NDA II 2016_General Ability

Total Time: 150

Total Marks: 600.0

Solution 1

My friend was ***habitual to drive a car*** at very high speed.

Explanation :
My friend was habitual of driving at very high speed

Hence, the correct answer is **option B**.

Solution 2

Being a day of national mourning the offices were closed and the national flag flew half-mast.

Explanation :
It being a day of national mourning the offices were closed and the national flag flew half-mast.

Hence, the correct answer is **option A**.

Solution 3

If you are wanting to watch the birds nesting you must not let them see you.

Explanation :
If you want to watch the birds nesting you must not let them see you.

Hence, the correct answer is **option A**.

Solution 4

He does not listen to what I say ***although I am advising him for a long time***.

Explanation :
He does not listen to what I say although I have been advising him for a long time.

Hence, the correct answer is **option C**.

Solution 5

It is most essential for us to reach the station before noon lest we should miss the train.

Explanation :
It is essential for us to reach the station before noon lest we should miss the train.

Hence, the correct answer is **option A**.

Solution 6

There is ***no error*** in the given statement.

Hence, the correct answer is **option D**.

Solution 7

The guards dare not ***to harm him***.

Explanation :
The guards dare not harm him.

Hence, the correct answer is **option C**.

Solution 8

There is ***no error*** in the given statement.

Hence, the correct answer is **option D**.

Solution 9

The king was embarrassed to find evidence ***against his own queen.***

Explanation :
The king was embarrassed to find evidence against the queen.

Hence, the correct answer is **option C**.

Solution 10

As I prefer coffee than tea my friends always take the trouble to get me a cup of coffee whenever I visit them.

Explanation :
As I prefer coffee to tea my friends always take the trouble to get me a cup of coffee whenever I visit them.

Hence, the correct answer is **option A**.

Solution 11

Generosity shown to guests is a virtue for which the natives of the East in general are highly admired.

Explanation :
The antonym of hospitality is hostility.

Hence, the correct answer is **option B**.

Solution 12

House rent in cities like Mumbai or Delhi has risen to ***exorbitant*** figures beyond the reach of even high-salaried people.

Explanation :
The antonym of astronomical is little, small or insignificant.

Hence, the correct answer is **option A**.

Solution 13

Suitable technology holds the key to a Nation's development.

Explanation :
The antonym of appropriate is irrelevant.

Hence, the correct answer is **option B**.

Solution 14

He was ***very fond of*** of his own golden voice.

Explanation :
The antonym of enamored is disenchanted.

Hence, the correct answer is **option A**.

Solution 15

Some journalists are guilty of indulging in ***sensational reporting***.

Explanation :
The antonym of yellow journalism is ordinary or usual.

Hence, the correct answer is **option C**.

Solution 16

The culprit was ***acquitted*** by the Court.

Explanation :
The synonym of sentenced is free or let go off.

Hence, the correct answer is **option A**.

Solution 17

Extravagant as he is, he can well afford to live within his means.

Explanation :
The synonym of thrifty is stingy.

Hence, the correct answer is **option D**.

Solution 18

Do not give him a responsible job, he is ***seasoned***.

Explanation :
The synonym of immature is childish.

Hence, the correct answer is **option D**.

Solution 19

I was prepared ***to conceal my plan*** provided he agreed to do the same.

Explanation :
The synonym of to show my hand is to reveal.

Hence, the correct answer is **option C**.

Solution 20

Akbar, the great, was a ***unwise*** ruler.

Explanation :
The synonym of sagacious is wise or clever.

Hence, the correct answer is **option D**.

Solution 21

She has been lying in bed for the last fortnight. I hope she will ***pull through***.

Hence, the correct answer is **option C**.

Solution 22

The path of progress is beset ***with*** difficulties.

Hence, the correct answer is **option A**.

Solution 23

I feel ***contempt*** for those, who are cruel to their children.

Hence, the correct answer is **option B**.

Solution 24

Both the parties were keen to have an ***amicable*** settlement of the dispute.

Hence, the correct answer is **option D**.

Solution 25

I have come to know that the two brothers have ***fallen out***.

Hence, the correct answer is **option B**.

Solution 26

Everybody finds his own work ***tedious*** whereas he feels that others have delightful jobs.

Hence, the correct answer is **option A**.

Solution 27

The accident took place because of the criminal ***negligence*** of the driver.

Hence, the correct answer is **option C**.

Solution 28

The belief in the ***efficacy*** of vaccination is gaining ground.

Hence, the correct answer is **option C**.

Solution 29

Our new leader is a ***dynamic*** young man and will take us forward.

Hence, the correct answer is **option D**.

Solution 30

They found a world of ***difference*** between what he said and what he did.

Hence, the correct answer is **option C**.

Solution 31

The correct code is ***S, P, R, Q***.

Explanation :
The statement will be made just once therefore you must listen carefully in order to understand what the speaker has said.

Hence, the correct answer is **option A**.

Solution 32

The correct code is ***S, Q, R, P.***

Explanation :
The small boy who climbed the wall fell down and broke his leg.

Hence, the correct answer is **option B**.

Solution 33

The correct code is ***Q, S, R, P.***

Explanation :
According to an engineer a newly developed air-cooler system which is based on a principle radically different that employed in conventional room coolersfrom might hit the market next year.

Hence, the correct answer is **option C**.

Solution 34

The correct code is ***Q, P, S, R.***

Explanation :
The clerk left the money on the desk which he should have locked up in the safe.

Hence, the correct answer is **option D**.

Solution 35

The correct code is ***P, R, Q, S.***

Explanation :
Hardly had my brother descended from the plane when the people who had come to receive him waved and cheered from the lounge.

Hence, the corect answer is **option D**.

Solution 36

The correct code is ***R, S, Q, P.***

Explanation :
The essay is a literary form which is not easy to define because its variety is infinite like that of the human face.

Hence, the correct answer is **option C**.

Solution 37

The correct code is ***S, R, Q, P.***

Explanation :
The exhibition committee has been making efforts to make the exhibition attractive and useful.

Hence, the correct answer is **option B**.

Solution 38

My old teacher gave many poor students money ***even though*** of he was poor.

Hence, the correct answer is **option A**.

Solution 39

You ***have to*** read the newspapers regularly, if you want to be well-informed.

Hence, the correct answer is **option B**.

Solution 40

If he had ***listened to me***, he would not have got lost.

Hence, the correct answer is **option B**.

Solution 41

He asked for a bank loan ***because*** he did not have sufficient resources.

Hence, the correct answer is **option A**.

Solution 42

I went to the shop to buy some ***stationery***.

Hence, the correct answer is **option A**.

Solution 43

There is ***no improvement*** required in the given statement.

Hence, the correct answer is **option D**.

Solution 44

There is ***no improvement*** required in the given statement.

Hence, the correct answer is **option D**.

Solution 45

It began to rain heavily just when I ***was preparing*** to go out.

Hence, the correct answer is **option B**.

Solution 46

The couple seemed to love ***each other*** very much.

Hence, the correct answer is **option C**.

Solution 47

There is ***no improvement*** required for the given statement.

Hence, the correct answer is **option D**.

Solution 48

If I were a millionaire, I ***would help*** the poor.

Hence, the correct answer is **option C**.

Solution 49

There is ***no improvement*** required for the given statement.

Hence, the correct answer is **option D**.

Solution 50

There is ***no improvement*** required for the given statement.

Hence, the correct answer is **option D**.

Solution 51

Both the statements are true, but Statement II is not the correct explanation of Statement I.

Hence, the correct answer is **option B**.

Solution 52

Ozone is a gas composed of three atoms of oxygen. It is present in the form of a layer in upper stratosphere, and absorbs the ultra-violet radiations coming out from sun. Thus it prevents the living organisms present on Earth from the harmful effects of the UV rays. So both the given statements are correct. However, statement II does not explains statement I.

Hence, the correct answer is option B.

Solution 53

Both the statements are true and Statement II is the correct explanation of Statement I.

Hence, the correct answer is **option A**.

Solution 54

Intake of extra salt in diet can result in kidney failure. This is so because high concentration of salt in blood results in high blood pressure. This causes arteries around the blood to narrow down or weaken. As a result, the blood supply to the kidneys is obstructed. In addition, a high salt diet alters the sodium concentration in the kidney, resulting in lesser removal of water. This further increases the blood pressure. Thus, both the statements are correct, and statement II is correct explanation of statement I.

Hence, the correct answer is option A.

Solution 55

Both the statements are true and Statement II is the correct explanation of Statement I.

Hence, the correct answer is **option A**.

Solution 56

Both the statements are true, but Statement II is not the correct explanation of Statement I.

Hence, the correct answer is **option B**.

Solution 57

'Sahel' region of Sahara desert is associated with ***the core area of Sahara desert.***

Explanation :
The Sahel region of Africa is a 3,860-kilometre arc-like land mass lying to the immediate south of the Sahara Desert and stretching east-west across the breadth of the African continent.

Hence, the correct answer is **option A**.

Solution 58

Out of the aforementioned options, ***Narmada : Amaravati*** are not correctly matched pairs of river and tributaries.

Explanation :
The Amaravati River is the longest tributary of Kaveri River in South India.
Importrant tributaries of Narmda river are Banjar river, Sher river, Dudhi river, Tawa river, Karjan river, Hiran river, etc.

Hence, the correct answer is **option C**.

Solution 59

The Mediterranean type of biome is found in ***Chile***.

Explanation :
Mediterranean forests, woodlands, and scrub are generally characterized by dry summers and rainy winters, although in some areas rainfall may be uniform.

Hence, the correct answer is **option A**.

Solution 60

The correct order of state is ***3 - 2 - 1 - 4***.

Explanation :
Maharashtra - 112,374,333
Bihar - 104,099,452
West Bengal - 91,276,115
Andhra Pradesh - 84,580,777

Hence, the correct answer is **option B**.

Solution 61

The correct code is ***A-2, B-1, C-4, D-3.***

Explanation :
Danube - Black Sea
The Danube is Europe's second longest river and is located in Central and Eastern Europe.
Rhine - North Sea
The Rhine is one of the longest and most important river in Europe. It runs for over 1,232 km from its source in the Swiss Alps (in Switzerland), issuing from the Rheinwaldhorn Glacier 3,353 m above sea level.

Rhone - Mediterranean Sea
The Rhone River originates in Switzerland, from the Rhone Glacier in the Swiss Alps.

Loire - Bay of Biscay
Loire River is the longest river in flowing in France to the Atlantic Ocean.

Hence, the correct answer is **option A**.

Solution 62

Heating camphor is an example of sublimation. It is a process of conversion of a substance from its solid state directly to the gaseous state.
Cooling of water vapours results in formation of liquid water. Thus it is an example of condensation process, in which a substance is converted from its gaseous state to its liquid state. Cooking an egg is an example of chemical change, as the cooked egg cannot be reversed back to its original state. Formation of water vapours at room temperature is an example of evaporation, a process in which a liquid substance is converted to its gaseous state at any temperature below its melting point.

Hence, the correct answer is option A.

Solution 63

Radon is a noble gas that has zero valency. It has completely filled valence shell and thus show very less reactivity.

Hence, the correct answer is option D.

Solution 64

Atomic number of an element is equivalent to the number of protons found in its atom. So, the atomic number of the given element is 6.

Hence, the correct answer is option A.

Solution 65

The mass 1 mole of a substance is equal to its relative atomic or molecular mass in grams.

1 mole = 6.022×10^{23}

1 g hydrogen = 6.022×10^{23}atoms

3g hydrogen = $3 \times 6.022 \times 10^{23}$atoms = $\frac{3}{2} \times 6.022 \times 10^{23}$ molecules (Since hydrogen is a diatomic molecule.)

= 9.033×10^{23} molecules.

Similarly, 16 g oxygen = 6.022×10^{23} atoms

48 g oxygen = $3 \times 6.022 \times 10^{23}$ $\left(16 \times 3 = 48\right)$ atoms = $\frac{3}{2} \times 6.022 \times 10^{23}$ molecules (As oxygen is a diatomic molecule.)

For Nitrogen,

14 g Nitrogen = 6.022×10^{23} atoms

42 g Nitrogen = $3 \times 6.022 \times 10^{23}$ $\left(14 \times 3 = 42\right)$ atoms = $\frac{3}{2} \times 6.022 \times 10^{23}$molecules (As nitrogen is a diatomic molecule.)

For carbon,

1 mole of carbon= 6.022×10^{23}

= $\frac{2}{12} \times 6.022 \times 10^{23}$ molecules (As carbon is a monoatomic molecule.)

$\therefore$ 2g of carbon contains a different number of molecules.

Hence, the correct answer is option D.

Solution 66

The law of mixing volumes (for gases) states that gases follow Gay-lussac's law when they react with each other.

$$N_2 + 3H_2 \xrightarrow[450-500^oC]{Fe/Mo} 2NH_3 + Heat$$

Hence, the correct answer is option B.

Solution 67

Both the given statements are correct. Cactus is a xerophytic plant, which exhibits number of modifications in order to adapt to desert habitat. It has highly reduced leaves, in form of spines, that help in reducing the loss of water through transpiration. In place of leaves, the function of food production is taken over by stem, which becomes photosynthetic and synthesises food.

Hence, the correct answer is option C.

Solution 68

Methanogens are anaerobic bacteria, i.e. they live in the absence of oxygen. They cannot function under aerobic conditions. Methanogens are commonly found in rumen of cattle, cattle dung, welands, sewage treatment plants, etc.

Hence, the correct answer is option B.

Solution 69

Malaria is caused by a parasitic protozoan, called *Plasmodium*. This protozoan has two hosts, humans and female *Anopheles* mosquito. It is spread among the humans through the bites of infected mosquitoes.

Hence, the correct answer is option B.

Solution 70

With refernce to biodiversity, all the given statements are correct. Biodiversity hot spots are identified on the basis of species richness and degree of endemism. At tropics, due to warm and humid climate, species diversity is highest, whereas at pole, it is lowest. Biodiversity conservation can be done *in situ* (as in national parks or wildlife sanctuaries) or *ex situ* (as in botanical gardens or zoological parks).

Hence, the correct answer is option C.

Solution 71

Viruses are difficult to kill because they lack any cellular structure of their own. They enter a host cell and use its cellular machinery to synthesise their own proteins. This makes it very difficult to synthesis any target based medicines for them.

Hence, the correct answer is option C.

Solution 72

When a ray of light enters a glass slab, i.e. enters a denser medium from a rarer medium, its speed and wavelength decrease. The frequency of the light ray, however, remains unchanged.

Hence, the correct answer is option C.

Solution 73

Initial velocity, u = 25.2 m/s
Final velocity, v = 0
Acceleration, $a = -g = -9.8\ m/s^2$

From equation of motion, we have
$v = u + at$
$0 = 25.2 + (-9.8)t$
$t = 2.57$ s

Hence, the correct answer is option C.

Solution 74

One kilowatt hour is equal to 3.6×10^6 J, or 36×10^5 J.

Hence, the correct answer is option B.

Solution 75

When sound waves propagate through a medium, the physical quantity that is transmitted is energy. The sound waves travelling through a medium set the molecules of that medium in vibration, hence transmitting the energy through one molecule to the other.

Hence, the correct answer is option B.

Solution 76

Pressure is a scalar quantity because it is the ratio of component of force (normal to area) to the area.

Hence, the correct answer is option C.

Solution 77

A person who is unable to read newspapers without glasses is likely to suffer from presbyopia. It is an eye defect associated with ageing. In older age the eye lens becomes hard, losing its ability to focus on nearby objects. Such persons find it difficult to see nearby objects or to read. Presbyopia can be corrected by using bifocal lens.

Hence, the correct answer is option B.

Solution 78

The reason for increase in the value of g at the poles is the shape of the Earth. Earth has an ellipsoidal shape, with its equatorial radius being almost 21 km greater than the polar radius. Thus, a point at the pole is closer to the dense core of Earth than a point on the equator. Due to this, the free-fall acceleration, g, increases as one proceeds at sea level, from the equator towards either pole.

Hence, the correct answer is option C.

Solution 79

A spring balance cannot be used to measure mass (which is a constant quantity) at any place. It measures only weight of a body, which varies at different places due to difference in value of g.

Hence, the correct answer is option D.

Solution 80

Among the given alternatives, gravitational force is not a contact force, as there is no requirement of physical contact between two bodies experiencing gravitational force.

Hence, the correct answer is option B.

Solution 81

According to the Newton's second law of motion,

$F = ma$

As given in the question,
$F = 1$ N
$M = 1$ kg

So, $1 = 1 \times a$

$a = 1$ m/s^2

Hence, the correct answer is option B.

Solution 82

Electric fuse is the device that is used in the household wiring to prevent accidental fire in case of short circuit. It is made up of a wire of low melting point. If the current passing through a circuit exceeds the safe limit, fuse wire melts down and breaks the circuit, hence, preventing the condition of short circuiting.

Hence, the correct answer is option D.

Solution 83

The correct code is ***2 and 4 only***.

Explanation :
Utilitarianism is the principle where happiness of people in the society is considered to the the best. Key proponents were :

- Jeremy Bentham
- John Stuart Mill

- Henry Sidgwick
- Richard Mervyn Hare
- Peter Singer

Hence, the correct answer is **option B**.

Solution 84

Edmund Cartwright invented the power-loom that revolutionised the cotton textile industry.

Explanation :
Edmund Cartwright designed his first power loom in 1784 and patented it in 1785.

Hence, the correct answer is **option A.**

Solution 85

Subsidiary Alliance was a system devised by ***Lord Wellesley***.

Explanation :
From 1757 to 1857 , the East India Company used a variety of political, economic and diplomatic methods to annex Indian kingdoms. The subsidiary alliance was one such method. According to the terms of this alliance, Indian rulers were not allowed to have their independent armed forces. They were to be protected by the Company, and had to pay for the "subsidiary forces" that the Company had to maintain for the purpose of protecting them. If Indian rulers failed to make the payment, then part of their territory was taken away as penalty. For example, in 1801, the nawab of Awadh was forced to give over half of his territory to the Company for failing to pay for the "subsidiary forces".

Hence, the correct answer is **option A**.

Solution 86

Out of the aforementioned options, only ***statement 1*** is correct.

Explanation :
The Erythraean Sea is the name in ancient cartography for a body of water located between the Horn of Africa and the Arabian peninsula. The name is now obsolete.

Hence, the correct answer is **option A**.

Solution 87

Sun Yu was defeated by Saina Nehwal to win the women's title of the

Australian Open Super Series Badminton Tournament 2016.

Explanation :
Saina defeated Sun Yu by 11-21, 21-14, 21-19 score.

Hence, the correct answer is **option A**.

Solution 88

The person referred to above is ***Inder Malhotra***.

Explanation :
He was an was an Indian journalist and editor for The Statesman and the Times of India; and authored a political and personal biography of Indira Gandhi. His cause of death was cardiac arrest and his memorial service was held on 14th June 2016 at Chinmaya Mission, New Delhi.

Hence, the correct answer is **option C**.

Solution 89

Achyut Lahkar, who died recently, was a ***mobile theatre personality***.

Explanation :
He founded the popular Natraj Theatre at Pathsala (Assam) in 1963 and performed various dramas all over Assam. He was awarded the Kamal Kumari National Award in 1997.

Hence, the correct answer is **option C**.

Solution 90

Microsoft has recently announced its 26.2 billion acquisition with ***LinkedIn*** which is a professional networking site.

Explanation :
The company started in December 2002, and the website opened May 5, 2003.

Hence, the correct answer is **option D**.

Solution 91

The correct code is ***1 and 4 only***.

Explanation :
The Mediterranean regions fall under the influence of wet westerlies wind during the winter season due to shifting of world pressure belts this is the reason that Mediterranean region receive rainfall in winter season.

Hence, the correct answer is **option B**.

Solution 92

The correct code is ***3, 4, 1, 2.***

Explanation :
Arunachal Pradesh - 79.96%

Madhya Pradesh - 25.11%

Jharkhand - 29.55%

Chhattisgarh - 41.09%

Hence, the correct answer is **option C**.

Solution 93

The correct code is ***1 and 3 only.***

Explanation :
The highest percentage of SC population out of the total population of the state is found in Punjab. The Scheduled Caste population in Punjab is 88.60 lac which is 31.94% of the total population (277.43 lac) of the State.
Uttar Pradesh has the highest number of SC population in India, i.e. 41,357,608.

Hence, the correct answer is **option B**.

Solution 94

The maximum valency of an element is equal to the number of electrons present in the outermost orbitals of the valence shell. So, highest valency for sulphur is six, for phosphorus is five, for lead is four, and for silver is two.

Hence, the correct answer is option B.

Solution 95

Disproportionation is a specific type of redox reaction in which element from a reaction undergoes both oxidation and reduction to form different products. Perchlorate ion is not capable of showing disproportionation reaction, where chlorine avails at its maximum oxidation stage, i.e., +7 therefore, it cannot be reoxidised or reduced.

Hence, the correct answer is option D.

Solution 96

Covalent bonds are directional in nature. They are formed by sharing of electrons between atoms, i.e. by overlapping of atomic orbitals of participant atoms. These overlapping occur in specific orientations, limiting the spatial arrangement of of atoms and thus determining the direction of bonds.

Hence, the correct answer is option A.

Solution 97

The head of a matchstick is made up of potassium chlorate and antimony trisulphide, and the frictional surface is made of red phosphorus. When the match stick is rubbed against the striking surface, firstly the friction generates heat that converts a trace of a red phosphorus into white phosphorus. The white phosphorus formed immediately reacts with potassium chlorate in the match head to produce enough heat to ignite the antimony trisulphide and start the combustion.

Hence, the correct answer is option C.

Solution 98

The LPG cooking gas contains propane and butane, which are odourless and colourless in nature. Due to its explosive nature, it is very important to check it for leakage. To serve this purpose, a sulfur containing compound is added to the gas, such as ethyl mercaptan. Due to its characteristic smell, it helps in easy detection of leakage of LPG.

Hence, the correct answer is option C.

Solution 99

Bacteria are the primitive organisms that lack a well defined nucleus. Their genetic material lies freely in the cytoplasm in an irregularly shaped region, called nucleoid.

Hence, the correct answer is option B.

Solution 100

Horse and donkey belong to different species. Individuals of different species usually do not interbreed, and if they do, the offsprings produced are infertile. Due to this reason, a mule, which is produced by interspecific breeding of horse and donkey, is infertile in nature.

Hence, the correct answer is option C.

Solution 101

Deficiency of different minerals exhibit different signs and symptoms in a

plant species. A plant having yellow leaves with dead spots has the deficiency of potassium.

Hence, the correct answer is option A.

Solution 102

Flouride toothpaste are recommended for oral healthcare as flouride prevents plaque formation, thus preventing the tooth decay.

Hence, the correct answer is option A.

Solution 103

Along a streamline flow of fluid, the velocity of all fluid particles crossing a given position is constant.

Hence, the correct answer is option C.

Solution 104

According to the work-energy theorem,

Net work done = Change in kinetic energy

i.e. $W_{net} = KE_{final} - KE_{initial}$

If the net work done is positive, final kinetic energy will be higher than the initial kinetic energy, and if the net work done is negative, that means the final kinetic energy is less than the initial kinetic energy. So, the kinetic energy in the case of net positive work done will increase.

Hence, the correct answer is option B.

Solution 105

In simple harmonic motion, the speed of the particle is maximum at mean position whereas its acceleration is zero at that position. Hence, acceleration of the oscillating particle in simple harmonic motion is minimum when the particle posses maximum speed.

Hence, the correct answer is option C.

Solution 106

In simple harmonic motion, acceleration of a particle is related to displacement as

$a = -\omega^2 x$

Thus, from the given alternatives, the particle having acceleration, $a_x = -3x$ is executing simple harmonic motion.

Hence, the correct answer is option D.

Solution 107

According to Boyle's law, at a given temperature, the volume of a given mass of a gas is inversely proportional to its pressure. So the graph between the volume and inverse of pressure of an ideal gas will have a straight line curve.

Hence, the correct answer is option A.

Solution 108

The speed of sound waves in a medium depends on both elastic and inertia properties of a medium.

Hence, the correct answer is option D.

Solution 109

Loudness of sound is related not to the frequency, but to the amplitude of the sound. Frequency of a sound refers to the rate of vibrations of the sound. It is related to the pitch of the sound. Amplitude, on the other hand, refers to the magnitude of compression and expansion experienced by the medium the sound wave is travelling through. It is perceived as loudness.

Hence, the correct answer is option B.

Solution 110

Here, a = 1 cm
Now, for simple harmonic motion, the magnitude of velocity (V) and acceleration (A) of a particle is given as

$$V = \omega\sqrt{a^2 - y^2} \text{ and } A = \omega^2 y, \text{ respectively}$$

When, y = 1 cm, then

$$\omega\sqrt{a^2 - y^2} = \omega^2 y \left(\text{given}\right)$$

$$\Rightarrow \omega = \frac{\sqrt{a^2 - y^2}}{y} = \frac{\sqrt{2^2 - 1^2}}{1} = \sqrt{3} \text{ rad/s}$$

Thus, time period, T is

$$T = \frac{2\pi}{\omega} = \frac{2\pi}{\sqrt{3}} \text{ s}$$

Hence, the correct answer is option A.

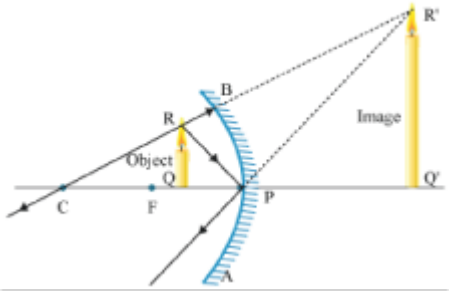
Solution 111

X-rays and gamma rays are both electromagnetic waves with slight differences in their wavelengths. X-rays have wavelengths ranging from 10^{-11} m to 10^{-8} m (10 pm to 10 nm), while gamma rays have wavelengths of 10^{-11} m (10 pm) or lower. X-rays are shorter in wavelength than UV rays and longer than gamma rays.

Hence, the correct answer is option C.

Solution 112

If the image of an object formed by a concave mirror is virtual, erect and magnified, then the object is placed between the pole of the mirror and the principal focus.



Hence, the correct answer is option D.

Solution 113

The equivalent resistance in parallel combination is given by:

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

According to the question, $R_p = x$

$$\frac{1}{x} = \frac{1}{r} + \frac{1}{r} + \frac{1}{r}$$

$$\frac{1}{x} = \frac{3}{r}$$

$$\text{or, } x = \frac{r}{3}$$

$$r = 3x$$

Now, in series combination, $R_s = R_1 + R_2 + R3$

$R_s = 3x + 3x + 3x = 9x$

Hence, the correct answer is option C.

Solution 114

The correct code is ***only 4***.

Explanation :
The new economic policy of India would refer to the economic reforms and liberalisation that have been undertaken by the Government of India since 1991. The reforms were precipitated by a balance of payments crisis faced by the Indian economy due to dwindling foreign exchange reserves in the aftermath of the Gulf War in 1990. This left India in danger of defaulting on its loans. The reform measures that were adopted included the following :

- Progressive lowering of tariffs, duties and taxes.
- State monopoly over certain sectors was ended and private participation was encouraged in many new sectors.
- Regulations governing foreign investment were liberalised allowing for inflow of funds into the country through institutional investors.
- Protectionist policies were abandoned and globalisation was embraced.

Hence, the correct answer is **option D**.

Solution 115

The correct code is ***2 and 3***.

Explanation :
The American War of Independence that lasted from 1775 to 1783 was a military conflict between Great Britain and her thirteen North American colonies that led to independence and the formation of the United States of America. The war originated in the resistance of many Americans to taxes imposed by the British parliament, which regarded as unlawful since their was no American representation in the British Parliament. The resistance to the British started in the colony of Massachusetts with the "Boston Tea Party" in 1774 in which protestors destroyed a shipment of tea in protest against the tea tax on Americans.

This incident escalated into military operations in which American forces united under the command of George Washington to battle the British armies stationed in North America. After initial reverses, Washington's forces managed to emerge victorious against the British armies. Lord Cornwallis, the commander of the British armies, surrendered in 1783. This led to the formation of the United States as the thirteen British colonies in the eastern coast of North America cam together to form a unified country. Even as the war was going on, Americans had formed

the Continental Congress to debate and draft the constitution for the country that they hoped would be formed after the war. The Congress, inspired by the ideals of democracy and liberty as espoused by philosophers like Thomas Paine and statesmen like Thomas Jefferson, declared independence of the American colonies from Britain on July 4, 1776. This was before the war had been won and this day is still celebrated as Independence Day in the United States. This event was marked by the adoption of the Declaration of Independence written by Thomas Jefferson. The Declaration proclaimed the independence of the thirteen American colonies from British rule. These thirteen colonies came together in 1787 to form the United States of America.

Hence, the correct answer is **option C**.

Solution 116

The correct code is ***1, 3 and 4***.

Explanation :
The industrial revolution refers to the period from mid-eighteenth to mid-nineteenth century that was characterised by advances in technology that ushered in the industrial age. The invention of steam engine and the subsequent development of railways took place during this time and boosted industrial activity by providing new and faster modes of transportation.

Hence, the correct answer is **option C**.

Solution 117

The correct code is ***1 and 2 both***.

Explanation :
Out of the aforementioned statements, both the given statements are correct.

Hence, the correct answer is **option C**.

Solution 118

Dinabandhu Mitra was the author of 'Neel Darpan' published in 1860.

Explanation :
The play depicted the plight of the indigo farmers who were forced to grow indigo on their land and the Indigo Revolt.

Hence, the correct answer is **option D**.

Solution 119

Satyashodhak Samaj was started by Jyotirao Phule in 1873.

Explanation :
Jyotirao Phule was a great social reformer, activist , scholar who hailed from Maharashtra. He is considered to be a pioneer in the field of girl's education, lower castes and the masses. The main objective of this 'Satyashodhak Samaj' was to improve the conditions of the oppressed people.

Hence, the correct answer is **option D**.

Solution 120

Although used earlier by French and German writers, the term 'Industrial Revolution' in English was first popularised by ***Arnold Toynbee.***

Explanation :
Arnold Toynbee was a British historian, philosopher of history, research professor of international history at the London School of Economics and the University of London.

Hence, the correct answer is **option B**.

Solution 121

In the 19th century, the majority of workers in Japan's modern industries were mainly ***women***.

Explanation :
Women in the 19th century were pioneers of feminism. They were crucial in changing the gender roles and stereotypes. Notions like a women have to be feminine and graceful was emphasised. However, the Industrialisation and modernisation allowed women to be independent. They empowered themselves. The empowerment led to changes in society and how women was looked upon. They started to voice for equality and more freedom. Eg: equal pay for equal work, promotions for women, representation of women in local government.

Hence, the correct answer is **option C**.

Solution 122

The correct code is ***both 1 and 2***.

Hence, the correct answer is **option C**.

Solution 123

As per the RBI guidelines, ***3 years*** is the minimum tenure of Masala

Bonds that an Indian company can issue offshore.

Explanation :
Previously, the tenure was for five years.

Hence, the correct answer is **option C**.

Solution 124

The correct code is ***1 and 2 only***.

Explanation :
The current rate of KKC is 0.50%.

Hence, the correct answer is **option B**.

Solution 125

Denmark won the Thomas Cup Badminton Championship, 2016.

Explanation :
Denmark defeated Indonesia by 3-2 in the final at the Kunshan Sports Centre in Kunshan, Jiangsu province of China.

Hence, the correct answer is **option B**.

Solution 126

The correct code is ***A-2, B-1, C-4, D-3***.

Hence, the correct answer is **option C**.

Solution 127

The world's largest biomass cookstove system for cooking in a community kitchen has been installed at ***Shirdi***.

Explanation :
It can feed up to 20,000 people per day.

Hence, the correct answer is **option C.**

Solution 128

Electricity and heat production sector is the largest contributor to carbon dioxide emissions from fuel consumption in India.

Hence, the correct answer is **option A**.

Solution 129

As per census 2011, ***Uttar Pradesh*** has the highest number of inhabited villages.

Explanation :
Uttar Pradesh has 97,942 number of inhabitated villages out of 593,731 inhabitated villages in India.

Hence, the correct answer is **option A**.

Solution 130

An electric fuse wire works on the principle of heating effect of current. Electric fuse is the device that is used in the household wiring to prevent accidental fire in case of short circuit. It is made up of a wire of low melting point. If the current passing through a circuit exceeds the safe limit, heat is generated, due to which the fuse wire melts down and breaks the circuit, hence, preventing the condition of short circuiting.

Hence, the correct answer is option C.

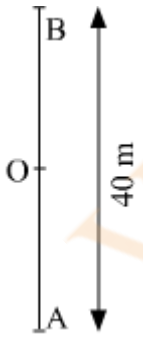
Solution 131

Resistivity of a wire depends on the material of the wire and temperature, but not on the shape or size of the wire.

Hence, the correct answer is option C.

Solution 132

Let the point at which A and B collide be O.



According to the distance-time equation,

$$s = ut + \frac{1}{2}at^2$$

As per the question, the initial velocity, u, is same of both the balls = 20 m/s

$$\mathrm{BO} = 20\mathrm{t} + \frac{1}{2}\mathrm{gt}^2 \quad \ldots\ldots (\mathrm{i})$$
$$\mathrm{AO} = 20\mathrm{t} - \frac{1}{2}\mathrm{gt}^2 \quad \ldots\ldots (\mathrm{ii})$$

On adding equations (i) and (ii), we will get:

BO + AO = 40t

Also, BO + AO = AB = 40 cm

So, 40 = 40t

t = 40/40 = 1 s

Putting the value of t and g in the equation (ii) we will get:

$$\mathrm{OA} = \left(20 \times 1\right) - \frac{1}{2} \times 9.8 \times \left(1\right)^2$$
$$\mathrm{OA} = 20 - \frac{9.8}{2}$$
$$\mathrm{OA} = 15.1\ \mathrm{m}$$

Thus the two balls will collide after 1 s at a distance of 15.1 m from the ground.

Hence, the correct answer is option C.

Solution 133

The setting time of cement is lowered by adding gypsum. This enables the cement to get adequately hardened.

Hence, the correct answer is option B.

Solution 134

Emulsion is the colloidal solution of two immiscible liquids. For example, oil and water when mixed together form an emulsion solution.

Hence, the correct answer is solution D.

Solution 135

Ashes contain certain metal salts as constituents. Thus when ashes are mixed with the animal fat, salt of fatty acids, or soap, is obtained.

Hence, the correct answer is option B.

Solution 136

The correct code is ***1, 2 and 3***.

Explanation :
According to Unique Identification Authority of India (UIDAI), 93 per cent of adults in India voluntarily possess Aadhaar card.

Hence, the correct answer is **option D**.

Solution 137

The correct code is ***Brazil – India – China***.

Hence, the correct answer is **option D**.

Solution 138

The correct code is ***A-3, B-1, C-2, D-4.***

Hence, the correct answer is **option C**.

Solution 139

The correct code is ***1, 2 and 3***.

Hence, the correct answer is **option C**.

Solution 140

The correct code is ***2 and 4***.

Hence, the correct answer is **option C**.

Solution 141

Among the given gases, CO_2 gives a slightly acidic sloution when dissolved in water. When dissolved in water to give carbonic acid, which is a weak acid.

$$\mathrm{CO_2 \ + \ H_2O \ \rightarrow \ H_2\,CO_3}$$

Hence, the correct answer is option B.

Solution 142

Aluminium hydroxide has a molecular formula $Al(OH)_3$. Thus, each mole of aluminium hydroxide contains three moles of hydrogen atom.

Hence, the correct answer is option C.

Solution 143

The United Nations proclaimed 21 June as ***International Day of Yoga***.

Explanation :
It was declared on 11th December, 2014. The International Day of Yoga aims to raise awareness worldwide of the many benefits of practicing yoga.

Hence, the correct answer is **option C**.

Solution 144

Bhawana Kanth, Avani Chaturvedi, and Mohana Singh are ***fighter pilots***.

Hence, the correct answer is **option C**.

Solution 145

The correct code is ***both 1 and 2***.

Explanation :
The Indian Constitution provides the basic framework for the elected government to follow the wishes of the people. The constitution provides a moral compass for both the government and the people by clearly defining fundamental duties, rights and duties.

Hence, the correct answer is **option C**.

Solution 146

Out of the aforementioned statements, "***the ministers are appointed by the President on the advice of the Prime Minister***" is the correct statement regarding the Union Executive in India.

Explanation :
The Prime Minister is appointed by the President, who also appoints other ministers on the advice of Prime Minister.

Hence, the correct answer is **option C.**

Solution 147

Out of the aforementioned statements, "***The Speaker of the Lok Sabha finally decides if it is a Money Bill, should any dispute arise about it***" is the correct statement reagarding Money Bill.

Explanation :
Article 110(1) of the Constitution states that a bill can be termed as a

Money Bill if it contains six types of provisions, including taxation, government receipts and expenditure, government borrowings, and guarantees. The Speaker of the Lok Sabha certifies the bill as a money bill before sending it to the upper house.

Hence, the correct answer is **option D**.

Solution 148

Out of the aforementioned statements, ***"The power of advising the President regarding the appointment of other ministers"*** is the correct statement regarding the power of the Prime Minister of India which is codified in the Constitution of India.

Explanation :
The Prime Minister is appointed by the President, who also appoints other ministers on the advice of Prime Minister.

Hence, the correct answer is **option A**.

Solution 149

The cylindrical stone seals were used in ***Mesopotamian*** civilisation.

Explanation :
Cylinder seals were invented around 3500 BC.

Hence, the correct answer is **option D**.

Solution 150

The correct code is ***1, 2 and 3***.

Explanation :
The following were the main features of the Civil Disobedience movement :

- The people refused to obey unjust laws. Gandhi led the Dandi March and broke the unjust salt tax law as a challenge to the British Government.
- Foreign cloth was boycotted and liquor shops were picketed. Peasants refused to pay revenue and taxes. People also broke the forest laws.
- Schools, colleges and government offices and institutions were boycotted.
- There was large- scale arrest of people and leaders who participated in the Civil Disobedience Movement.

Hence, the correct answer is **option D**.