

GENERAL KNOWLEDGE & INTELLIGENCE OLYMPIAD

Level 3 • Classes 9–10 • Question Paper

Student
Name

School

Roll No.

Class /
Section

Time: 90 Minutes Maximum Marks: 150 Questions: 50

General Instructions

1. All 50 questions are compulsory.
2. Each question has four options; select the one best answer.
3. Marking scheme: +3 for a correct answer, –1 for an incorrect answer and 0 for an unattempted question.
4. Mark responses clearly on the OMR sheet supplied by the school.
5. Do not use a calculator, mobile phone or other electronic aid.

Questions

1. Which principle requires every public authority, including the government, to act according to publicly known laws?

- A. Separation of markets
- B. Cultural diffusion
- C. Rule of law
- D. Collective security

2. A bill is passed by the Lok Sabha, but the Rajya Sabha suggests amendments. Before it can become an Act, what is normally required?

- A. Only the Speaker's signature
- B. Approval by both Houses in the same form and presidential assent
- C. Approval by the Supreme Court
- D. A national referendum

3. Country X holds regular elections, but opposition candidates are jailed without trial, newspapers are censored and courts take orders from the executive. Which conclusion is best supported?

- A. Elections alone guarantee constitutional democracy
- B. X is democratic because voting occurs
- C. Procedural elections exist, but core democratic safeguards are absent
- D. Judicial independence is irrelevant to democracy

4. Which body conducts elections to Parliament and State Legislatures in India?

- A. Finance Commission
- B. Election Commission of India
- C. UPSC
- D. NITI Aayog

5. A city publishes a draft transport policy, invites comments, releases the data used, records objections and explains why the final policy differs. Which governance combination is most evident?

- A. Secrecy and centralisation
- B. Transparency, participation and accountability
- C. Privatisation and judicial review
- D. Federalism and emergency rule

6. A historian finds a 14th-century account written by a courtier praising a ruler's victories. What is the most appropriate first step?

- A. Accept every claim because it is contemporary
- B. Compare it with inscriptions, material evidence and independent accounts
- C. Reject it because all court accounts are false
- D. Translate it into a modern language and treat it as neutral

7. Two sources describe the same protest. A police report calls it disorder; participants' letters call it peaceful resistance. What can a historian most reasonably infer?

- A. One source must be discarded
- B. Perspective shaped each account, so claims need corroboration
- C. The later source is automatically correct
- D. Personal letters contain no bias

8. The Renaissance first developed prominently in the city-states of which present-day country?

- A. Germany
- B. Spain
- C. Greece
- D. Italy

9. A movement asks people to spin khadi, boycott imported cloth and reduce dependence on colonial industry. Which larger strategy does this express?

- A. Military expansion
- B. Permanent Settlement
- C. Economic self-reliance linked with political resistance
- D. Religious conversion

10. An inscription records a king donating land to a monastery, while village records show taxes continued to be collected from cultivators there. Which interpretation is strongest?

- A. Royal grants could transfer rights without eliminating cultivators' obligations
- B. The donation certainly ended all taxation
- C. The inscription is useless
- D. Village records prove the king did not exist

11. Which boundary is formed where two tectonic plates move away from each other?

- A. Convergent
- B. Transform
- C. Divergent
- D. Subduction-only

12. At 12:00 UTC, what is the local solar time approximately at 45°E, ignoring political time zones?

- A. 09:00
- B. 15:00
- C. 12:00
- D. 18:00

13. Two coastal cities lie at the same latitude. City P is beside a warm current; City Q is beside a cold current. Other factors are similar. Which difference is most plausible?

- A. P is generally milder and more humid; Q is cooler and often drier
- B. Q must receive monsoon rain all year
- C. P must have a greater altitude
- D. Ocean currents cannot affect coastal climate

14. A population pyramid has a very broad base and rapidly narrows with age. What does it most strongly suggest?

- A. Low birth rate and an ageing population
- B. Zero migration
- C. Equal numbers in every age group
- D. High birth rate and a youthful population

- 15. On a topographic map, contour lines cross a stream and form V-shapes pointing northwest. In which direction does the stream most likely flow?**
- A. Northwest
 - B. Southeast
 - C. Northeast
 - D. It cannot be inferred
- 16. If the general price level rises while a person's money income stays unchanged, what usually happens to that income's purchasing power?**
- A. It falls
 - B. It rises
 - C. It becomes zero
 - D. It is unaffected by prices
- 17. A country's nominal GDP grows by 8% while its price level rises by about 5%. Which estimate best describes real GDP growth?**
- A. About 5%
 - B. About 8%
 - C. About 13%
 - D. About 3%
- 18. A factory's production creates air pollution not included in the price of its product. Economists call this cost imposed on others a:**
- A. Comparative advantage
 - B. Negative externality
 - C. Positive externality
 - D. Liquidity preference
- 19. Which process converts atmospheric nitrogen into compounds that plants can use?**
- A. Nitrogen fixation
 - B. Transpiration
 - C. Sublimation
 - D. Biomagnification
- 20. A 1.5 kW heater runs for 40 minutes. How much electrical energy does it use?**
- A. 1.0 kWh
 - B. 0.6 kWh
 - C. 1.5 kWh
 - D. 60 kWh
- 21. A medicine reduces symptoms in 70% of 20 volunteers. There is no comparison group. Which claim is justified?**
- A. The result is suggestive, but a controlled larger study is needed
 - B. The medicine is proven effective for everyone
 - C. The medicine caused every recovery
 - D. A placebo group would make the study less reliable
- 22. A lake's nitrate concentration rises from 2 to 9 mg/L. Algal cover then increases and dissolved oxygen falls at night. Which chain best explains the pattern?**
- A. Oxygen depletion → less algae → more nitrate
 - B. Nitrate directly removes all oxygen atoms
 - C. Algae prevent every organism from respiring
 - D. Nutrients → algal growth → respiration/decomposition → oxygen depletion
- 23. A solar panel supplies 300 W for an average of 5 effective sun-hours daily. A battery stores 80% of the energy. About how much usable energy is stored per day?**
- A. 1.2 kWh
 - B. 0.24 kWh
 - C. 1.5 kWh
 - D. 12 kWh

24. Why does antibiotic resistance spread in a bacterial population?

- A. Antibiotics teach individual bacteria to adapt deliberately
- B. Resistant variants survive treatment and reproduce more successfully
- C. All bacteria become identical after treatment
- D. Resistance occurs only in viruses

25. Students test fertiliser on plants. Treated plants are placed by a sunny window; untreated plants are kept in shade. The treated group grows taller. What is the principal flaw?

- A. Plant height cannot be measured
- B. Fertiliser can never affect growth
- C. The groups differ in light as well as fertiliser
- D. A control group is unethical

26. What is two-factor authentication designed to do?

- A. Compress files twice
- B. Require two independent forms of verification
- C. Create two passwords stored together
- D. Double internet speed

27. A viral graph starts its vertical axis at 98 rather than 0, making a change from 99 to 100 look enormous. What should a careful reader do?

- A. Ignore the labels
- B. Conclude the value doubled
- C. Check the scale and consider the absolute and percentage change
- D. Share it because the graph is technically accurate

28. An image-search system is trained mostly on urban photographs and performs poorly in rural settings. Which explanation is most likely?

- A. Encryption failure
- B. The laws of optics change in villages
- C. All machine-learning errors are random
- D. Dataset bias and poor representation

29. A post claims, “Scientists proved this food prevents disease,” but links only to a seller’s testimonial. Which verification step is strongest?

- A. Find the original peer-reviewed study and assess its design
- B. Count how many emojis appear
- C. Trust it if many users reposted it
- D. Accept it because a scientist is mentioned

30. A work in which a narrator recounts the author’s own life is generally called:

- A. Biography
- B. Anthology
- C. Allegory
- D. Autobiography

31. “The city stretched its iron arms toward the sky.” Which literary device is most prominent?

- A. Personification
- B. Onomatopoeia
- C. Euphemism
- D. Alliteration only

32. A novel presents the same incident through three narrators whose accounts conflict. What effect is the structure most likely intended to create?

- A. Proof that one account is objectively complete
- B. A guarantee that chronology is irrelevant
- C. Removal of all ambiguity
- D. Awareness that memory and perspective shape narrative truth

33. A museum label gives the creator, date, material, original setting and ritual use of an object. Which approach does the label mainly support?

- A. Interpreting the object in historical and cultural context
- B. Judging only monetary value
- C. Replacing conservation with opinion
- D. Assuming every visitor reads it identically

34. Which international court settles legal disputes submitted by states and gives advisory opinions to authorised UN bodies?

- A. International Court of Justice
- B. International Criminal Court
- C. European Court of Human Rights
- D. Permanent Court of Arbitration only

35. A disease outbreak crosses borders. Countries need surveillance coordination, technical health guidance and international public-health rules. Which organisation has the central mandate?

- A. UNESCO
- B. WHO
- C. WTO
- D. ILO

36. A country is landlocked, lies between China and Russia, and contains much of the Gobi Desert. Which country is it?

- A. Nepal
- B. Kazakhstan
- C. Mongolia
- D. Afghanistan

37. Country A emits 2 tonnes of CO₂ per person for 1 billion people. Country B emits 12 tonnes per person for 100 million people. Which statement is correct?

- A. A has lower total emissions than B
- B. B has higher total emissions than A
- C. A totals about 2 billion tonnes; B about 1.2 billion tonnes
- D. Per-capita data alone proves A has greater historical responsibility

38. In a league, a team receives 3 points for a win and 1 for a draw. After 12 matches it has 7 wins and 3 draws. How many points has it earned?

- A. 21
- B. 22
- C. 27
- D. 24

39. The Olympic rings symbolically represent:

- A. Five original Olympic sports
- B. Five host cities
- C. Five inhabited continents united by Olympism
- D. Five oceans only

40. A runner completes the first half of a race at 12 km/h and the equal-distance second half at 18 km/h. What is the average speed for the whole race?

- A. 15 km/h
- B. 16 km/h
- C. 14.4 km/h
- D. 30 km/h

41. Find the next term: 2, 6, 15, 31, 56, __

- A. 82
- B. 87
- C. 92
- D. 96

- 42. A code replaces each letter by its opposite in the alphabet ($A \leftrightarrow Z$, $B \leftrightarrow Y$, and so on). How is LOGIC coded?**
- A. OLT RX
 - B. NPTJX
 - C. OMTRW
 - D. OLTRX
- 43. A survey of 120 students finds 70 study French, 55 study German and 20 study neither. How many study both?**
- A. 5
 - B. 35
 - C. 45
 - D. 25
- 44. All astronomers are observers. Some observers are musicians. No musician is careless. Which statement must be true?**
- A. Some astronomers are musicians
 - B. Some observers are not careless
 - C. No astronomer is careless
 - D. All observers are astronomers
- 45. A clock loses 4 minutes every 3 hours. It is correct at 6:00 a.m. What will it display at actual 6:00 p.m.?**
- A. 5:44 p.m.
 - B. 5:40 p.m.
 - C. 5:48 p.m.
 - D. 6:16 p.m.
- 46. A school's pass rate rises from 80% of 200 students to 84% of 250 students. How many more students pass in the second year?**
- A. 4
 - B. 40
 - C. 84
 - D. 50
- 47. Five people P, Q, R, S and T stand in a line. R is immediately right of Q. P is at an end. S is not beside P. Which arrangement is possible?**
- A. Q R S P T
 - B. P S Q R T
 - C. T R Q S P
 - D. P Q R T S
- 48. A test has mean 60. After discovering that one score was entered as 48 instead of 84, the corrected mean becomes 62. How many students took the test?**
- A. 12
 - B. 24
 - C. 18
 - D. 36
- 49. A mixture contains milk and water in the ratio 5:2. After 6 L of water is added, the ratio becomes 5:3. What was the original volume?**
- A. 28 L
 - B. 42 L
 - C. 36 L
 - D. 48 L
- 50. In a study, Group A improves by 12 points and Group B by 5 points. Group A started 10 points lower and participants selected their own groups. Which conclusion is most defensible?**
- A. Group A improved more, but self-selection and different baselines limit causal inference
 - B. The programme definitely caused a 7-point advantage
 - C. Group B performed better because it started higher
 - D. The data prove both groups were identical

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Level 3 • Answer Key

Question-wise answer key and classification

Q	Ans.	Domain	SAI Lens	Difficulty	Marks	Rationale
1	C	Global Civics	Conceptual Understanding	Easy	3	The rule of law subjects public power to law and rejects arbitrary government.
2	B	India & Civics	Application	Medium	3	An ordinary bill normally must be agreed to by both Houses in the same form and then receive presidential assent.
3	C	Global Civics	Reasoning	Hard	3	Competitive choice, civil liberties and independent institutions are essential; voting alone is insufficient.
4	B	India & Civics	Conceptual Understanding	Easy	3	The Election Commission of India supervises these elections.
5	B	Global Civics	Interpretation / Case Study	Medium	3	Open evidence, consultation and reasoned responses demonstrate transparency, participation and accountability.
6	B	History & Heritage	Conceptual Understanding	Easy	3	Source criticism requires corroboration and attention to the author's position and purpose.
7	B	History & Heritage	Reasoning	Hard	3	Different positions can frame the same event differently; evidence should be cross-checked.
8	D	World History	Conceptual Understanding	Easy	3	Italian city-states such as Florence were major early centres of the Renaissance.
9	C	India & History	Application	Medium	3	Swadeshi connected economic self-reliance and boycott with anti-colonial politics.
10	A	History & Heritage	Interpretation / Case Study	Medium	3	Land grants often reassigned revenue or rights rather than removing all obligations from cultivators.
11	C	Geography	Conceptual Understanding	Easy	3	Plates separate at a divergent boundary.

Q	Ans.	Domain	SAI Lens	Difficulty	Marks	Rationale
12	B	Geography	Application	Medium	3	Earth rotates 15° per hour; 45° east is about three hours ahead of UTC.
13	A	Geography	Reasoning	Hard	3	Warm currents tend to raise coastal temperature and moisture, whereas cold currents cool and may stabilise dry air.
14	D	Geography	Interpretation / Case Study	Medium	3	A broad base indicates many children and usually a high recent birth rate.
15	B	Geography	Application	Hard	3	Contour V-shapes point upstream, so the stream flows in the opposite direction, southeast.
16	A	Economics & Society	Conceptual Understanding	Easy	3	The same nominal income buys fewer goods and services when prices rise.
17	D	Economics & Society	Application	Hard	3	For a rough estimate, real growth is nominal growth minus inflation: about 3%.
18	B	Economics & Society	Reasoning	Medium	3	Pollution imposes an uncompensated cost on third parties, a negative externality.
19	A	Science & Environment	Conceptual Understanding	Easy	3	Nitrogen fixation produces biologically usable nitrogen compounds.
20	A	Science & Environment	Application	Medium	3	Energy = $1.5 \text{ kW} \times 2/3 \text{ h} = 1.0 \text{ kWh}$.
21	A	Science & Environment	Reasoning	Hard	3	Without a control group and adequate sample, causation and generalisation are weak.
22	D	Science & Environment	Interpretation / Case Study	Medium	3	Nutrient enrichment promotes blooms; respiration and decomposition consume dissolved oxygen.
23	A	Science & Environment	Application	Hard	3	$300 \text{ W} \times 5 \text{ h} = 1.5 \text{ kWh}$; 80% gives 1.2 kWh.
24	B	Science & Environment	Conceptual Understanding	Medium	3	Selection increases the frequency of heritable resistance among surviving bacteria.
25	C	Science & Environment	Interpretation / Case Study	Hard	3	Light is a confounding variable, so the effect cannot be attributed to fertiliser.
26	B	Technology & Media	Conceptual Understanding	Easy	3	It strengthens access control by requiring two

Q	Ans.	Domain	SAI Lens	Difficulty	Marks	Rationale
						different verification factors.
27	C	Technology & Media	Application	Medium	3	A truncated axis can exaggerate visual differences; scale and effect size must be checked.
28	D	Technology & Media	Reasoning	Medium	3	Unrepresentative training data can create systematic performance gaps.
29	A	Technology & Media	Interpretation / Case Study	Medium	3	The underlying study, its methods and evidence are more reliable than promotional testimony.
30	D	Culture & Literature	Conceptual Understanding	Easy	3	An autobiography is an account of the author's own life.
31	A	Culture & Literature	Application	Medium	3	The city is given the human action of stretching arms.
32	D	Culture & Literature	Reasoning	Hard	3	Conflicting viewpoints invite readers to evaluate subjectivity, memory and reliability.
33	A	Culture & Heritage	Interpretation / Case Study	Medium	3	Provenance, setting and use help interpret cultural meaning in context.
34	A	World Knowledge	Conceptual Understanding	Medium	3	The ICJ is the principal judicial organ of the United Nations for disputes between states and advisory opinions.
35	B	World Knowledge	Application	Medium	3	The World Health Organization coordinates international public-health work.
36	C	World Knowledge	Reasoning	Medium	3	These geographic clues identify Mongolia.
37	C	World Knowledge	Interpretation / Case Study	Hard	3	Multiplication gives about 2 billion tonnes for A and 1.2 billion tonnes for B; responsibility needs more evidence.
38	D	Sports & Quantitative GK	Application	Medium	3	Seven wins give 21 points and three draws give 3, totalling 24.
39	C	Sports & Institutions	Conceptual Understanding	Easy	3	The rings represent the union of five inhabited continents and the meeting of athletes.
40	C	Sports & Quantitative GK	Reasoning	Medium	3	For equal distances, average speed is the harmonic mean: $2 \times 12 \times 18 / (12 + 18) = 14.4$ km/h.

Q	Ans.	Domain	SAI Lens	Difficulty	Marks	Rationale
41	C	Mental Ability	Reasoning	Medium	3	Successive differences are 4, 9, 16, 25; the next is 36, giving 92.
42	D	Mental Ability	Application	Hard	3	$L \rightarrow O$, $O \rightarrow L$, $G \rightarrow T$, $I \rightarrow R$ and $C \rightarrow X$, producing OLTRX.
43	D	Mental Ability	Interpretation / Case Study	Medium	3	One hundred study at least one; $70+55-100=25$ study both.
44	B	Mental Ability	Reasoning	Hard	3	The observers who are musicians cannot be careless, so some observers are not careless.
45	A	Mental Ability	Application	Medium	3	Over 12 hours it loses 16 minutes, so it displays 5:44 p.m.
46	D	Data Interpretation	Interpretation / Case Study	Hard	3	Pass numbers are 160 and 210, an increase of 50.
47	D	Mental Ability	Reasoning	Medium	3	Only P–Q–R–T–S satisfies R immediately right of Q, P at an end, and S not beside P.
48	C	Data Interpretation	Interpretation / Case Study	Hard	3	The total rises by 36 and the mean by 2, so the number of students is $36/2=18$.
49	B	Mental Ability	Application	Medium	3	Let amounts be $5x$ and $2x$. Then $5x/(2x+6)=5/3$, so $x=6$ and total=42 L.
50	A	Data Interpretation	Interpretation / Case Study	Hard	3	The observed gain differs, but selection bias and unequal baselines prevent a strong causal claim.