Chapter Eleven : Astrophysics

1. What are protons and neutrons called together?
ⓐ Boson ⓑ Lepton
ⓒ Meson ⓓ Baryon **ⓓ**

2. Theoretically identified but practically unproven is-
ⓐ Black hole ⓑ Dark matter
ⓒ Nebula ⓓ Quasar **ⓑ**

3. What is the percentage of dark matter in the universe?
ⓐ 83% ⓑ 73%
ⓒ 23% ⓓ 4% **ⓐ**

4. The number of stars in our galaxy is-
ⓐ 10^{10} ⓑ 10^{11}
ⓒ 10^{12} ⓓ 10^{13} **ⓑ**

5. Meson and baryon together is called-
ⓐ Boson ⓑ Lepton
ⓒ Nucleon ⓓ Hadron **ⓓ**

6. The spin of graviton is-
ⓐ $+\frac{1}{2}$ ⓑ $-\frac{1}{2}$
ⓒ 1 ⓓ 2 **ⓒ**

7. What is Hadron formed of?
ⓐ Meson ⓑ Quark
ⓒ Boson ⓓ Fermion **ⓑ**

8. Which particles were created in the beginning of the universe that that attached mass to massless particles?
ⓐ Meson ⓑ Boson
ⓒ Higgs Boson ⓓ Gauge Boson **ⓒ**

9. Proton, neutrons are formed of-
ⓐ Lepton ⓑ Quark
ⓒ Boson ⓓ Fermion **ⓑ**

10. Number of quarks-
ⓐ 4 in 2 generations ⓑ 6 in 2 generations
ⓒ 6 in 3 generations ⓓ 9 in 3 generations **ⓒ**

11. Number of the colours of quarks is-
ⓐ 2 ⓑ 3
ⓒ 4 ⓓ 6 **ⓑ**

12. Colour of quarks is-
ⓐ Red, yellow, blue ⓑ Red, blue, purple
ⓒ Red, yellow, purple ⓓ Red, green, blue **ⓓ**

13. Though the charge and baryon number of quarks is fractional, they form groups so that their total charge and baryon number is-
ⓐ 0 or 1 ⓑ -1 or 1
ⓒ 0 or -1 ⓓ 1 or 2 **ⓐ**

14. Number of leptons is-
ⓐ 4 in 2 generations ⓑ 6 in 2 generations
ⓒ 6 in 3 generations ⓓ 9 in 3 generations **ⓒ**

15. Charge of leptons is-
ⓐ 0 or e ⓑ $-e$ or e
ⓒ 0 or $-e$ ⓓ 0 or 1 **ⓒ**

16. What is the theory of everything?
ⓐ String theory ⓑ Quantum theory
ⓒ Relativity theory ⓓ Quark theory **ⓐ**

17. According to string theory, the length of string is-
ⓐ 10^{-33} mm ⓑ 10^{-33} cm
ⓒ 10^{-33} m ⓓ 10^{-35} cm **ⓑ**

18. How many categories can the objects orbiting the sun be divided into?
ⓐ 2 ⓑ 3
ⓒ 4 ⓓ 6 **ⓑ**

19. The sun needs __ time to orbit itself.
ⓐ 24 hours ⓑ 25 days
ⓒ 30 days ⓓ 365 days **ⓑ**

20. Which planets are called Earthly planet?
ⓐ Mercury, Venus, Earth
ⓑ Mercury, Venus, Earth, Uranus
ⓒ Mercury, Venus, Earth, Mars
ⓓ Mercury, Venus, Earth, Pluto **ⓒ**

21. Which planets don't have satellites?
ⓐ Earth, Pluto ⓑ Mercury, Venus
ⓒ Jupiter, Pluto ⓓ Saturn, Venus **ⓑ**

22. Which planets orbit the sun through the wall of asteroids? *[S.B.-15]*
ⓐ Earth, Pluto ⓑ Mercury, Venus
ⓒ Jupiter, Pluto ⓓ Mars, Jupiter **ⓓ**

23. What is the object that is seen coming towards Earth like a ball of fire?
ⓐ Meteor ⓑ Nebula
ⓒ Comet ⓓ Star **ⓐ**

24. Millions of tiny lights can be seen in the night sky. What are they?
ⓐ Meteor ⓑ Nebula
ⓒ Comet ⓓ Star **ⓓ**

25. Groups of astronomical objects are called-
ⓐ Galaxy ⓑ Nebula
ⓒ Comet ⓓ Star **ⓐ**

26. Milky way is-
ⓐ Meteor ⓑ Our galaxy
ⓒ Comet ⓓ Black hole **ⓑ**

27. What is "Ishwar particle"? *[D.B.-15]*
ⓐ Gluon ⓑ Lepton
ⓒ Higgs Boson ⓓ Photon **ⓒ**

28. What is the formula for event horizon radius? *[B.B., R.B.-15]*
ⓐ $R_s = \frac{2GM}{c^2}$ ⓑ $R_s = \frac{GM}{c^2}$
ⓒ $R_s = \frac{GM}{2c^2}$ ⓓ $\frac{c^2}{2GM}$ **ⓐ**

29. Which has a relationship with event horizon? *[D.B.-17]*
ⓐ Meteor ⓑ Nebula
ⓒ Comet ⓓ Star **ⓓ**

30. The neutron stars that emit radio waves are called-
ⓐ White dwarf ⓑ Black hole
ⓒ Pulsar ⓓ Supernova **ⓒ**

31. What is used to observe radio waves?
ⓐ Optical telescope ⓑ Radio telescope
ⓒ X-ray telescope ⓓ Hubble telescope **ⓑ**

32. If the mass of a star is 1.4 times the mass of the sun, it cannot be a white dwarf. This limit of mass is- *[S.B.-15]*
ⓐ Newton limit ⓑ Einstein limit
ⓒ Chandrasekhar limit ⓓ Hubble limit **ⓒ**

33. Which is the theory of the creation of the universe? *[C.B.-17]*
ⓐ Relativity theory ⓑ Quantum theory
ⓒ Big bang theory ⓓ Wave theory **ⓒ**

34. Pulsar is- *[B.B.-17]*
ⓐ Black hole ⓑ White dwarf
ⓒ Neutron star ⓓ Supernova **ⓒ**

35. Who proved that the universe is expanding? *[Ctg.B.-15]*
ⓐ Stephen Hawking ⓑ Edwin Hubble
ⓒ Newton ⓓ Einstein **b**

36. Big bang occurred in the- *[Ctg.B.-15]*
ⓐ Universe ⓑ Space
ⓒ Galaxy ⓓ Everywhere **d**

37. Which is still mysterious? *[Ctg.B.-15]*
ⓐ Length compression ⓑ Width compression
ⓒ Compression of universe
ⓓ Relativity **c**

38. The ultimate fate of stars whose mass is 3 times the mass of the sun is- *[R.B., B.B.-15]*
ⓐ Neutron star ⓑ White dwarf
ⓒ Black hole ⓓ Supernova **a**

39. Whose hypothesis was the big bang theory? *[Dj.B., C.B.-15]*
ⓐ George Gamow ⓑ George Lemaitre
ⓒ Hawking ⓓ Gold **b**

40. Every second, the sun radiates- *[Dj.B.-15]*
ⓐ 4×10^{26} J ⓑ 4×10^{27} J
ⓒ 4×10^{28} J ⓓ 4×10^{29} J **a**

41. The mass of supernova is how many times the mass of the sun? *[All Board-18]*
ⓐ 2 ⓑ 3
ⓒ 4 ⓓ 5 **a**

42. The mass of Oppenheimer Volkoff Limit is how many times the mass of the sun?
ⓐ 2.2 ⓑ 4.2
ⓒ 3.2 ⓓ 5.2 **c**

43. The mass of the sun is 1.99×10^{30} kg. If the mass of a star is 6 times the mass of the sun, its event horizon radius is- *[Dj.B.-15]*
ⓐ 2.95 km ⓑ 11.80 km
ⓒ 17.70 km ⓓ 35.40 km **c**

44. Of the total mass of the universe-
i. 73% is dark energy ii. 23% is dark matter
iii. 4% is visible matter
Which of the following is correct?
ⓐ i , ii ⓑ i , iii
ⓒ ii , iii ⓓ i, ii , iii **d**

45. Properties of comets-
i. Diameter is a few kilometers
ii. Orbit is eccentric
iii. Tail resembles a broom
Which of the following is correct?
ⓐ i, ii ⓑ i, iii
ⓒ ii, iii ⓓ i, ii, iii **d**

46. Properties of stars-
i. Has own light
ii. Most are smaller than the sun
iii. Born from dust and gas
Which of the following is correct?
ⓐ i , ii ⓑ i , iii
ⓒ ii , iii ⓓ i, ii , iii **c**

47. The ultimate fate of the universe depends on- *[D.B.-15]*
i. Structure of universe ii. Dark energy
iii. Dark matter
Which of the following is correct?
ⓐ i , ii ⓑ i , iii
ⓒ ii , iii ⓓ i, ii , iii **d**

48. Stars are born from-
i. Merging of gas and clouds
ii. Hydrogen fusion
iii. Helium fusion
Which of the following is correct?
ⓐ i , ii ⓑ i , iii
ⓒ ii , iii ⓓ i, ii , iii **a**

49. The theories of the ultimate fate of the universe are-
i. The big squeeze ii. Big rip
iii. Big freeze
Which of the following is correct?
ⓐ i , ii ⓑ i , iii
ⓒ ii , iii ⓓ i, ii , iii **d**