



# ASTRONOMY

School Level Examination

GRADE

9

**DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO**

- \* All questions are compulsory.
- \* Read the instructions on the **ANSWER SHEET** and fill in your **NAME, CLASS and OTHER INFORMATION**.

To mark your choice of answer by darkening the circles in the Answer Sheet, use an **HB Pencil** only.

- \* You **MUST** record your answers on the **ANSWER SHEET**.
- \* There are 50 **MULTIPLE CHOICE QUESTIONS**. Use the information provided to choose the **BEST** answer among the four possible options.

On your **ANSWER SHEET** fill in the oval that matches your answer.

- \* Marks are **NOT** deducted for incorrect answers.
- \* Return the **Answer Sheet** to the invigilator at the end of the examination.
- \* Write your Roll No. on the Question Paper too and take it home for future reference.
- \* You are **NOT** allowed to use a calculator.

You may use a ruler and spare paper for rough work.

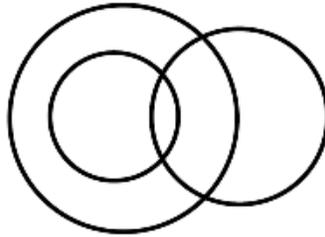


- (A) Earlier week's Sunday (B) Friday  
 (C) Wednesday (D) Thursday

6. Roshni is Sita's sister. Gauri is Sita's mother. Dhruv is Gauri's father. Pihu is Dhruv's mother. Then, how is Roshni related to Dhruv?

- (A) Daughter (B) Granddaughter  
 (C) Aunt (D) Grandmother

7. Which relation does the given diagram represents the best?



- (A) Mothers, Females, Cricketers (B) Squares, Cubes, Natural numbers  
 (C) Rabbits, Herbivores, Carnivores (D) Players, Singers, Painters

8. If  $A + B$  means A is the daughter of B;  $A - B$  means A is the husband of B and  $A \times B$  means A is the brother of B.

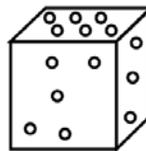
Then for  $H + I - J$ , which of the following is true?

- (A) J is the mother of H (B) J is the daughter of H  
 (C) J is the aunt of H (D) J is the sister-in-law of H

9. Chew : Teeth :: ? : ?

- (A) Food : Taste (B) Think : Mind  
 (C) Sweater : Heat (D) Eyes : Flicker

10. Choose the correct water image of the below figure from the given options.



- (A) (B) (C) (D)
-

## Section - B

(This section contains 25 multiple choice questions. Each question has four choices (A), (B), (C) and (D), out of which only ONE is correct.)

11. The 2.7 kelvin cosmic background radiation is concentrated in the \_\_\_\_\_.
- (A) Infrared (B) Ultraviolet  
(C) Visible (D) Microwave
12. Which of the following statement explains the absence of aurora on Venus?
- (A) Lack of atmospheric oxygen (B) Lack of a strong magnetic field  
(C) Lacks an ionosphere (D) It is too hot
13. Which is the biggest asteroid known till date?



- (A) Vesta (B) Icarus  
(C) Eros (D) Ceres
14. In 1978, \_\_\_\_\_ recorded the presence of ozone hole.
- (A) LANDSAT-3 (B) NIMBUS-7  
(C) INSAT (D) GOE-5
15. Which of the following is not a state of matter?
- (A) Liquids (B) Plasma  
(C) Bose-Einstein Condensate (D) Quasar
16. One important fact about the Kepler's law suggests that the cube of the mean distance of a planet from the Sun is proportional to the \_\_\_\_\_.
- (A) Square of the orbital period (B) Fourth power of the mean distance  
(C) Cube of the orbital period (D) Area that is swept out
17. How much time does the Sun takes to orbit the galaxy approximately?
- (A) 620 million years (B) 940 million years  
(C) 230 million years (D) 100 million years

18. Cassini's division is located \_\_\_\_\_.
- (A) Between two rings of Saturn      (B) Between asteroids  
(C) In sun flares      (D) In Earth's atmosphere
19. Choose the correct statement about the planet Mars.
- (A) Mars and Mercury are equal in size.  
(B) In the past, Mars had rivers flowing on it.  
(C) From Sun, light takes 15 minutes to reach to Mars.  
(D) None of these
20. Which constellation has the biggest star named Aldebaran?
- (A) Caelum      (B) Carina  
(C) Andromeda      (D) Taurus
21. At which position, a planet is said to be at aphelion?
- (A) At its lowest point below the ecliptic.  
(B) Farthest from the Sun.  
(C) At its highest point above the ecliptic.  
(D) Closest to the Sun.
22. Anomalously high concentrations of \_\_\_\_\_ at the geological boundary between the Cretaceous and Tertiary periods are usually found that gives the theory for the extinction of dinosaurs.
- (A) Hydrogen      (B) Helium  
(C) Argon      (D) Iridium
23. Which was the last planetary target of Voyager II?
- (A) Neptune      (B) Jupiter  
(C) Mercury      (D) Mars
24. Which of the following is an efficient liquid propellant used in rocket?
- (A) Liquid hydrogen      (B) Liquid ammonia  
(C) Liquid fluorine      (D) Hydrogen peroxide
25. The first Earth Satellite was launched in the year \_\_\_\_\_.
- (A) 1956      (B) 1957  
(C) 1947      (D) 1949

26. Which of the following term is related to the apparent magnitude of an object in the sky?
- (A) Magnitude (B) Distance  
(C) Size (D) Brightness
27. In which region, are Globular Clusters found?
- (A) In the spiral arms.  
(B) Distributed throughout the disk including regions between the spiral arms.  
(C) In the bulge at the centre of our galaxy.  
(D) In the halo of our galaxy.
28. \_\_\_\_\_ is the term used to describe the Earth's motion around the Sun that causes relatively nearby stars to shift against the background of the more distant fixed stars.
- (A) Parallax (B) Albedo  
(C) Intercalation (D) Glitch
29. Martian atmosphere is composed of 95% of \_\_\_\_\_.
- (A) Helium (B) Water  
(C) Carbon dioxide (D) Hydrogen
30. Who discovered the planet Uranus?
- (A) William Herschel (B) Isaac Newton  
(C) John Couch Adams (D) Galileo Galilei
31. Name the event that occurs when one celestial body is hidden by another that passes between it and the observer.
- (A) Opposition (B) Occultation  
(C) Averted Vision (D) Transit
32. Who was the founder of ISRO?
- (A) Narendra Modi (B) Vikram Sarabhai  
(C) Satish Dhawan (D) APJ Abdul Kalam
33. Which of the following is the crater on Mars?
- (A) Degas (B) Caloris Basin  
(C) Gale (D) Beethoven
34. \_\_\_\_\_ is the flattest planet in our Solar System in which encke gap is also maintained.

- (A) Jupiter (B) Pluto  
(C) Uranus (D) Saturn

35. Pick the correct statement about the primary cosmic radiation.

- (A) An intensity which is essentially constant in time.  
(B) Isotropic in space.  
(C) Very energetic particles.  
(D) All of the above.

### Section - C

**(This section contains 10 multiple choice questions. Each question has four choices (A), (B), (C) and (D), out of which TWO are correct.)**

36. Which of statements are TRUE?

- (A) There is no place in space where there is zero gravity.  
(B) In space, astronauts are always falling.  
(C) Space suits protect astronauts from solar winds during space walks.  
(D) When astronauts live in space, they become stronger.

37. Which of the following facts are CORRECT about the pole star?

- (A) The angle of pole star is 0 degrees at the equator.  
(B) The angle of pole star is 90 degrees at the North poles.  
(C) It's height does not change as we go from Delhi to London.  
(D) It's height decreases when seen from Australia.

38. \_\_\_\_\_ and \_\_\_\_\_ are the celestial bodies on which ISRO has sent its space exploration probes.

- (A) Jupiter (B) Venus  
(C) Mars (D) Moon

39. Identify the astronomical symbols for Uranus.

- (A) (B) 

- (C) (D)
40. Which of the following planets have polar ice caps?  
(A) Jupiter (B) Neptune  
(C) Earth (D) Mars
41. Pick the CORRECT statements about the relation between mass and surface activity of a terrestrial planet.  
(A) The least massive planet is the least active planet.  
(B) The least massive planet is the most active planet.  
(C) The least massive planet has the oldest surface.  
(D) None of these
42. \_\_\_\_\_ and \_\_\_\_\_ show phases when seen from telescope.  
(A) Mercury (B) Jupiter  
(C) Venus (D) Mars
43. Which of the following planets can never be in opposite direction from the Sun in Earth's sky?  
(A) Uranus (B) Venus  
(C) Mars (D) Mercury
44. Choose the correct names for the layers of the Sun from the given options.  
(A) Solar Winds (B) Photosphere  
(C) Corona (D) Sunspots
45. Which of the following facts explains the common belief in the ancient civilizations about astronomy?  
(A) Earth is a flat surface.  
(B) Earth is a cube shape.  
(C) Earth is the centre of the universe.  
(D) Moon is the centre of the universe.
46. Mariner 9 is the Mars exploration probe that focused on finding out where is, or was, any water on the surface of Mars. Where did it find the signs of water?  
(A) Rivers (B) Valleys  
(C) Oceans (D) Channels

47. Select the TRUE statements about the planet Uranus.



- (A) Uranus like Saturn has horizontal rings.
  - (B) Uranus axis is tilted by 97 degrees.
  - (C) On Uranus, poles have the hottest temperature.
  - (D) On Uranus, Sun rises in East and sets in West.
48. Choose the INCORRECT statement about the planet Pluto.
- (A) Pluto is bigger than the Moon of Earth.
  - (B) Pluto is a dwarf planet.
  - (C) Pluto lies in the region known as Kuiper's Belt.
  - (D) Pluto is the last planet of our solar system.
49. Ancient civilization used to call Sun with different names. Pick the correct options that stand true regarding this.
- (A) Horus – Egyptians
  - (B) Helios – Greek
  - (C) Ra – Egyptians
  - (D) Apollo – Roman
50. Choose the CORRECT statements about Jupiter.
- (A) Jupiter's orbit is 4.5 billion km from Sun.
  - (B) A person who weighs 100 pounds on Earth will weigh 240 pounds on Jupiter.
  - (C) Jupiter has rings.
  - (D) None of these

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