

AOS

ASIAN OLYMPIAD SOCIETY

ATHO

ASIAN TALENT HUNT OLYMPIAD 2020-2021

CLASS

10

INSTRUCTIONS AND INFORMATION FOR THE CANDIDATE

GENERAL

1. Do not open the booklet until told to do so by your teacher.
2. No calculators maths stencils, mobile phones or other calculating devices are permitted. Scribbling paper, graph paper, ruler and compasses are permitted, but are not essential.
3. Read the instructions on the answer sheet carefully. Ensure your name, school name and class are entered. It is your responsibility to correctly code your answer sheet.

THE ANSWER SHEET

1. Use an HB pencil or a Blue/Black ball point pen only to record your choice of answer in the Answer sheet.
2. Your answer sheet will be scanned. The optical scanner will attempt to read all markings even if they are in the wrong places, so please be careful not to write anything extra on the answer sheet.
3. If you want to change an answer or remove any marks, use a plastic eraser and be sure to remove all marks and smudges.
4. Fill your enrollment number clearly, improper enrollment number may lead to unavailability of result.
5. Please fill your Mobile Number clearly on the Answer Sheet, we will share your marks / result and other information related to AOS exams on your mobile number.
6. All questions are compulsory and there is no negative marking.
7. Return the ANSWER SHEET to the invigilator at the end of the exam.

INTEGRITY OF THE COMPETITION

The AOS reserves the right to re-examine students before deciding whether to grant official status to their score.

ENROLLMENT NUMBER : _____ CLASS : _____

STUDENT NAME : _____ Contact No : _____

1. Find the probability that a number selected from the numbers 1 to 50 is not a prime.
- a) $\frac{7}{10}$ b) $\frac{17}{25}$ c) $\frac{18}{25}$ d) $\frac{11}{50}$
2. If $(x+a)$ is the HCF of $x^2 + px + q$ and $x^2 + lx + m$, then the value of 'x' is given by
- a) $\frac{p-1}{q-m}$ b) $\frac{q-m}{p-1}$ c) $\frac{q+m}{p+1}$ d) $\frac{1+p}{q+m}$
3. If a natural number is multiplied by 18 and other by 21 and added the products. Which one of the following could be the sum?
- a) 2007 b) 2008 c) 2006 d) 2002
4. If the radius of the circumcircle of an equilateral triangle is 8 cm, what is the radius of its incircle?
- a) 8 cm b) 7 cm c) 10 cm d) 4 cm
5. The first three terms of a sequence are 8, 'y' and 18. Find the positive value of 'y' so that the sequence is an arithmetic progression.
- a) 24 b) 16 c) 12 d) 14
6. Sides ratio of two similar triangles is 4:9, choose the ratio of the areas of those triangles.
- a) 4:9 b) 9:4 c) 2:3 d) 16:81
7. An A.P consists of 50 terms of which 3rd term is 12 and the last term is 106. Find the 29th term.
- a) 82 b) 56 c) 64 d) 47
8. In a right angled triangle ABC, angle B = 90°, AB = 8 cm and BC = 15 cm, then the radius of incircle of triangle ABC would be
- a) 3 cm b) 5 cm c) 6 cm d) 4 cm
9. Which statement best describes the interdependence of photosynthesis and cellular respiration?
- a) The products of photosynthesis are carbon dioxide and water to be used in cellular respiration.
- b) The reactants of photosynthesis are the products of cellular respiration.
- c) The reactants of photosynthesis are sugar and oxygen to be used in cellular respiration.
- d) The products of photosynthesis are the same as the products of cellular respiration.

10. Nuclear fusion reactions happen spontaneously in :
- a) The core of the earth
 - b) The commercial nuclear reactor
 - c) The atmosphere of the sun
 - d) The eruption of a volcano
11. Autonomic nervous system control
- a) Reflex action
 - b) Sense organs
 - c) Internal organs
 - d) Skeletal muscle
12. In a hypertensive patient, the systolic pressure increased to 150 mm of Hg. Which part of the brain would be involved in the regulation of blood pressure?
- a) Medulla
 - b) Cerebrum
 - c) Cerebellum
 - d) Hypothalamus
13. A house has a lighting circuit operated from the 240 V mains. 10 bulbs rated at 100 W are switched on at the same time. Identify the most suitable fuse for this circuit.
- a) 4 A
 - b) 5 A
 - c) 13 A
 - d) 15 A
14. Detergents do not give scum with hard water because they have
- a) Ammonium salts of long chain carboxylic acids.
 - b) Sulphonate salts of long chain carboxylic acids.
 - c) Both A and B
 - d) None of these
15. Many domestic hair-dryers have no earth wire. Why?
- a) The fan prevents the heating coil from becoming too hot.
 - b) The current is small.
 - c) The casing of the hair-dryer is made of plastic material.
 - d) The plug is installed with a fuse.

Answer key

1 - a	2 - b	3 - a	4 - d	5 - c	6 - d	7 - c	8 - a	9 - c	10 - c	11 - c	12 - a	13 - b	14 - c	15 - c
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