

Solution

1. Ans. D

To wind up means to bring to a conclusion or end up in a specified state. Thus, option D is the correct answer.

Postpone— cause or arrange for (something) to take place at a time later than that first scheduled

Cut short— make shorter than originally intended

Interrupt— stop the continuous progress of (an activity or process)

2. Ans. C

To be alive to something means to be familiar to, aware of or conscious about that thing. Thus, option C is the correct answer.

To be concerned about something means to worry about it. "Indifferent" means uncaring or unconcerned.

3. Ans. C

Intimidate means to frighten or threaten someone. Thus, option C is the correct answer.

4. Ans. D

The word "drastic" means serious or extreme. "Severe" carries the same meaning as drastic, thus, option D is the correct answer.

5. Ans. B

Meticulous— very careful and with great attention to every detail

Reasonable— fair and sensible

Clearly, option B "careful" is the synonym of "meticulous".

6. Ans. B

Here "minute" is an adverb that modifies the verb "examination". "Minute" means tiny or small but the word also means systematic or detailed. With respect to the given context, since the experts examined minutely, "detailed" expresses the meaning of the word. Thus, option B is the correct answer.

7. Ans. C

Repeal— cancel; invalidate

Suppress— to put down by authority or force; subdue

Amend— change; modify

Withhold— restrain; suppress

Thus, "cancel" is the synonym of "repeal" and option C is the correct answer.

8. Ans. A

The word "maiden" carries two meanings
i. An unmarried girl or woman

ii. Being or involving the first attempt or act of its kind

The given sentence talks about the maiden appearance of a person on the screen, thus, the second meaning fits appropriately. Hence, option A, "first", is the correct answer.

9. Ans. D

Exhausted means tired, thus, option D is the correct answer.

10. Ans. B

Counterfeit— fake, made to look like the original of something

Unmatured— not yet matured

Inferior— lower in rank, status, or quality

Clearly, option B is the correct answer.

11. Ans. B

To "feel run down" means to feel tired or slightly ill. Thus, "energetic" is the antonym of "run down". On the other hand, "exhausted" means tired thus, it is a synonym of the phrase.

Morbid— too interested in unpleasant subjects, especially death

12. Ans. D

"Violence" refers to the behaviour involving physical force intended to hurt, damage, or kill someone or something.

Instigation— the act of causing an event or situation to happen by your actions

Restraint— a measure or condition that keeps someone or something under control

Sobriety— the state of being calm or sober

Thus, 'sobriety' is most opposite in meaning to 'violence'.

13. Ans. A

To make generous contribution to a fund in the given context means to donate liberally or generously. Thus, the antonym of the underlined word would be something which means miser.

"Niggard" means a mean or ungenerous person; a miser

Spendthrift— a person who spends money in an irresponsible way

14. Ans. C

Idle— lazy, inactive

Employed— recruit, appoint, hire; use

Occupied— busy, unavailable

Industrious— hard working

So, "industrious" is most opposite in meaning to "idle".

15. Ans. C Unjust— unfair

Lenient— merciful, forgiving

Imbecile— stupid

Hence, "correct" is the antonym of "unjust".

16. Ans. D

Delight— (something or someone that gives) great pleasure, satisfaction, or happiness

Revolt— take violent action against an established government or ruler

Dissatisfaction— lack of satisfaction

Disgust— a strong feeling of disapproval or dislike

The word which is most opposite in meaning to "delight" is "disgust".

17. Ans. B

In the given context "concerned" means worried. Hence "indifferent", which means unconcerned of having no interest, is the antonym of 'concerned.

Dispassionate— emotionless

18. Ans. C

Imprudent— unwise

Diffident— shy and not confident of your abilities

Reluctant— unwilling

Thus, "diffident" is the antonym of "confident".

19. Ans. D

"To carry on" means to continue an activity or task. "Call off", on the other hand, means to cancel; thus it is the required antonym.

20. Ans. B

The word "indigenous" means naturally existing in a place or country rather than arriving from another place. So the antonym will be "foreign", which means belonging or connected to a country that is not your own. Hence, option B is the correct answer.

21. Ans. B

Here a sense is conveyed that not even had the speaker taken his shirt off, when he noticed Gangu. So the word "barely" most appropriate word to fill the blank. Thus, option A is the answer.

22. Ans. C

The correct phrasal verb to be used with reference to "clothes" is "take off". Thus, option C is the correct answer.

23. Ans. C

In the given context, "with" is the most appropriate preposition to convey that Gangu was accompanied by a new baby. "Near" may seem true, but the usage of the article 'a' indicates that the baby is not a specific one, hence, in all probability she must have come with Gangu.

24. Ans. A

"To jump with joy" means to be very happy or pleased. Hence, option A is the best fit answer.

25. Ans. A

The concerned sentence makes a comparison with a hypothetical situation with respect to a mythical story. Thus, in a conditional sentence like this, the modal "would" will convey an appropriate meaning.

26. Ans. C

The context here is about experiencing joy and not showing it. Hence, "felt" is the most appropriate fit for the blank.

27. Ans. C

The joy must have come as a result of receiving Krishna, thus, "on" is the most appropriate preposition to be used.

28. Ans. B

It is clear from the context of the passage Gangu was very happy to have the child. To have a glow on the one's face means to have a strong feeling of pleasure or well-being. Hence, among all the words, "glow" is the best choice.

29. Ans. B

Though both "comes" and "appears" seem to fit in the blank, the latter is a more appropriate fit than the former. "Appear" means to become visible.

30. Ans. B

We need a correct adjective for the noun "man". A satisfied man will not have a pleasing glow on his face after having a meal, as would a person who has been deprived of food. Hence, option D can be eliminated. We need a verb in present participle to indicate the present continuous tense to show when the action was/ is in the process of happening. Thus, "starving" should be used instead of "starved". Hungry is not as appropriate as "starving" in the given context. Thus, option B is the correct answer.

31. Ans. D

P and R are mandatory pairs and they must follow the fixed part as they state the action that has been accomplished by the spirit of man. Surmount means to overcome, and obstacles are required to be overcome. Q follows R as the coordinating conjunction "and" introduces another aspect that the "spirit" of man has faced. Thus the correct sequence after rearrangement is PRQS and option D is the correct answer.

32. Ans. C

The sentence starts with the word "after", so the consequence of victory must be stated next, which is done in R. R must be followed by P as it states the reason why the boys came to school. P ends with the words "headmaster", so Q, which mentions the pronoun "who" to refer to them, must follow next. S mentions another characteristic of the headmaster, hence it forms the last part. Thus the correct sequence after rearrangement is PRQS and option C is the correct answer.

33. Ans. A

The fixed part mentions the adverb "even" and states that cricket is a "leisurely game". The adverb indicates that with a positive aspect associated to it, there is also some negative aspect, and these two are talked about in P and S respectively. R follows next as it gives a particular example with the usage of "as". Q states another example and concludes the statement. Thus the correct sequence after rearrangement is PSRQ and option A is the correct answer

34. Ans. C

The first part would be the one which states what the scientists point out. So, Q is the first part. R and P must follow as they imply that the aftermath has reached its peak of the sunspot activity. S, thus comes in the end. Thus the correct sequence after rearrangement is QRPS and option C is the correct answer

35. Ans. C

The sentence is about sea sickness caused due to ocean movement. Q is the first part as it talks about the people on the ship that has been mentioned in the fixed part. These people experience the movement of the ocean. P must follow next as it states why do the people feel the movement: because the water rushes

into the North Pacific. R states what the rushing water does to the ship and Q mentions its consequence on the people aboard. Thus R and Q form the third and fourth part respectively. Thus the correct sequence after rearrangement is PRQS and option C is the correct answer.

36. Ans. C

The error is in the third part of the sentence. The article 'an' is missing before 'electric current'.

37. Ans. A

The error lies in the first part of the sentence. Here the phrase 'by- by' is incorrect as departure and separation is being talked about. Thus, 'bye- bye' should be used to make the sentence correct.

38. Ans. A

The error lies in the first part of the sentence. The part does not use a uniform voice, as in, one part is in the passive voice (to be scrapped), while the other is in the active voice. This creates a discrepancy in the usage of tense in the first part (the latter parts talk about the past). Hence, "must be scrapped" should be replaced by "must have been scrapped" to make the sentence grammatically correct.

39. Ans. B

The error lies in the second part of the sentence. The subject does not agree with the verb here. Since the subject "attention" is singular, the verb should be "gives" and not 'give'.

40. Ans. D

The sentence has no error and has been correctly structured.

41. Ans. A

The usage of 'looks' indicates that the sentence is in the present tense. Thus, the auxiliary 'is' should be used.

42. Ans. B

Since the words "insured" and "theft" have been mentioned, the correct preposition would be "against". You insure an asset against any mishap. Thus, option B is correct.

43. Ans. B

We require an adjective to indicate the kind of result. Thus, the noun "disappointment" can be eliminated. "Disappointed" is incorrect as it can only be used in the context of people, but here a "result" is being talked about. "To

disappoint" will convey the sense that the purpose of the result was to disappoint, which is not the case here. Hence "disappointing" is the best fit answer.

44. Ans. B

"By" and "for" are inappropriate prepositions to be followed by the word "lucky", and "to" must be used. We need the "to be" verb to indicate that the action of taking birth took place, thus, "have been born" is the correct answer. Also, since the sentence is in the passive voice, "have been born", which is the passive form in past perfect, is correct.

45. Ans. B

To be 'true to one's words' means to act as promised/ said earlier. Thus, option is the correct expression for the blank.

46. Ans. A

The present perfect tense "have passed" should be used in the blank to indicate that something happened in the past, while implying that the exact time is not important. Hence, option A is the correct answer.

47. Ans. D

"Happening" would have been correct if the blank were not succeeded by the preposition "on". Among the rest, only "going (on)" will form the correct phrasal verb. Thus, option D is the correct answer.

52. Ans. (c) Higher Education

The 11th schedule enshrines the distribution of powers between the State legislature and the Panchayats. These 29 subjects are listed below:

11th Schedule of the Constitution	
1. Agriculture, including agricultural extension.	16. Poverty alleviation programme.
2. Land improvement, implementation of land reforms, land consolidation and soil conservation.	17. Education, including primary and secondary schools.
3. Minor irrigation, water management and watershed development.	18. Technical training and vocational education.
4. Animal husbandry, dairying and poultry.	19. Adult and non-formal education.
5. Fisheries.	20. Libraries.
6. Social forestry and farm forestry.	21. Cultural activities.
7. Minor forest produce.	22. Markets and fairs.
8. Small scale industries, including food processing industries.	23. Health and sanitation, including hospitals, primary health centers and dispensaries.
9. Khadi, village and cottage industries.	24. Family welfare.
10. Rural housing.	25. Women and child development.

48. Ans. C

"To be short" of cash or money implies that one has less money than required or has run out of it. Thus, option C is the most appropriate filler.

49. Ans. A

The usage of the phrase "side of" indicates that the "by" is the most appropriate preposition to be used. "By the side of" means beside. Thus, option A is the correct filler.

50. Ans. D

Adversity refers to hard times. With respect to the context of the sentence, true friends will not leave alone/ desert their friends in bad times. Thus, option D is the most appropriate choice. The other options do not fit the context of the passage.

51. Ans. (c) 9 percent

The Full Planning Commission chaired by Prime Minister Manmohan Singh on Saturday approved the 12th Plan (2012-17) draft document endorsing the scaling-down of the annual average economic growth target to 8.2 per cent from the 9 per cent envisaged earlier, keeping in view the fragile economic environment.

11th Schedule of the Constitution	
11. Drinking water.	26. Social welfare, including welfare of the handicapped and mentally retarded.
12. Fuel and fodder.	27. Welfare of the weaker sections, and in particular, of the Scheduled Castes and the Scheduled Tribes.
13. Roads, culverts, bridges, ferries, waterways and other means of communication.	28. Public distribution system.
14. Rural electrification, including distribution of electricity.	29. Maintenance of community assets.
15. Non-conventional energy sources.	

53. Ans. (c) Arnold Toynbee
Although used earlier by French writers, the term Industrial Revolution was first popularized by the English economic historian Arnold Toynbee (1852–83) to describe Britain’s economic development from 1760 to 1840. Since Toynbee’s time the term has been more broadly applied.

54. Ans. (c) Subhash Chandra Bose
The great Indian Struggle, 1920–1942 is a two-part book by the Indian nationalist leader Netaji Subhash Chandra Bose that covers the 1920–1942 history of the Indian independence movement to end British imperial rule over India.

55. Ans. (c) It opposed the levy of tariff on imports
In fact, the Swadeshi Campaign in 1896 vouched for levying tariff on imports to promote the home-made products. Hence, statement C is incorrect.

56. Ans. (b) The East India Association
East India Association was an organization established by some Indian students in London on 1 October 1866 on initiative of Dadabhai Naoroji. It was one of the predecessor organizations of the Indian National Congress.

The idea was to present the correct information about India to the British Public and voice Indian Grievances.

In 1869, this organization opened branches in Bombay, Kolkata and Madras. It became defunct in 1880s.

57. Ans. (b) Western Pacific Ocean
The Mariana Trench or is the deepest part of the world's oceans.

It is located in the western Pacific Ocean, an average of 200 kilometres (124 mi) to the east of the Mariana Islands, in the Western Pacific east of Philippines.

58. Ans. (d) Central Asia
The Taklamakan Desert is a desert in southwest Xinjiang Uyghur Autonomous Region, northwest China.

It is bounded by the Kunlun Mountains to the south, the Pamir Mountains and Tian Shan (ancient Mount Imeon) to the west and north & the Gobi Desert to the east.

59. Ans. (b) Mandakini
Rudraprayag is one of the Panch Prayag (five confluences) of Alaknanda River, the point of confluence of rivers Alaknanda and Mandakini.

Kedarnath, a Hindu holy town is located 86 km from Rudraprayag.

60. Ans. (b) 2-3-1-4

City	State (from west to east)
Jodhpur	Rajasthan
Bhopal	Madhya Pradesh
Bilaspur	Chhattisgarh
Ranchi	Jharkhand

61. Ans. (b) Western Disturbances
Fairly widespread to widespread rainfall/snowfall is likely over Jammu & Kashmir and Himachal Pradesh owing to the western disturbances.

A Western Disturbance is an extratropical storm originating in the Mediterranean region that brings sudden winter rain to the north-western parts of the Indian subcontinent.

The moisture in these storms usually originates over the Mediterranean Sea and the Atlantic Ocean.

62. Ans. (c) Himalayan Mountain Range
Tertiary coal fields have only 1% share of total coal production of India. Kalakot coal field is in Jammu and Kashmir, south of Pirpanjal. Hence, in the Himalayan Mountain Range.

63. Ans. (b) Collagen

A tendon or sinew is a tough band of fibrous connective tissue that usually connects muscle to bone and is capable of withstanding tension.

Tendons are similar to ligaments; both are made of collagen.

64. Ans. (c) Wuchereria bancrofti

Elephantiasis tropica or lymphatic filariasis is caused by a number of parasitic worms, particularly Wuchereria bancrofti.

W. bancrofti was named after physician Otto Wucherer and parasitologist Joseph Bancroft, both of whom extensively studied filarial infections like elephantiasis.

65. Ans.(a) Ultraviolet radiation

Melanin is a protective pigment in skin, blocking UV radiation from damaging DNA and potentially causing skin cancer.

67. Ans. (c) No antibiotic has been obtained from any microbe.

Some clinically important antibiotics		
Antibiotic	Producer organism	Activity
Polymyxin B	Bacillus polymyxa	Gram-negative bacteria
Amphotericin B	Streptomyces nodosus	Fungi
Erythromycin	Streptomyces erythreus	Gram-positive bacteria
Streptomycin	Streptomyces griseus	Gram-negative bacteria
Tetracycline	Streptomyces rimosus	Broad spectrum

Hence, various antibiotics are obtained from microbes.

68. Ans. (b) Vitamin A

Golden rice is a variety of rice produced through genetic engineering to biosynthesize beta-carotene, a precursor of vitamin A, in the edible parts of rice.

It is intended to produce a fortified food to be grown and consumed in areas with a shortage of dietary vitamin A.

69. Ans. (a) The centripetal acceleration of the object is smaller for a gentle curve (i.e., curve of larger radius) than that for a sharp curve (i.e., curve of smaller radius).

Centripetal Acceleration is given by $A = v^2/R$, where v is the velocity and R is the radius of the curve.

UVA radiation causes lesions or DNA damage to melanocytes, which are the skin cells that produce the skin pigment known as melanin.

66. Ans. (b) Nucleic acids

Gout is a type of arthritis, an inflammatory condition of the joints.

Gout symptoms or "attacks" occur when there is too much uric acid in the blood. Uric acid is a waste product made by the body when it digests certain foods.

Fortunately, research shows that restricting high-purine foods and taking the appropriate medication can prevent gout attacks.

Gout patients should avoid meats such as liver, kidney and sweetbreads, which have high purine levels and contribute to high blood levels of uric acid.

Since the gentle curve has a larger radius, it has a smaller centripetal acceleration.

Hence, A is the correct statement.

70. Ans. (b) $-x^2/6 (2Ax - 3B)$

Potential Energy = $-\int F(x) dx$

$U(x) = -\int (Ax^2 - Bx) dx$

$U(x) = -Ax^3/3 + Bx^2/2$

$U(x) = -x^2/6 (2Ax - 3B)$. Hence, the answer is B.

71. Ans.(c) Henry

The henry (symbolized H) is the Standard International (SI) unit of inductance. Reduced to base SI units, one henry is the equivalent of one-kilogram meter squared per second

squared per ampere squared ($\text{kg m}^2 \text{s}^{-2} \text{A}^{-2}$).

72. Ans. (d) $t_1 = t_2 = t_3$

If the objects are dropped from the same height, they will reach the bottom simultaneously. Gravitational force is independent of the mass of the body. The acceleration due to gravity is same for all the objects. Also, there is no resistance offered by the air or any upward force, since the objects are dropped in vacuum.

Therefore, $t_1 = t_2 = t_3$

73. Ans. (b) Photoelectric emission
Electron emission from a metallic surface by the application of light is known as photoelectric emission.

When a beam of light strikes the surface of cathode the energy of photons of light is transfer to the free electrons of cathode.

74. Ans.(b) About 8 minutes

Sunlight travels at the speed of light. We orbit the Sun at a distance of about 150 million km. Light moves at 300,000 kilometers/second. Divide these and you get 500 seconds, or 8 minutes and 20 seconds.

75. Ans. (a) GM Counter

A Geiger counter (Geiger-Muller tube) is a device used for the detection and measurement of all types of radiation: alpha, beta and gamma radiation. Basically it consists of a pair of electrodes surrounded by a gas. The electrodes have a high voltage across them.

76. Ans. (b) convex

Because the image is smaller, more image can fit onto the mirror, so a convex mirror provides for a larger field of view than a plane mirror. This is why they are useful. They are used whenever a mirror with a large field of view is needed.

77. Ans. (a) Ultraviolet waves

Ultraviolet waves or UV rays are used for detecting fake and forged currency.

The paper currency has a strip that is embedded in the note. This strip cannot be forged like that in the original currency.

An authentic paper currency will fluoresce when it is illuminated by long wave ultraviolet light.

78. Ans. (d) holes

In p-type semiconductors, holes are the majority carriers and electrons are the minority carriers.

The less abundant charge carriers are called minority carriers; in n-type semiconductors they are holes.

79. Ans. (b) 13.6 eV

The ionization energy of hydrogen in its ground state is 13.6 eV

For a hydrogen atom, composed of an orbiting electron bound to a nucleus of one proton, an ionization energy of 2.18×10^{-18} joule (13.6 electron volts) is required to force the electron from its lowest energy level entirely out of the atom.

80. Ans. (d) water vapour

When you first start to boil water, the bubbles are basically air bubbles. These are bubbles formed from the dissolved gases in water. The solubility of gases decreases when the temperature is increased, and that is why the dissolved air bubbles come out from the water. Then, as the boiling point of water is reached, water vapor starts to form in the form of bubbles.

81. Ans. (d) NaOH

Strong electrolyte is an ionic compound that dissociates completely in water & conducts electricity.

From the given options, only NaOH and HCl are strong electrolytes and NaOH alone would form a basic solution when dissolved in water.

NaOH is a strong electrolyte. It is an alkali-a water soluble strong base.

82. Ans. (a) in etching glass

Hydrofluoric (HF) acid, one of the strongest inorganic acids, is used mainly for industrial purposes (eg, glass etching, metal cleaning, electronics manufacturing).

83. Ans. (a)

Only A option would have same number of electrons i.e. 16. In rest of the options, due to presence of charge, the number of electrons vary.

84. Ans. (C)

There are 6.022×10^{23} entities in 1 mole.

Atomic mass of Carbon = 12

Atomic mass of Hydrogen = 1

Atomic mass of Oxygen = 16

Molecular mass

$= (6 \times 12) + (12 \times 1) + (4 \times 16)$

$= 72 + 12 + 64 = 148$

Mass percentage of carbon
= $72/148 = 49\%$

Mass percentage of hydrogen
= $12/148 = 8\%$

Mass percentage of oxygen
= $64/148 = 43\%$

Hence, correct option is (C).

85. Ans. (a) Avogadro's hypothesis
The law is named after Amedeo Avogadro who, in 1811, hypothesized that two given samples of an ideal gas, of the same volume and at the same temperature and pressure, contain the same number of molecules.

86. Ans. (a) It proposed that the Indian magistrates would try Europeans in criminal cases.

The Ilbert Bill was a bill introduced in 1883 during the Viceroyship of the Marquess of Ripon, which was written by Sir Courtenay Peregrine Ilbert (The law member of the Viceroy's Council). According to the said Act, Indian judges could try a European accused.

87. Ans. (d) The Attorney General of India

Attorney general has right of audience in all courts within the territory of India. He has also the right to speak and take part in proceedings of both the houses of parliament including joint sittings. However, he cannot vote in parliament. Attorney General has all the powers and privileges that of a member of parliament. But he is not a member of the parliament.

88. Ans. (B)

The Sanyasis and Fakirs revolted against British from 1763 to 1800 AD because of the prohibition that was imposed by the East India Company's officials on their pilgrimage. The central leadership comprised of rebel council headed by emperor Bahadur Shah Jafar. Though Bahadur Shah Jafar's wife Jeenat Mahal tried to conspire with English, but she was not the part of central leadership

89. Ans. (b) Saadat Khan

Awadh was established as one of the twelve original subahs (top-level imperial provinces) under 16th-century Mughal emperor Akbar and became a hereditary tributary polity around 1722 AD, with Faizabad as its initial capital and Saadat Ali Khan as its first Subadar Nawab and progenitor of a dynasty of Nawabs of Awadh

90. Ans. (a) Henry Vivian Derozio
Young Bengal Movement was launched by Henry Louis Vivian Derozio (1809-1831), who had come to Calcutta in 1826 and was appointed in the Hindu College as a teacher of English literature and History.

Besides this he edited Hesperus and Calcutta Literary Gazette. He was connected with India Gazette as well.

91. Ans. (c)

Muslim League and Hindu Mahasabha actively participated in the movement. The Quit India Movement or the India August Movement, was a movement launched at the Bombay session of the All-India Congress Committee by Mahatma Gandhi on 8 August 1942.

- Hindu nationalist parties like the Hindu Mahasabha openly opposed the call for the Quit India Movement and boycotted it officially.

- The Muslim League opposed the Quit India Movement as it was of the view that if the British left India in its current state, Muslims as a minority would be oppressed by the Hindu majority.

92. Ans.(c) B. Sai Praneeth

B Sai Praneeth on 16 April 2017 defeated Kidambi Srikanth 17-21, 21-17, 21-12 to clinch his maiden Super Series title in the Singapore Open final. It was Praneeth's first appearance in a Super Series final, the biggest events of the international badminton calendar.

93. Ans. (a) Nagpur

Koradi Thermal Power Station (KTPS) is located at Koradi near Nagpur, Maharashtra.

The power plant is one of the four major power plants in Vidarbha – a power surplus region of India

94. Ans. (b) Cultural Heritage and Sustainable Tourism

Every year on 18 April, ICOMOS celebrates the International Day for Monuments and Sites, whose establishment was approved by the 22nd UNESCO General Conference in 1983. In 2017, the theme is "Cultural Heritage & Sustainable Tourism", chosen in relation to the United Nations International Year of Sustainable Tourism for Development and in the context of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals.

95. Ans. (c) Afghanistan

The United States dropped the “mother of all bombs” — the most powerful conventional bomb in the American arsenal — on an Islamic State cave complex in Afghanistan.

The strike was the first combat use of what is formally named the GBU-43/B Massive Ordnance Air Blast.

It is the largest non-nuclear bomb ever used by the US military on the battlefield.

96. Ans. (c) Special Secretary,
Department of Economic Affairs

In April 2017, The Union government constituted a time-bound inter-disciplinary committee to come up with an action plan for dealing with virtual currencies so as to fix the regulatory gaps in the existing framework governing virtual currencies.

The nine-member inter-disciplinary committee is chaired by Dinesh Sharma, special secretary in the economic affairs department.

The committee also have representatives from the Department of Economic Affairs, Department of Financial Services, Department of Revenue, Ministry of Home Affairs, IT ministry, Reserve Bank of India, NITI Aayog and State Bank of India.

97. Ans. (c) Food Processing Industries
The Cabinet Committee on Economic Affairs chaired by the Prime Minister Shri Narendra Modi has given its approval for re-structuring the schemes of the Ministry of Food Processing Industries (MoFPI) under new Central Sector Scheme – SAMPADA (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) for the period 2016-20 coterminous with the 14th Finance Commission cycle.

It has an allocation of 6000 crores.

98. Ans. (d) 22nd December

The shortest day and the longest night of the year in the Northern Hemisphere occur during winter solstice which is usually observed on 21 December or 22 December.

99. Ans. (d) 1, 2 and 3

Indian railways have an impressive record of qualitative improvements. The major areas of qualitative improvement during the recent years are gauge conversion, rolling stock, track

electrification, automatic signalling, introduction of fast trams and amenities and facilities for rail users.

100. Ans. (c) South-west Monsoon
Rainfall During South West Monsoon Season

- Three fourth of the total annual rainfall is received during this season.

- The average rainfall over the plains of India in this season is about 92 cm or about 87 per cent whereas during the remaining part of the year only 14 cm of rainfall occurs.

- Normal date of the arrival of the monsoon is 20th May in Andaman and Nicobar Islands.

- The advance of the monsoon is much faster in the Bay of Bengal than in the Arabian Sea.

101. Ans. (a) Gulf of Mannar, Nokrek, Panchmarhi and Simlipal

Ten of the eighteen biosphere reserves are a part of the World Network of Biosphere Reserves, based on the UNESCO Man and the Biosphere (MAB) Programme list.

They are: Nilgiri (Western Ghats), Gulf of Mannar (Tamil Nadu), Sunderban (West Bengal), Nanda Devi (Uttarakhand), Nokrek (Meghalaya), Pachmarh (Madhya Pradesh), Similipal (Odisha), Achanakmar-Amarkantak (Madhya Pradesh and Chhattisgarh) and Great Nicobar, Agasthyamalai BR.

102. Ans. (c) 1 and 3 only

Percentage Fe in magnetite Fe_3O_4 is $168/(168+64)=72.4\%$. So, statement 2 is incorrect.

It is the most magnetic of all the naturally-occurring minerals on Earth. So, statement 3 is correct.

Magnetite is black or brownish-black with a metallic lustre. So statement 1 is correct.

103. Ans. (d) Vitamin K

Vitamin K is a group of structurally similar, fat-soluble vitamins that the human body requires for complete synthesis of certain proteins that are prerequisites for blood coagulation. It is active as a vitamin in animals and performs the classic functions of vitamin K, including its activity in the production of blood-clotting proteins.

104. Ans. (d) Live microbial food supplement

Probiotics are microorganisms that are claimed to provide health benefits when consumed.

Probiotics are live bacteria and yeasts that are good for your health, especially your digestive system.

105. Ans. (a) Lactic Acid Bacillus

The lactic acid curdles the milk that then separates to form curds, which are used to produce cheese and whey.

Acidification of milk means lowering its pH. It causes the milk proteins to unwind and unfold in a process known as protein denaturing. Lactic Acid does the process in case of milk.

106. Ans. (b) Maurice Hugh Frederick Wilkins

The Nobel Prize in Physiology or Medicine 1962 was awarded jointly to Francis Harry Compton Crick, James Dewey Watson and Maurice Hugh Frederick Wilkins "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material".

107. Ans. (a) the air pressure is less
Water boils at a lower temperature at high altitudes.

The boiling point of water is lower at higher altitudes due to the decreased atmospheric pressure. A liquid boils when its vapor pressure exceeds the local total pressure.

108. Ans. (b) sends parallel rays
Concave mirrors are commonly used in not only vehicles headlights but also in torches and search-lights to get powerful parallel beams of light to focus the light at the longer distances by placing the source of light at the focus of the Concave mirrors.

109. Ans. (b) Decrease

An object weighs the same in air as well as in water. But, in water an additional buoyant force acts on the ball in a direction opposite to the direction in which the weight of the ball acts. If the weight of the ball acts downwards, buoyant force acts upwards. These two forces work together to make it seem as the object weighs less in water.

110. Ans. (b) distance

A light-year is a unit of distance, not time. A light-year is how astronomers measure distance in space.

As defined by the International Astronomical Union (IAU), a light-year is the distance that light travels in vacuum in one Julian year. It is equal to 9.4607×10^{15} m.

111. Ans. (d) Satellite does not require any energy for orbiting.

A satellite rotates around the earth by using earth's gravitational force as centripetal force. Also as there is no air in space, it does not have to work against air resistance. Hence it doesn't lose any energy while rotating. So it does not require fuel/energy to rotate around the earth.

112.. Ans. (c) Energy can neither 'be created nor destroyed

In physics, the law of conservation of energy states that the total energy of an isolated system remains constant, it is said to be conserved over time.

This law means that energy can neither be created nor destroyed; rather, it can only be transformed from one form to another.

113. Ans. (d) increasing voltage
Transformers "step up" or "step down" voltage according to the ratios of primary to secondary wire turns.

A transformer designed to increase voltage from primary to secondary is called a step-up transformer.

A transformer designed to reduce voltage from primary to secondary is called a step-down transformer.

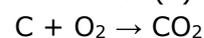
114. Ans. (a) X-rays

$$E = hf$$

So, if you increase the frequency of the wave, you get more energy per photon.

Radio waves have photons with low energies, microwave photons have a little more energy than radio waves, infrared photons have still more, then visible, ultraviolet, X-rays, and, the most energetic of all, gamma-rays. Since, gamma rays is not in the option, so X-Ray is the correct answer.

115. Ans. (a) $11/3$ kg



12 g of C gives 44 g of CO_2

1 g of C = $11/3$ g of CO_2

1 kg of C = $11/3$ kg CO_2

116. Ans. (a) more electropositive than iron

The iron or steel object is coated in a thin layer of zinc. This stops oxygen and water reaching the metal underneath - but the zinc also acts as a sacrificial metal. Zinc is more reactive than iron, so it oxidises in preference to the iron object.

117. Ans. (a) Oxygen

The atmosphere is composed of ~78% nitrogen and ~21% oxygen, with small amounts of other gases. Gases like carbon dioxide, nitrous oxides, methane, and ozone are trace gases that account for about a tenth of one percent of the atmosphere.

118. Ans. (b) Graying of hair naturally

A chemical change (chemical reaction) is a change of materials into other, new materials with different properties, and one or more new substances are formed. These processes are, in general, are not reversible except by further chemical reactions. Hence, graying of hair is the correct answer as that cannot be reversed.

119. Ans. (c) Sodium Carbonate

The chemical formula for washing soda is Na_2CO_3 or sodium carbonate. It is a salt of carbonic acid, a chemical which produces a wide range of salts collectively known as carbonates.

120. Ans. (d) It is an oxidizing agent

Potassium permanganate is a point-of-entry treatment method that oxidizes dissolved iron, manganese, and hydrogen sulfide into solid particles that are filtered out of the water. It can also be used to control iron bacteria growth in wells.

121. Ans. (b) 3-1-2-4

Champaran satyagraha (1917),

Moplah Rebellion (1921),

Bardoli Satyagraha (1928)

Salt Satyagraha (1930)

122. Ans. (a) Ibn Battuta's Rihla

Ibn Batutah was a Muslim Moroccan explorer. He is known for his extensive travels, accounts of which were published in the Rihla.

Battuta is considered one of the greatest travelers of all time. He came to India during the regime of Muhammad bin Tughlaq.

123. Ans. (d)

Baha-ud-din Zakariya was a Sufi of Suhrawardiyya order.

Muhammad Nizamuddin Auliya also known as Hazrat Nizamuddin, was a Sufi saint of the Chishti Order.

Hazrat Khwaja Fariduddin Masood Ganjshakar was one of the most brilliant personalities of the Chishti Order of Sufis in India.

124. Ans. (c) Satyagraha in Champaran

The Prime Minister Shri Narendra Modi inaugurated an exhibition titled "Swachhagraha - Bapu Ko Karyanjali - Ek Abhiyan, Ek Pradarshani" in the national capital to mark the 100 years of Mahatma Gandhi's first experiment of Satyagraha in Champaran in April.

125. Ans. (a) Dispersion of light

A rainbow is a meteorological phenomenon that is caused by reflection, refraction and dispersion of light in water droplets resulting in a spectrum of light appearing in the sky.

The dispersion of light is the phenomenon of splitting of a beam of white light into its seven constituent colours when passed through a transparent medium.

126. Ans. (b) Ultrasonic waves

Bats are one of the few mammals that can use sound to navigate. Bats produce sounds, which are usually ultrasonic, ranging in frequency from 20 kilohertz (kHz) to 200 kHz.

The ears and brain cells in bats are especially tuned to the frequencies of the sounds they emit and the echoes that result.

127. Ans. (c) Second law of thermodynamics

Heat cannot flow itself from a lower temperature to a body of higher temperature. This corresponds to second law of thermodynamics.

128. Ans. (d) Sound waves

Sound waves do not belong in the electromagnetic spectrum.

Rest all the options are waves of the electromagnetic spectrum.

129. Ans. (a) Human eye is a refracting system containing a diverging lens.

The lens in the human eye is a convex lens. They are also called converging lens. The converging lens make the rays to meet at retina to form an image for us to see.

Rest of the statements are factual and correct.

130. Ans. (A)

The statement 'ultrasonic waves cannot get reflected, refracted or absorbed' is not correct as bats navigate in dark with the help of reflection of ultrasonic wave. The ultrasonic waves are reflected and refracted just like light waves. i.e.

(a) Angle of incidence is equal to angle of reflection.

(b) Incident ray, reflected ray and normal lie in same plane.

131. Ans. (b) 40th

India was ranked 40th among the 136 economies across the world in 2017 Travel and Tourism Competitiveness Index (TTCI) released by the World Economic Forum (WEF).

In this edition of index, India has jumped 12 places from earlier 52nd position in 2015. But it lagged behind its other Asian peers like Japan (4th) and China (13th).

132. Ans. (c) Depression: Let's Talk World Health Day is being observed on 7 April 2017 with theme 'Depression: Let's Talk. On this occasion, the World Health Organization (WHO) is leading a one-year global campaign on depression which is the leading cause of ill-health and disability worldwide.

The goal of the campaign is that more people with depression, everywhere in the world, both seek and get help.

Depression is the leading cause of ill-health and disability worldwide.

133. Ans. (b) Ministry of Science and Technology

Department of Science and Technology (DST) has launched Cyber Physical Systems (CPS) programme dealing with self-driven cars, autonomous unmanned vehicles and aircraft navigation systems. The programme is still at a nascent stage. Rs. 3,000-crore has been conceived for it and it will first take root in some of the Indian Institutes of Technology (IITs).

134. Ans. (a) 1 only

Indian temples can be classified into two broad orders as

1. Nagara (in North India) (between the Himalyan and Vindhya).

2. Dravida (in South India)

3. the Vesara style of temples as an independent style created through the mixing of Nagara and Dravida orders.

• Shikhara is found in North Indian temples and Vimana is found in South Indian temples.

• Shikhara has a curving shape while vimana has a pyramidal like structure

135. Ans. (a) Major Rock Edict 13
Edict 13 reflects the great remorse the king felt after observing the destruction of Kalinga. The destructive war with Kalinga transformed the Emperor Ashoka to a stable and peaceful emperor and he became a patron of Buddhism.

136. Ans. (d) Union of States
The Cabinet Mission proposed the formation of a Union of India, comprising both the British India and the Princely States. The Union would remain in charge of only foreign affairs, defence and communications leaving the residuary powers to be vested in the provinces.

137. Ans. (d) Administrative Reforms Commission

The first administrative reforms committee in 1966 recommended the setting up of two independent authorities at the central and state level to look into complaints against public functionaries, including MPs.

The first time parliament heard about Lokpal was in May 1968 when Indira Gandhi was prime minister.

138. Ans. (c) Sulphur dioxide
Acid rain results when sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are emitted into the atmosphere and transported by wind and air currents. The SO₂ and NO_x react with water, oxygen and other chemicals to form sulfuric and nitric acids.

139. Ans. (a) 6.5 to 8.5

The pH of pure water is 7. In general, water with a pH lower than 7 is considered acidic, and with a pH greater than 7 is considered basic.

The normal range for pH in surface water systems is 6.5 to 8.5.

140. Ans. (b) 1 and 2 only

Oxidation: Gain of oxygen or loss of hydrogen; Loss of electrons or increase in oxidation state

Reduction: Gain of hydrogen or loss of oxygen; Gain of electrons or decrease in oxidation state

In the combustion of methane, carbon loses hydrogen and gains oxygen, so it is being oxidized. Oxygen gains

hydrogen (and carbon), so it is being reduced. Hydrogen gains oxygen (and loses carbon), so it is being oxidized.

141. Ans. (b) Two hours

The sun rise two hour earlier in Arunachal Pradesh as compared to Gujarat in the west. This is due to the difference in longitude.

142. Ans. (c) 3-2-1-4

Percentage of forest area in relation to the total area of the State is – Kerala (49.50%), Odisha (32.34%), Karnataka (18.99%) and Andhra Pradesh (15.25%).

143. Ans. (b) Tamil Nadu

Coastal Length of Indian States & Union Territories (in decreasing order of coastline)

1. Gujarat – 1214.7 Km
 2. Andhra Pradesh – 973.7 Km
 3. Tamil Nadu – 906.9 Km
 4. Maharashtra – 652.6 Km
 5. Kerala – 569.7 Km
 6. Odisha – 476.4 Km
 7. Karnataka – 280 Km
 8. Goa (with Daman & Diu) – 160.5 Km
 9. West Bengal – 157.5 Km
 10. Puducherry – 30.6 Km (Union Territory)
 11. Andaman & Nicobar Islands – 1962 Km (Union Territory)
 12. Lakshadweep Islands – 132 Km (Union Territory)
144. Ans. (c) Madhya Pradesh

Madhya Pradesh has the largest forest cover in terms of area in the country followed by Arunachal Pradesh.

145. Ans. (c) Dolomite

Dolomite is an anhydrous carbonate mineral composed of calcium magnesium carbonate, ideally $\text{CaMg}(\text{CO}_3)_2$.

The term is also used for a sedimentary carbonate rock composed mostly of the mineral dolomite.

Rest are igneous rocks.

146. Ans. (c) Earth's rotation

The rotation of the Earth causes an interesting phenomenon on free moving objects on the Earth.

Objects in the Northern Hemisphere are deflected to the right, while objects in the Southern Hemisphere are deflected to the left.

The Coriolis effect thus tries to force winds to shift towards the right or left.

147. Ans. (d) Vietnam

The Mekong Delta is the region in south-western Vietnam where the Mekong River approaches and empties into the sea through a network of distributaries.

The Mekong–Ganga Cooperation (MGC) was established on November 10, 2000, at Vientiane, Laos at the First MGC Ministerial Meeting. It comprises six member countries, namely India (Look-East connectivity projects), Thailand, Myanmar, Cambodia, Laos and Vietnam.

148. Ans. (b) Ganga: Penganga

The Penganga River is the chief river of Maharashtra and flows along the south east boundaries of the district in a winding, meandering course.

It is deeply entrenched and not able to be navigated. It rises in the Ajantha range and is a major tributary of the Wardha River.

149. Ans. (a) Formulation and initial stage

Following atmospheric and oceanic conditions are necessary for development of a cyclonic storm. (This is called as formulation stage)

(i) A warm sea temperature in excess of 26 degrees centigrade to a depth of 60 m, which provides abundant water vapour in the air by evaporation.

(ii) High relative humidity of the atmosphere to a height of above 7,00 m facilitates condensation of water vapour into water droplets and clouds, releases heat energy thereby inducing a drop in pressure.

(iii) Atmospheric instability encourages formation of massive vertical cumulus cloud convection with condensation of rising air over ocean.

150. Ans. (b) Meluha

Meluh̄a or Melukhkha is the Sumerian name of a prominent trading partner of Sumer during the Middle Bronze Age.

Its identification remains an open question, but most scholars associate it with the Indus Valley Civilization.

Dilmun was a Persian Gulf civilization which traded with Mesopotamian civilizations.