PHYSICS QUESTION AND ANSWER

1. The range of vision of normal human eye is from:
2. 100m to 25cm
3. Infinity to 25m
4. 1km to 25cm
5. Infinity to 25cm

Option D

1. Stars twinkle due to:
2. Atmospheric refraction
3. Atmospheric reflection
4. Scattering of light
5. Dispersion of light
6. Name the two phenomenon involved in the formation of rainbow
7. Dispersion and reflection of light
8. Refraction and reflection of light
9. Scattering and refraction of light
10. Scattering and reflection of light
11. Unit of electrical current is:
12. Ampere
13. Coloumb
14. Joule
15. Votl
16. An electric bulb is connected to 220 V generator. The Current is 0.50 A. What is the power of bulb?
17. 110 watt
18. 100 watt
19. 220 watt
20. 55 watt
21. The electric device used for producing electric current is called a:
22. Generator
23. Galvanometer
24. Ammeter
25. Motor
26. At the time of short circuit the current in the circuit :
27. Reduces substantially
28. Does not change
29. Increases heavily
30. Vary continuously
31. What kind of mirror would be best suited for use in Solar Cooker?
32. Concave
33. Convex
34. Plain
35. Plano-concave
36. A Solar water heater cannot be used to get hot water on:
37. Cloudy day
38. Sunny day
39. A hot day
40. A windy day
41. The change in focal length of an eye lens is caused by the action of
42. Pupil
43. Retina
44. Ciliary muscle
45. Iris
46. The phenomenon of splitting of white light through prism into a band of colours is called.
47. Dispersion of light
48. Reflection of light
49. Refraction of light
50. Scattering of light
51. The minimum distance between source and reflecting surface for echo is:
52. 10.2m
53. 17.2m
54. 20.4m
55. 27.4m
56. If the time period is 0.02 second, then frequency will be:
57. 50Hz
58. 5Hz
59. 0.02Hz
60. 500Hz
61. In SONAR, we use:
62. Audible sound
63. Radio sound
64. Ultra sound
65. Infra sound
66. The velocity of an object becomes double then its kinetic energy will be:
67. Kinetic energy does not depend on velocity
68. Two times
69. Four times
70. Eight times
71. Maximum Work is done, when the angle between force and displacement is:
72. 60°
73. 45°
74. 30°
75. 0°
76. An object of mass 2kg is lifted up to height 2 m. The work done will be?
77. 39.20 J
78. 9.80 J
79. 98 J
80. 980 J
81. SI Unit of gravitational constant (G) is :
82. Nm² kg¯¹
83. Nm kg¯²
84. N²m kg¯²
85. Nm² kg¯²
86. Mass of a man is 60 kg, his mass on the moon will be:
87. 60kg
88. 10kg
89. 98 kg
90. 0 kg
91. The mass of a goods lorry is 3500 Kg and the mass of goods loaded on it is 1500 Kg. If the lorry is moving with a velocity 10 m/s. What will be its momentum?
92. 25000 Kg m/s
93. 30000 Kg m/s
94. 40000 Kg m/s
95. 50000 Kg m/s

Answers:

1. D
2. B
3. B
4. A
5. A
6. A
7. C
8. A
9. A
10. C
11. A
12. B
13. A
14. B
15. B
16. C
17. A
18. D
19. B
20. D

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| 1. | Radiocarbon is produced in the atmosphere as a result of |
| |  |  | | --- | --- | | [**A.**](about:blank) | collision between fast neutrons and nitrogen nuclei present in the atmosphere | | [**B.**](about:blank) | action of ultraviolet light from the sun on atmospheric oxygen | | [**C.**](about:blank) | action of solar radiations particularly cosmic rays on carbon dioxide present in the atmosphere | | [**D.**](about:blank) | lightning discharge in atmosphere | |

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| 2. | It is easier to roll a stone up a sloping road than to lift it vertical upwards because |
| |  |  | | --- | --- | | [**A.**](about:blank) | work done in rolling is more than in lifting | | [**B.**](about:blank) | work done in lifting the stone is equal to rolling it | | [**C.**](about:blank) | work done in both is same but the rate of doing work is less in rolling | | [**D.**](about:blank) | work done in rolling a stone is less than in lifting it | |

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| 3. | The absorption of ink by blotting paper involves |
| |  |  | | --- | --- | | [**A.**](about:blank) | viscosity of ink | | [**B.**](about:blank) | capillary action phenomenon | | [**C.**](about:blank) | diffusion of ink through the blotting | | [**D.**](about:blank) | siphon action | |

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| 4. | Siphon will fail to work if |
| |  |  | | --- | --- | | [**A.**](about:blank) | the densities of the liquid in the two vessels are equal | | [**B.**](about:blank) | the level of the liquid in the two vessels are at the same height | | [**C.**](about:blank) | both its limbs are of unequal length | | [**D.**](about:blank) | the temperature of the liquids in the two vessels are the same | |

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| 5. | Large transformers, when used for some time, become very hot and are cooled by circulating oil. The heating of the transformer is due to |
| |  |  | | --- | --- | | [**A.**](about:blank) | the heating effect of current alone | | [**B.**](about:blank) | hysteresis loss alone | | [**C.**](about:blank) | both the heating effect of current and hysteresis loss | | [**D.**](about:blank) | intense sunlight at noon | |

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| 6. | Nuclear sizes are expressed in a unit named |
| |  |  | | --- | --- | | [**A.**](about:blank) | Fermi | | [**B.**](about:blank) | angstrom | | [**C.**](about:blank) | newton | | [**D.**](about:blank) | tesla | |

Answers:

1 A

2 D

3 B

4 B

5 C

6 A

|  |  |
| --- | --- |
| 7. | Light year is a unit of |
| |  |  | | --- | --- | | [**A.**](about:blank) | time | | [**B.**](about:blank) | distance | | [**C.**](about:blank) | light | | [**D.**](about:blank) | intensity of light | |

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| 8. | Mirage is due to |
| |  |  | | --- | --- | | [**A.**](about:blank) | unequal heating of different parts of the atmosphere | | [**B.**](about:blank) | magnetic disturbances in the atmosphere | | [**C.**](about:blank) | depletion of ozone layer in the atmosphere | | [**D.**](about:blank) | equal heating of different parts of the atmosphere | |

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| 9. | Light from the Sun reaches us in nearly |
| |  |  | | --- | --- | | [**A.**](about:blank) | 2 minutes | | [**B.**](about:blank) | 4 minutes | | [**C.**](about:blank) | 8 minutes | | [**D.**](about:blank) | 16 minutes | |

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| 10. | Stars appears to move from east to west because |
| |  |  | | --- | --- | | [**A.**](about:blank) | all stars move from east to west | | [**B.**](about:blank) | the earth rotates from west to east | | [**C.**](about:blank) | the earth rotates from east to west | | [**D.**](about:blank) | the background of the stars moves from west to east | |

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| 11. | Pa(Pascal) is the unit for |
| |  |  | | --- | --- | | [**A.**](about:blank) | thrust | | [**B.**](about:blank) | pressure | | [**C.**](about:blank) | frequency | | [**D.**](about:blank) | conductivity | |

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| 12. | Planets do not twinkle because |
| |  |  | | --- | --- | | [**A.**](about:blank) | they emit light of a constant intensity | | [**B.**](about:blank) | their distance from the earth does not change with time | | [**C.**](about:blank) | they are very far away from the earth resulting in decrease in intensity of light | | [**D.**](about:blank) | they are nearer to earth and hence we receive a greater amount of light and, therefore minor variations in the intensity are not noticeable | |

ANSWERS

7 B

8 A

9 C

10 B

11 B

12 D

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| 13. | Metals are good conductors of electricity because |
| |  |  | | --- | --- | | [**A.**](about:blank) | they contain free electrons | | [**B.**](about:blank) | the atoms are lightly packed | | [**C.**](about:blank) | they have high melting point | | [**D.**](about:blank) | All of the above |   **Answer:** Option **A** |

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| 14. | Let a thin capillary tube be replaced with another tube of insufficient length then, we find water |
| |  |  | | --- | --- | | [**A.**](about:blank) | will overflow | | [**B.**](about:blank) | will not rise | | [**C.**](about:blank) | depressed | | [**D.**](about:blank) | change its meniscus |   **Answer:** Option **B** |

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| 15. | Out of the following pairs, choose the pair in which the physical quantities do not have identical dimension? |
| |  |  | | --- | --- | | [**A.**](about:blank) | Pressure and Young's modules | | [**B.**](about:blank) | Planck's constant and Angular momentum | | [**C.**](about:blank) | Impulse and moment of force | | [**D.**](about:blank) | Force and rate of change of linear momentum |   **Answer:** Option **C** |

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| 16. | If two bodies of different masses, initially at rest, are acted upon by the same force for the same time, then the both bodies acquire the same |
| |  |  | | --- | --- | | [**A.**](about:blank) | velocity | | [**B.**](about:blank) | momentum | | [**C.**](about:blank) | acceleration | | [**D.**](about:blank) | kinetic energy |   **Answer:** Option **B** |

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| 17. | Pick out the scalar quantity |
| |  |  | | --- | --- | | [**A.**](about:blank) | force | | [**B.**](about:blank) | pressure | | [**C.**](about:blank) | velocity | | [**D.**](about:blank) | acceleration |   **Answer:** Option **B** |

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| 18. | Rectifiers are used to convert |
| |  |  | | --- | --- | | [**A.**](about:blank) | Direct current to Alternating current | | [**B.**](about:blank) | Alternating current to Direct current | | [**C.**](about:blank) | high voltage to low voltage | | [**D.**](about:blank) | low voltage to high voltage |   **Answer:** Option **B** |

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| 19. | out of the following, which is not emitted by radioactive substance? |
| |  |  | | --- | --- | | [**A.**](about:blank) | Electrons | | [**B.**](about:blank) | Electromagnetic radiations | | [**C.**](about:blank) | Alpha particles | | [**D.**](about:blank) | Neutrons |   **Answer:** Option **D** |

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| 20. | Sound waves in air are |
| |  |  | | --- | --- | | [**A.**](about:blank) | transverse | | [**B.**](about:blank) | longitudinal | | [**C.**](about:blank) | electromagnetic | | [**D.**](about:blank) | polarised |   **Answer:** Option **B** |

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| 21. | Magnetism at the centre of a bar magnet is |
| |  |  | | --- | --- | | [**A.**](about:blank) | minimum | | [**B.**](about:blank) | maximum | | [**C.**](about:blank) | zero | | [**D.**](about:blank) | minimum or maximum |   **Answer:** Option **C** |

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| 22. | It is more difficult to walk on a sandy road than on a concrete road because |
| |  |  | | --- | --- | | [**A.**](about:blank) | sand is soft and concreter is hard | | [**B.**](about:blank) | the friction between sand and feet is less than that between concrete and feet | | [**C.**](about:blank) | the friction between sand and feet is more than that between concrete and feet | | [**D.**](about:blank) | the sand is grainy but concrete is smooth |   **Answer:** Option **B** |

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| 23. | Find the maximum velocity for the overturn of a car moving on a circular track of radius 100 m. The co-efficient of friction between the road and tyre is 0.2 |
| |  |  | | --- | --- | | [**A.**](about:blank) | 0.14 m/s | | [**B.**](about:blank) | 140 m/s | | [**C.**](about:blank) | 1.4 km/s | | [**D.**](about:blank) | 14 m/s |   **Answer:** Option **D** |

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| 24. | Of the following properties of a wave, the one that is independent of the other is its |
| |  |  | | --- | --- | | [**A.**](about:blank) | amplitude | | [**B.**](about:blank) | velocity | | [**C.**](about:blank) | wavelength | | [**D.**](about:blank) | frequency |   **Answer:** Option **A** |

25.

Lux is the SI unit of

A. intensity of illumination

B. luminous efficiency

C. luminous flux

D. luminous intensity

Answer: Option A

26.

On a rainy day, small oil films on water show brilliant colours. This is due to

A. dispersion

B. interference

C. diffraction

D. polarization

Answer: Option B

27.

Point A is at a lower electrical potential than point B. An electron between them on the line joining them will

A. move towards A

B. move towards B

C. move at right angles to the line joining A and B

D. remain at rest

Answer: Option B

28.

Materials for rain-proof coats and tents owe their water-proof properties to

A. surface tension

B. viscosity

C. specific gravity

D. elasticity

Answer: Option A

29.

RADAR is used for

A. locating submerged submarines

B. receiving a signals in a radio receiver

C. locating geostationary satellites

D. detecting and locating the position of objects such as aeroplanes

Answer: Option D

30.

Sound of frequency below 20 Hz is called

A. audio sounds

B. infrasonic

C. ultrasonic

D. supersonics

Answer: Option B

31.

On a clean glass plate a drop of water spreads to form a thin layer whereas a drop of mercury remains almost spherical because

A. mercury is a metal

B. density of mercury is greater than that of water

C. cohesion of mercury is greater than its adhesion with glass

D. cohesion of water is greater than its adhesion with glass

Answer: Option C

32.

Suitable impurities are added to a semiconductor depending on its use. This is done in order to

A. increase its life

B. enable it to withstand higher voltages

C. increase its electrical conductivity

D. increase its electrical resistivity

Answer: Option C

33.

Stars twinkle because

A. the intensity of light emitted by them changes with time

B. the distance of the stars from the earth changes with time

C. the refractive index of the different layers of the earth's atmosphere changes continuously, consequently the position of the image of a start changes with time

D. the light from the star is scattered by the dust particles and air molecules in the earth's atmosphere

Answer: Option C

34.

It takes much longer to cook food in the hills than in the plains, because

A. in the hills the atmospheric pressure is lower than that in the plains and therefore water boils at a temperature lower than 100oC causing an increase in cooking time

B. due to low atmospheric pressure on the hills, the water boils at a temperature higher than 100oC and therefore water takes longer to boil

C. in the hills the atmospheric density is low and therefore a lot of heat is lost to the atmosphere

D. in the hills the humidity is high and therefore a lot of heat is absorbed by the atmosphere leaving very little heat for cooking

Answer: Option A

35.

Moment of inertia is

A. vector

B. scalar

C. phasor

D. tensor

Answer: Option D

36.

Of the following natural phenomena, tell which one known in Sanskrit as 'deer's thirst'?

A. Rainbow

B. Earthshine

C. Halo

D. Mirage

37.

Inside an aeroplane, flying at a high altitude,

A. the pressure is the same as that outside

B. normal atmospheric pressure is maintained by the use of air pumps

C. the pressure inside is less than the pressure outside

D. normal humidity and partial vacuum are maintained

Answer: Option B

38.

Sound travels with a different speed in media. In what order does the velocity of sound increase in these media?

A. Water, iron and air

B. Iron, air and water

C. Air, water and iron

D. Iron, water and air

Answer: Option C

39.

One thousand microns is equal to

A. 10-3m

B. 10-6m

C. 10-9m

D. 10-12m

Answer: Option A

40.

Sound travels at the fastest speed in

A. steel

B. water

C. air

D. vacuum

Answer: Option A

41.

oil raise up the wick in a lamp. The principle involves

A. the diffusion of oil through the wick

B. the liquid state of oil

C. capillary action phenomenon

D. volatility of oil

Answer: Option C

42.

Superconductors are substances which

A. conduct electricity at low temperature

B. offer high resistance to the flow of current

C. offer no resistance to the flow of electricity

D. conduct electricity at high temperatures

Answer: Option C