN' attribute, assuming ISBNs are unique globally? [+1]
[-0]
- A. Primary Key
 - B. Secondary Key
 - C. Composite Key
 - D. Foreign Key
 - E. None of the option is correct
- Q21.** Which of the following scenarios demonstrates the concept of 'cloud computing'? [+1]
[-0]
- A. Storing all personal photos on an external hard drive connected directly to a computer.
 - B. Running a virtual machine on a personal laptop to test different operating systems.
 - C. Accessing a document editing application and storing files on a remote server via the internet, without installing the software locally.
 - D. Developing software locally on a personal computer using installed development tools.
 - E. None of the option is correct
- Q22.** A web developer is creating an online form that collects user information. To prevent malicious users from injecting unauthorized SQL commands into the database through the form fields, what common security practice should be implemented? [+1]
[-0]
- A. Implementing strong user passwords.
 - B. Regularly backing up the database.
 - C. Input validation and parameterized queries.
 - D. Using HTTPS for data encryption.
 - E. None of the option is correct

- Q23.** Consider a situation where a new operating system update is released, and users are advised to install it immediately. What is the most common cybersecurity reason for these urgent updates? [+1]
[-0]
- A. To patch newly discovered security vulnerabilities.
 - B. To remove outdated application software.
 - C. To introduce new user interface features.
 - D. To improve overall system performance dramatically.
 - E. None of the option is Correct
- Q24.** A network administrator is configuring a new network segment and needs to assign a unique identifier to each device for communication within the local network. This identifier is hard-coded into the network interface card (NIC) of each device. What is this identifier called? [+1]
[-0]
- A. Subnet Mask
 - B. IP Address
 - C. Port Number
 - D. MAC Address
 - E. None of the option is correct
- Q25.** In the context of the Internet, what is the primary function of DNS (Domain Name System)? [+1]
[-0]
- A. To encrypt data transmitted between web browsers and servers.
 - B. To secure Wi-Fi networks from unauthorized access.
 - C. To translate human-readable domain names into machine-readable IP addresses.
 - D. To manage the allocation of IP addresses to devices on a network.
 - E. None of the option is correct
- Q26.** When an operating system loads a program into memory and assigns it system resources for execution, this running instance of the program is referred to as [+1]
[-0]
- A. Thread
 - B. Service
 - C. Process
 - D. Driver
 - E. None of the option is correct
- Q27.** What is the main function of the operating system's 'shell' or user interface? [+1]
[-0]
- A. To store persistent data and files.
 - B. To provide an interface for users to interact with the operating system and run applications.
 - C. To manage the CPU's core processing operations.
 - D. To directly interact with hardware components at a low level.
 - E. None of the option is correct
- Q28.** If a user is experiencing frequent 'blue screen of death' (BSOD) errors on their Windows computer, which hardware component is a very common cause of such critical system failures, especially if it's faulty or improperly seated? [+1]
[-0]
- A. Graphics Card
 - B. CPU (Central Processing Unit)
 - C. RAM (Random Access Memory)
 - D. Hard Disk
 - E. None of the option is correct

- Q29.** A user reports their computer is running very slowly and the hard drive light is blinking constantly, even when they aren't actively using any programs. Which of the following is the most likely underlying issue? [+1]
[-0]
- A. The monitor's resolution is set too high.
 - B. The computer has insufficient RAM, forcing the system to use virtual memory.
 - C. The graphics card driver is outdated.
 - D. The power supply unit is failing.
 - E. None of the option is correct
- Q30.** Why is an open-source operating system like Linux often considered more secure by experts than a closed-source one like Windows? [+1]
[-0]
- A. Because its source code is publicly available for review and scrutiny by anyone.
 - B. Because it does not allow the installation of third-party software.
 - C. Because it is developed by a single, highly secure company.
 - D. Because it is less popular, so hackers don't target it.
 - E. None of the option is correct
- Q31.** What is the fundamental difference between the SMTP and POP3 protocols? [+1]
[-0]
- A. SMTP is a more secure protocol than POP3.
 - B. SMTP can handle attachments, while POP3 cannot.
 - C. SMTP is used for sending emails, while POP3 is used for retrieving emails from a server.
 - D. SMTP is used for web browsing, and POP3 is for email.
 - E. None of the option is correct
- Q32.** In MS Excel, you have a large table of sales data. You want to see the total sales for each product category, but you don't want to write individual formulas for each category. Which feature would be most efficient for this? [+1]
[-0]
- A. Conditional Formatting
 - B. Data Validation
 - C. A PivotTable
 - D. The Sort feature
 - E. None of the option is correct
- Q33.** A computer's BIOS/UEFI is best described as: [+1]
[-0]
- A. The main software that manages all applications, like Windows or macOS.
 - B. Firmware on a chip that initializes hardware during the boot process.
 - C. A high-speed memory for the CPU.
 - D. A utility program for cleaning junk files from the hard drive.
 - E. None of the option is correct
- Q34.** What is the primary function of defragmenting a hard disk drive (HDD)? [+1]
[-0]
- A. It increases the total storage capacity of the drive.
 - B. It repairs bad sectors on the disk.
 - C. It scans the drive for viruses and malware.
 - D. It reorganizes file fragments into contiguous blocks to improve access speed.
 - E. None of the the option is correct

- Q35.** You are collaborating on a report in MS Word. You want to suggest a change to a sentence without permanently deleting the original text. Which feature is designed for this purpose? [+1]
[-0]
- A. Using a different font color for your changes.
 - B. Saving a different version of the document with a new name.
 - C. Adding a comment.
 - D. Using the 'Track Changes' feature.
 - E. None of the above
- Q36.** Which of these refers to a systems programming language for the Intel family microcomputers? [+1]
[-0]
- A. PLA
 - B. PL / CT
 - C. PL / M
 - D. PL / C
 - E. None of the option is correct
- Q37.** Which of the following is the largest hexadecimal digit? [+1]
[-0]
- A. E
 - B. F
 - C. A
 - D. G
 - E. None of the option is correct
- Q38.** The ARPANET, considered the precursor to the Internet, was initially developed for what primary purpose? [+1]
[-0]
- A. Commercial e-commerce transactions.
 - B. Sharing scientific research data among universities and defense-related organizations.
 - C. Real-time voice communication.
 - D. Broadcasting television programs.
 - E. None of the option is correct
- Q39.** The development of 'Blockchain' technology is an innovation primarily in: [+1]
[-0]
- A. Improving graphic processing unit (GPU) performance.
 - B. Secure, decentralized, and immutable record-keeping and transaction processing.
 - C. Creating centralized, easily modifiable databases.
 - D. Enhancing virtual reality experiences.
 - E. None of the option is correct
- Q40.** Generative AI is a subfield of AI focused on what primary capability? [+1]
[-0]
- A. Optimizing existing algorithms
 - B. Performing robotic process automation (RPA)
 - C. Analyzing large datasets for insights
 - D. Creating new and original content
 - E. None of the option is correct

- Q41.** Which trend involves a combination of multiple advanced technologies, including Robotic Process Automation (RPA), AI, and Machine Learning, to automate end-to-end business processes? [+1]
[-0]
- A. Lean Six Sigma
 - B. Hyper Automation
 - C. Business Process Reengineering
 - D. Agile Development
 - E. None of the option is correct
- Q42.** Which of the following is an example of a 'microblogging' platform? [+1]
[-0]
- A. Facebook
 - B. X (formerly Twitter)
 - C. YouTube
 - D. Instagram
 - E. None of the option is correct
- Q43.** Which of the following elements can be modified in the Handout Master? [+1]
[-0]
- A. Header and footer text
 - B. Animation effects
 - C. Slide content
 - D. Slide transitions
 - E. None of the option is correct
- Q44.** What is the purpose of Tynker as an educational IT tool? [+1]
[-0]
- A. To design 3D models
 - B. To manage classroom schedules
 - C. To teach coding through games and animations
 - D. To create presentations
 - E. None of the option is correct
- Q45.** What is the binary equivalent of the decimal number 13? [+1]
[-0]
- A. 1101
 - B. 1011
 - C. 1110
 - D. 1001
 - E. None of the option is correct
- Q46.** Which function counts non-empty cells in LibreOffice Calc? [+1]
[-0]
- A. COUNT
 - B. COUNTA
 - C. COUNT BLANK
 - D. BLANK
 - E. None of the option is correct

Q47. In MS PowerPoint, a user wants to export a presentation as a video. What are the steps?

[+1]
[-0]

- A. Slide Show > Export > Video
- B. Design > Save As > Video
- C. File > Export > Create a Video > Choose settings > Export
- D. View > Export > Media

- A. A
- B. B
- C. C
- D. D
- E. None of the option is correct

Q48. A teacher wants to assign grades: "Pass" if a student's score in D2 is 40 or above, otherwise "Fail". Which formula should be used?

[+1]
[-0]

- A. =IF(D2>=40, "Pass", "Fail")
- B. =IF(D2>40, "Pass")
- C. =IF(D2=40, "Pass", "Fail")
- D. =IF(D2<40, "Fail", "Pass")

- A. A
- B. B
- C. C
- D. D
- E. None of the option is correct

Q49. A user wants to secure their smartphone from malware. Which practice should they avoid?

[+1]
[-0]

- A. Installing apps from trusted sources like Google Play
- B. Downloading apps from unknown websites
- C. Updating the operating system regularly
- D. Using antivirus software
- E. None of the option is correct

Q50. Who is the CEO of Intel in 2025, focusing on edge AI and the 18A manufacturing process to regain market competitiveness?

[+1]
[-0]

- A. Lip-Bu Tan
- B. Alan Mulally
- C. Amy Gilliland
- D. Mary Barra
- E. None of the options is correct



CLASS / GRADE

Class 9

SUBJECT

IFCO

TOTAL QUESTIONS

50

MAX MARKS

50

ANSWER SHEET — 50 QUESTIONS

Q#	ANS	Q#	ANS	Q#	ANS	Q#	ANS	Q#	ANS
01	A	11	C	21	C	31	C	41	B
02	A	12	D	22	C	32	C	42	B
03	B	13	C	23	A	33	B	43	A
04	A	14	A	24	D	34	D	44	C
05	C	15	D	25	C	35	D	45	A
06	B	16	A	26	C	36	C	46	B
07	A	17	C	27	B	37	B	47	C
08	B	18	B	28	C	38	B	48	A
09	A	19	D	29	B	39	B	49	B
10	B	20	A	30	A	40	D	50	A

◆ ALL IOF OLYMPIAD PROGRAMMES ◆

