

N. D. A - I - 2010

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T.B.C. : Q-OEBA-K-HBU

Test Booklet Series

Serial No.

301317

TEST BOOKLET

A

GENERAL ABILITY TEST

Time Allowed : Two Hours and Thirty Minutes

Maximum Marks : 600

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. DO NOT write anything else on the Test Booklet.
4. This Test Booklet contains 150 items (questions) in two Parts : PART—A and PART—B. Each item in PART—B is printed both in Hindi and English. Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each item.
5. You have to mark all your responses ONLY on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator only the Answer Sheet. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers :**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third (0.33)** of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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ध्यान दें : अनुदेशों का हिन्दी रूपान्तर इस पुस्तिका के पिछले पृष्ठ पर दिया है।

PART—A

Directions (For the 8 items which follow) :

Each of the following items consists of a sentence followed by four words or groups of words. Select the **synonym** of the word or group of words (occurring in the sentence in capital letters) as per the context.

1. The engineer **ROUGHED OUT** his ideas on a piece of paper while he talked.
(a) Shaped roughly
(b) Rejected
(c) Drew a quick plan
(d) Described inaccurately
2. He fell into an **ABYSS** of despair.
(a) Well
(b) Deep pit
(c) Sea
(d) Hollow
3. He had the **AUDACITY** to interrupt the Governor of the State while the latter was addressing a gathering of academicians.
(a) Courage
(b) Authority
(c) Foolishness
(d) Arrogance
4. After weeks of **FRENETIC** activity, the ground was ready for the big match.
(a) Strenuous
(b) Hurried
(c) Excited
(d) Hectic
5. The students took **COPIOUS** notes during the lecture delivered by the visiting professor.
(a) Extensive
(b) Exhaustive
(c) Bounteous
(d) Abounding
6. Very few people are **IMPERVIOUS** to criticism.
(a) Impenetrable
(b) Unaffected
(c) Unstoppable
(d) Unmindful
7. The policemen kept on questioning the criminal but failed to **ELICIT** the truth.
(a) Evoke
(b) Wrest
(c) Obtain
(d) Extort
8. Teaching in universities is now considered a **LUCRATIVE** job.
(a) Risky
(b) Profitable
(c) Honourable
(d) Undignified

Directions (For the 8 items which follow) :

Each of the following items consists of a sentence followed by four words. Select the **antonym** of the word (occurring in the sentence in capital letters) as per the context.

9. He is a man of **EXTRAVAGANT** habits.
(a) Sensible
(b) Careful
(c) Economical
(d) Balanced
10. They employ only **DILIGENT** workers.
(a) Unskilled
(b) Lazy
(c) Careless
(d) Idle
11. His success in the preliminary examination made him **COMPLACENT**.
(a) Discontented
(b) Self-satisfied
(c) Curious
(d) Militant
12. In this competition, he has become the **VICTOR**.
(a) Beaten
(b) Frustrated
(c) Disappointed
(d) Vanquished
13. His behaviour at social gatherings is **LAUDABLE**.
(a) Condemnable
(b) Impolite
(c) Unpleasant
(d) Repulsive
14. The characters in this story are not all **FICTITIOUS**.
(a) Common
(b) Factual
(c) Real
(d) Genuine
15. The **RELUCTANCE** of the officer was obvious.
(a) Eagerness
(b) Hesitation
(c) Enjoyment
(d) Unwillingness
16. He is a **GENEROUS** man.
(a) Stingy
(b) Uncharitable
(c) Selfish
(d) Ignoble

REARRANGING PARTS OF A SENTENCE

Directions (For the 8 items which follow) :

In the following items, some parts of the sentence have been jumbled up. You are required to rearrange these parts which are labelled P, Q, R and S to produce the correct sentence. Choose the proper sequence and mark in your Answer Sheet accordingly.

Example 'Z' has been solved for you.

Z. Some people believe that the effect is very bad on children of cinema
P Q R S

The correct sequence should be

- (a) P - S - R - Q
- (b) S - P - Q - R
- (c) S - R - P - Q
- (d) Q - S - R - P

Explanation :

The proper way of writing the sentence is "Some people believe that the effect of cinema on children is very bad". This is indicated by the sequence P - S - R - Q and so (a) is the correct answer.

25. We are doing to the people to give relief all we can
P Q R
but more funds are needed
S

The correct sequence should be

- (a) P - Q - R - S
- (b) R - Q - P - S
- (c) Q - P - R - S
- (d) S - P - Q - R

26. The man when he was in the office last evening could not finish
P Q R
all his work
S

The correct sequence should be

- (a) P - Q - R - S
(b) Q - R - S - P
(c) R - Q - P - S
(d) R - S - P - Q
27. The people decided they were going how much to spend
P Q R
on the construction of the school building
S

The correct sequence should be

- (a) Q - P - R - S
(b) P - Q - R - S
(c) P - R - Q - S
(d) S - Q - P - R
28. The man said that those workers would be given a raise who did not go on
P Q R
strike last month
S

The correct sequence should be

- (a) P - Q - R - S
(b) P - R - S - Q
(c) Q - P - R - S
(d) R - S - P - Q

29. I think the members are basically in agreement of the group
P Q R

on the following points
S

The correct sequence should be

(a) R - Q - P - S

(b) S - Q - R - P

(c) P - R - Q - S

(d) P - Q - S - R

30. While it was true that I had to invest in industry some lands and houses
P Q R

I did not have ready cash
S

The correct sequence should be

(a) P - Q - R - S

(b) P - R - S - Q

(c) S - Q - P - R

(d) Q - P - R - S

31. But for your help to finish this work it would not have been possible in time
P Q R S

The correct sequence should be

- (a) P - R - Q - S
(b) S - P - Q - R
(c) R - P - Q - S
(d) P - Q - R - S

32. The boy in the competition who was wearing spectacles won many prizes
P Q R
held in our college
S

The correct sequence should be

- (a) P - Q - R - S
(b) R - P - S - Q
(c) Q - R - P - S
(d) Q - P - S - R

Directions (For the 8 items which follow) :

Each of the following items is followed by four words or groups of words. Fill in the blanks with the appropriate word or group of words.

33. Although I was — of his plans, I encouraged him, because there was no one else who was willing to help.
- (a) sceptical
(b) remorseful
(c) fearful
(d) excited
34. You have no business to — pain on a weak and poor person.
- (a) inflict
(b) put
(c) direct
(d) force
35. Her uncle died in a car accident. He was quite rich. She suddenly — all her uncle's money.
- (a) succeeded
(b) caught
(c) gave
(d) inherited
36. There was a major accident. The plane crashed. The pilot — did not see the tower.
- (a) likely
(b) probably
(c) scarcely
(d) hurriedly
37. The car we were travelling in — a mile from home.
- (a) broke off
(b) broke down
(c) broke into
(d) broke up
38. What are you — in the kitchen cupboard?
- (a) looking in
(b) looking on
(c) looking to
(d) looking for
39. I did not see the point of — waiting for them, so I went home.
- (a) hanging around
(b) hang on
(c) hang together
(d) hanging up
40. He lost confidence and — of the deal at the last minute.
- (a) backed out
(b) backed on
(c) backed down
(d) backed onto

COMPREHENSION

Directions (For the 10 items which follow) :

In this section, you have **two** short passages. After each passage, you will find several questions based on the passage. First, read a passage and then answer the questions based on it. You are required to select your answers based on the contents of the passage and opinion of the author only.

Examples 'I' and 'J' have been solved for you.

PASSAGE (EXAMPLE)

In our approach to life, be it pragmatic or otherwise, a basic fact that confronts us squarely and unmistakably is the desire for peace, security and happiness. Different forms of life at different levels of existence make up the teeming denizens of this earth of ours. And, no matter whether they belong to the higher groups such as human beings or to the lower groups such as animals, all beings primarily seek peace, comfort and security. Life is as dear to a mute creature as it is to a man. Even the lowliest insect strives for protection against dangers that threaten its life. Just as each one of us wants to live and not to die, so do all other creatures.

- | | |
|--|--|
| <p>I. The author's main point is that</p> <ul style="list-style-type: none">(a) different forms of life are found on the earth(b) different levels of existence are possible in nature(c) peace and security are the chief goals of all living beings(d) even the weakest creature struggles to preserve its life | <p>J. Which one of the following assumptions or steps is essential in developing the author's position?</p> <ul style="list-style-type: none">(a) All forms of life have a single overriding goal(b) The will to survive of a creature is identified with a desire for peace(c) All beings are divided into higher and lower groups(d) A parallel is drawn between happiness and life, and pain and death |
|--|--|

Explanation :

- I. The idea which represents the author's main point is "peace and security are the chief goals of all living beings", which is response (c). So (c) is the correct answer.
- J. The best assumption underlying the passage is "The will to survive of a creature is identified with a desire for peace", which is response (b). So (b) is the correct answer.

PASSAGE—I

When we talk of education in our present age, we think largely in terms of schools and colleges. The man who is well-to-do spends money in sending his son to foreign lands, in the belief that some wonderful process will take place there transforming a dull fellow into a genius. Yet the products of expensive schools and universities often fail to make good. On the other hand, the poor man who has struggled against adversity often earns the highest honour. The fact is that the true background of early education is the home. The home, the influence of the mother, the inspiring examples that are held before the child at an age while he is impressionable, are the true groundwork of character.

41. According to the passage, who helps in our character-building?
- (a) A foreign university
(b) A well-to-do man
(c) Examples that inspire
(d) A man who has earned honour
42. The proper background of early education is
- (a) a school
(b) a college
(c) a religious institution
(d) the home
43. From the passage, we get an impression that the highest honour is earned by
- (a) a man who has received education in a foreign country
(b) a man who has struggled against adversity
(c) a man who has seen prosperity alone
(d) the son of a prosperous man
44. A well-to-do man sends his son to foreign lands
- (a) because it is the fashion of the day
(b) in the belief that his dull son will be transformed into a genius
(c) so that the son may learn the customs of those countries
(d) in order to make his son familiar with the persons and places of those countries
45. The expression "the products of expensive schools and universities often fail to make good" means
- (a) they fail to make a mark in life
(b) they fail to become intelligent
(c) they fail to earn proper living
(d) they do not earn good reputation

PASSAGE—II

The functional declines of advancing age are depressing. The heart's ability to pump blood drops about one percent : blood flow to arms and legs decreases by thirty to forty percent in old age. The amount of air a person can exhale after a deep breath lessens and the chest wall stiffens with age. However, recent studies have shown that most of these age-associated declines can be delayed by exercise. Exercise lowers the resting heart-rate and increases the amount of blood pumped with each beat in older people. When stress is placed on bones through exercise, calcium content rises, with the result that resistance to fracture is improved.

46. Old age is generally a depressing period, because
- (a) old people worry more than others
 - (b) old people tend to regret their past
 - (c) various organs of the body function less efficiently
 - (d) old people do very little work
47. The strength of bones can be increased by exercise, because it
- (a) increases the amount of blood pumped by the heart
 - (b) increases calcium content in bones
 - (c) increases the amount of air exhaled by a person
 - (d) lessens the stiffness of the chest wall
48. The word 'exhale' means
- (a) breathe in
 - (b) breathe out
 - (c) breathe slowly
 - (d) breathe fast
49. Which one of the following statements is correct?
- (a) Exercise delays natural decay of old age
 - (b) Old-age problems increase due to exercise
 - (c) Exercise increases the heart-beat which is dangerous
 - (d) Exercise creates stress which is harmful to bones
50. The chest wall becomes stiff in old age, because
- (a) the heart's ability to pump blood to it drops about one percent
 - (b) the blood flow to various organs decreases
 - (c) the resting heart-rate becomes high
 - (d) the person's ability to exhale sufficient air lessens

PART—B

Directions :

The following **seven (7)** items consist of two statements, Statement I and Statement II. You are to examine these two statements carefully and select the answers to these items using the code given below :

Code :

- (a) Both the statements are individually true and Statement II is the correct explanation of Statement I
- (b) Both the statements are individually true but Statement II is **not** the correct explanation of Statement I
- (c) Statement I is true but Statement II is false
- (d) Statement I is false but Statement II is true

51. Statement I :

Coalition in India is always a post-poll phenomenon.

Statement II :

The United Progressive Alliance was formed after the Lok Sabha Election of 2004.

52. Statement I :

The Constitution of India is a liberal Constitution.

Statement II :

It provides Fundamental Rights to individuals.

53. Statement I :

In order to create linguistic provinces in India, the Congress Party constituted Motilal Nehru Committee in 1928.

Statement II :

The Motilal Nehru Committee suggested creation of linguistic provinces in India.

54. Statement I :

During the day, winds blow from sea to land.

Statement II :

The land gets more heated than the surrounding sea, hence lower pressure develops over land as compared to sea.

55. Statement I :

Winds are deflected to their right in the northern hemisphere and to their left in the southern hemisphere.

Statement II :

The Earth's axis is inclined.

56. Statement I :

Pressure gradients determine the velocity of winds.

Statement II :

When isobars (lines of equal atmospheric pressure) are closely spaced, the wind velocity would be gentle.

57. Statement I :

Temperatures of countries like United Kingdom, Norway, the Netherlands and Denmark are higher as compared to places located on similar latitudes during the winter.

Statement II :

United Kingdom, Norway, the Netherlands and Denmark are located on the coast.

58. Consider the following statement and identify with the help of the code given below the Viceroy who made the statement and when :

In my belief, Congress is tottering to its fall and one of my great ambitions while in India is to assist it to a peaceful demise.

Code :

- (a) Lord Curzon, in a letter to the Secretary of States in 1900
- (b) Lord Curzon, while announcing the partition of Bengal
- (c) Lord Dufferin, during the farewell speech at Calcutta
- (d) Lord Minto, while addressing the Muslim delegation which met him at Shimla in 1906

59. The Copenhagen Summit for Climate Change, 2009 saw

- (a) an agreement among the participants over CO₂ emission
- (b) unanimity of views among the developed and BASIC bloc of countries
- (c) rise of African countries as a bloc
- (d) acceptance of the US as a leader to attain the objective of the Copenhagen Summit

60. Consider the following paragraph and identify with the help of the code given below the writer referred to therein :

*She is the winner of the Sahitya Akademi Award, the Jnanpith Award and is also India's first Principal Prince Claus laureate. One of the most celebrated writers of contemporary Indian literature, she is noted for her novels which include *The Moth-Eaten Howdah of the Tusker*, *Pages Stained with Blood* and *The Man from Chinnamasta*.*

Code :

- (a) Anita Desai
- (b) Indira Goswami
- (c) Mahasweta Devi
- (d) Chitra Mudgal

61. Consider the following paragraph and identify with the help of the code given below the Church referred to therein :

Considered as one of the best examples of baroque architecture in India, this World Heritage Monument is dedicated to Infant Jesus. It houses the sacred relics of St. Francis Xavier, the patron saint, who died in 1552.

Code :

- (a) Santa Cruz Basilica
- (b) St. Francis Church
- (c) Church of the Holy Cross
- (d) Basilica of Bom Jesus

62. Ms. Reena Kaushal Dharmshaktu is the first Indian woman

- (a) to reach Antarctica
- (b) pilot inducted in Indian Air Force
- (c) to ski to the South Pole
- (d) to win the gold medal in Asian Boxing Championship

63. Which one among the following is the latest milestone of Doordarshan, the public broadcaster of India?

- (a) Launch of enrichment/cultural channel—DD Bharati
- (b) Launch of 24 hours news channel—DD News
- (c) Launch of sports channel—DD Sports
- (d) Formation of Prasar Bharati (Broadcasting Corporation of India)

64. START (Strategic Arms Reduction Treaty) is a treaty between/among

- (a) China and Japan
- (b) USA and Russia
- (c) USA and European Union
- (d) China, India, USA and Russia

65. Which one of the following is **not** a member of BASIC bloc of countries?

- (a) South Africa
- (b) China
- (c) India
- (d) Australia

66. Which of the following is/are instance(s) of violation of human rights?

1. A person was detained by the security forces while going for casting vote in Parliamentary Election.
2. A civilian was killed by the army while undertaking combing operation.

Select the correct answer using the code given below :

Code :

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

67. Consider the following paragraph about one of the prominent personalities of India and identify him/her using the code given below :

One of the founder members of the Progressive Artists Group, he/she painted several important series of paintings like the Mahabharata and Ramayana, Christ and the Lamb, Peace Doves, Women with Roosters and Mother Teresa. He/She made a symbolic film, Through the Eyes of a Painter, which won him/her the Golden Bear Award at the Berlin Film Festival.

Code :

- (a) Dhiraj Choudhury
- (b) Satish Gujral
- (c) M. F. Hussain
- (d) Amrita Shergil

68. Operation Vajraprahar is the joint counter-terrorism exercise between Indian Army and

- (a) US Army
- (b) Chinese Army
- (c) Russian Army
- (d) Nepalese Army

69. The notion of *saptanga* that was introduced in *Arthashastra* includes

- (a) kings, territory, administration and treasury
- (b) music, dance, ragas and wrestling
- (c) ministers, civil servants, subalterns and those involved in espionage
- (d) aristocrats, acharyas, traders and monks

70. The immediate cause of the revival of human rights in post-Second World War period was

- (a) massive loss of lives in the War
- (b) nuclear bombing of Hiroshima and Nagasaki by the Americans
- (c) growing knowledge of brutal atrocities of Nazis over the Jews
- (d) emergence of Soviet Union as a Superpower

71. Which one of the following with regard to the Poona Pact, 1932 is **not** correct?

- (a) Adequate representation of depressed sections in government jobs
- (b) Reservation of seats for the depressed classes in the provincial legislature
- (c) Acceptance of joint electorate system
- (d) Reservation of seats for the depressed classes in the central legislature

72. The Government of India Act, 1935 was based on

- (a) the principle of federation and parliamentary system
- (b) the principle of secession of the British Indian provinces
- (c) acceptance of independence of India
- (d) acceptance of the idea of a constituent assembly to draft a constitution

73. Which of the following statements with regard to freedom struggle are correct?

1. The British rule could prevail in India on the basis of the consent or acquiescence of many sections of Indian people.
2. The social basis of the colonial regime was among the Zamindars and upper classes.
3. The Indian National Army forced the British to withdraw from India.
4. The *Hindu Mahasabha* supported the partition of India.

Select the correct answer using the code given below :

Code :

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 and 4 only
- (d) 1, 2, 3 and 4

74. Which one of the following statements with regard to 'Direct Action Day' is correct?

- (a) Hasan Suhrawardy presided over the 'Direct Action Day'
- (b) 'Direct Action' took place in Delhi
- (c) 'Direct Action Day' led to the Bihar riot
- (d) 'Direct Action' was endorsed by the Congress Party

75. Planning in India drew on

- (a) the New Economic Programme of Lenin
- (b) the Fabian Socialism of Sidney and Beatrice Webb
- (c) the British welfare mechanism
- (d) new democratic development packages

76. The Haripura Congress (1938) remains a milestone in Indian freedom struggle, because

- (a) it declared war on the British Empire
- (b) it anointed Jawaharlal Nehru as the future Prime Minister of India
- (c) of the introduction of the idea of a planning commission
- (d) of the acceptance of the Government of India Act, 1935 by the Congress

77. The Constitution (93rd Amendment) Act deals with

- (a) local self-government
- (b) extension of reservation in educational institutions
- (c) basic structure of the Constitution of India
- (d) appointment of judges in the Supreme Court of India

78. Which of the following statements is/are **not** violative of the principle of federalism?

1. The President of India takes over administration of provinces under the emergency provisions.
2. The Parliament of India has exclusive power to make any law with respect to any matter not enumerated in the Concurrent List or State List.
3. The distribution of powers between the Union and Provinces is done through three different lists enumerated in the Constitution of India.

Select the correct answer using the code given below :

Code :

- (a) 1 and 2
- (b) 2 and 3
- (c) 3 only
- (d) 1 and 3

79. Public Interest Litigation (PIL) may be linked with

- (a) judicial review
- (b) judicial activism
- (c) judicial intervention
- (d) judicial sanctity

80. In *Hind Swaraj*, Mahatma Gandhi was critical of railways, because they are

1. carriers of plague germs
2. instruments for frequency of famines
3. responsible for creating class division in the society
4. accident-prone

Select the correct answer using the code given below :

Code :

- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1 and 4

81. Mahatma Gandhi and Rabindranath Tagore did **not** define India as a 'nation', because they were

- (a) appreciative of cultural divisiveness
- (b) opposed to the idea of homogeneity
- (c) supportive of 'oneness'
- (d) critical of hegemonic culture

82. Socialism refers to

- (a) State-controlled economy
- (b) liquidation of the bourgeoisie
- (c) removal of peasantry from administration
- (d) establishment of military dictatorship

83. According to Karl Marx, attainment of communism is possible only after
- resolution of tension between the leader and led
 - completion of permanent revolution
 - emergence of exploitation-free society
 - disappearance of difference between urban and rural areas

84. India's 'Look East Policy'

- was articulated during the reign of H. D. Deve Gowda as India's Prime Minister
- is directed towards South-East Asian countries
- is about controlling terrorism
- seeks to develop a bond among various countries on the basis of economic cooperation.

Select the correct answer using the code given below :

Code :

- 1 and 2
- 2 and 3
- 2 and 4
- 3 and 4

85. Cloudy nights are warmer than clear nights because of
- greenhouse effect
 - depletion of ozone layer
 - insolation
 - terrestrial radiation

86. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Landform)	<i>List-II</i> (Agent of erosion/ deposition)
A. Inselbergs	1. River
B. Stalagmite	2. Glacier
C. Delta	3. Underground water
D. Moraines	4. Wind

Code :

- A B C D
4 2 1 3
- A B C D
3 1 2 4
- A B C D
1 2 3 4
- A B C D
4 3 1 2

87. If it is 12 noon in a city located on 90° W longitude, what would be the time in a city located on 105° W longitude?

- 13:00 hours
- 12:30 hours
- 11:30 hours
- 11:00 hours

88. As we proceed from equator to poles, the daily range of temperature tends to

- decrease
- increase
- be constant
- fluctuate

89. Doldrums are characterized by

- (a) uniform low pressure
- (b) uniform high pressure
- (c) high wind velocity
- (d) low humidity

90. Glaciated regions are associated with

- (a) V-shaped valley
- (b) U-shaped valley
- (c) sand dunes
- (d) stalactites

91. Which one of the following is generally found in sedimentary rocks?

- (a) Basalt
- (b) Silica
- (c) Shale
- (d) Magnesium

92. The interval between two high tides is approximately

- (a) 4 hours
- (b) 6 hours
- (c) 12 hours
- (d) 24 hours

93. Xerophytes thrive in

- (a) hot and arid condition
- (b) cool and wet condition
- (c) hot and wet condition
- (d) cool and arid condition

94. Biodiversity is highest in

- (a) Tundra zone
- (b) Prairie zone
- (c) Torrid zone
- (d) Tropic zone

95. Which of the following statements is/are correct?

1. Lunar eclipse takes place when the Earth comes directly between the Sun and the Moon.
2. Solar eclipse happens when the Moon comes directly between the Sun and the Earth.
3. Lunar eclipse takes place when the Sun comes directly between the Earth and the Moon.
4. Solar eclipse happens when the Earth comes directly between the Sun and the Moon.

Select the correct answer using the code given below :

Code :

- (a) 1, 2 and 3
- (b) 3 and 4
- (c) 1 and 2 only
- (d) 2 only

96. Iron ore from Kudremukh is most likely to be exported through

- (a) Goa
- (b) Kochi
- (c) Mangalore
- (d) Ennore

97. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Type of vegetation)	<i>List-II</i> (State)
A. Mangrove	1. Madhya Pradesh
B. Scrub	2. Karnataka
C. Teak	3. Rajasthan
D. Coniferous	4. Arunachal Pradesh

Code :

- (a) A B C D
 4 1 3 2
- (b) A B C D
 2 1 3 4
- (c) A B C D
 4 3 1 2
- (d) A B C D
 2 3 1 4

98. Arrange the following States on the basis of ascending dates of the onset of monsoon :

1. Uttar Pradesh
2. West Bengal
3. Kerala
4. Rajasthan

Select the correct answer using the code given below :

Code :

- (a) 2-3-1-4
- (b) 3-2-1-4
- (c) 3-1-2-4
- (d) 1-2-3-4

99. Which of the following are west-flowing rivers?

1. Krishna
2. Narmada
3. Mahanadi
4. Sabarmati

Select the correct answer using the code given below :

Code :

- (a) 2 and 4
- (b) 1 and 3
- (c) 1 and 4
- (d) 2 and 3

100. Which of the following statements are correct?

1. In a cyclone, the area of low pressure is at the centre surrounded by the areas of high pressure.
2. In a cyclone, the areas of low pressure surround the area of high pressure.
3. In an anti-cyclone, the area of high pressure is surrounded by the areas of low pressure.
4. In an anti-cyclone, the area of low pressure is surrounded by the areas of high pressure.

Select the correct answer using the code given below :

Code :

- (a) 1 and 2
- (b) 1 and 3
- (c) 1 and 4
- (d) 2 and 4

112. The ratio of the focal length of the objective to the focal length of the eyepiece is greater than one for
- a microscope
 - a telescope
 - both microscope and telescope
 - neither microscope nor telescope
113. The effective resistance of three equal resistances, each of resistance r , connected in parallel, is
- $3/r$
 - $r/3$
 - $3r$
 - r^3
114. A fan produces a feeling of comfort during hot weather, because
- our body radiates more heat in air
 - fan supplies cool air
 - conductivity of air increases
 - our perspiration evaporates rapidly
115. Which one of the following statements is correct?
- Only electrons reside inside the nucleus of an atom
 - Both electrons and protons reside inside the nucleus of an atom
 - Only neutrons reside inside the nucleus of an atom
 - Both protons and neutrons can reside inside the nucleus of an atom
116. The ratio of velocity of X-rays to that of gamma rays
- is < 1
 - is > 1
 - is 1
 - depends upon the ratio of their frequencies
117. Which one of the following pairs of rays is electromagnetic in nature?
- Beta rays and gamma rays
 - Cathode rays and X-rays
 - Alpha rays and beta rays
 - X-rays and gamma rays
118. The magnetic lines of force due to a bar magnet
- intersect inside the body of the magnet
 - intersect at neutral points only
 - intersect only at north and south poles
 - cannot intersect at all
119. The specific resistance of a conducting wire depends upon
- length of the wire, area of cross-section of the wire and material of the wire
 - length of the wire and area of cross-section of the wire but not on the material of the wire
 - material of the wire only but neither on the length of the wire nor on the area of cross-section of the wire
 - length of the wire only but neither on the area of cross-section of the wire nor on the material of the wire

128. A particle oscillates in one dimension about the equilibrium position subject to a force $F_x(x)$ that has an associated potential energy $U(x)$. If k is the force constant, which one of the following relations is true?

(a) $F_x(x) = -kx^2$

(b) $F_x(x) = -kx$

(c) $U(x) = \frac{1}{2}kx$

(d) $U(x) = \frac{1}{2}k^2x$

129. When a body moves with simple harmonic motion, then the phase difference between the velocity and the acceleration is

(a) 0°

(b) 90°

(c) 180°

(d) 270°

130. A body is thrown vertically upwards and then falls back on the ground. Its potential energy is maximum

(a) on the ground

(b) at the maximum height

(c) during the return journey

(d) both on the ground and at the maximum height

131. Which one of the following pairs does **not** have the same dimension?

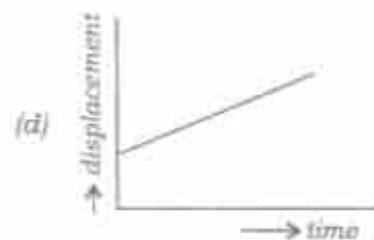
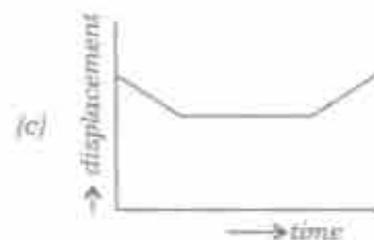
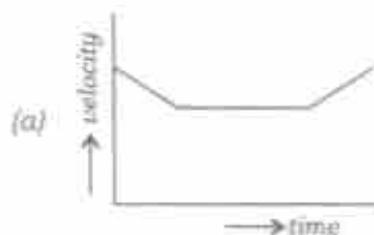
(a) Potential energy and kinetic energy

(b) Density and specific gravity

(c) Focal length and height

(d) Gravitational force and frictional force

132. Which one of the following graphs represents uniform motion?



133. How many sixty watt (60 W) bulbs may be safely used in a 240-V supply with 4-ampere fuse?

- (a) 4
- (b) 8
- (c) 12
- (d) 16

134. A vessel contains oil (density ρ_1) over a liquid of density ρ_2 ; a homogeneous sphere of volume V floats with half of its volume immersed in the liquid and the other half in oil. The weight of the sphere is

- (a) $V(\rho_2 - \rho_1)g/2$
- (b) $V(\rho_2 + \rho_1)g/2$
- (c) $V(\rho_2 + \rho_1)g$
- (d) $V(\rho_2 + \rho_1)g/2$

135. For a simple pendulum in simple harmonic motion, which of the following statements is/are correct?

1. The kinetic energy is maximum at the mean position.
2. The potential energy is maximum at the mean position.
3. Acceleration is maximum at the mean position.

Select the correct answer using the code given below :

Code :

- (a) 1 only
- (b) 2 only
- (c) 1 and 3
- (d) 2 and 3

136. The metal atom, which is present in superphosphate, is

- (a) sodium (Na)
- (b) potassium (K)
- (c) calcium (Ca)
- (d) magnesium (Mg)

137. The best and the poorest conductors of heat are respectively

- (a) silver (Ag) and lead (Pb)
- (b) copper (Cu) and aluminium (Al)
- (c) silver (Ag) and gold (Au)
- (d) copper (Cu) and gold (Au)

138. Which one among the following metals is more reactive than hydrogen?

- (a) Mercury
- (b) Copper
- (c) Silver
- (d) Tin

139. The number of neutrons in ${}_{13}\text{Al}^{27}$ is

- (a) 40
- (b) 27
- (c) 14
- (d) 13

Directions :

The following **four (4)** items are based on the Table given below. You are to match List-I with List-II, List-III and List-IV, and select the correct answer using the code given below :

<i>List-I (Element)</i>	<i>List-II (Property)</i>	<i>List-III (Property/ Composition)</i>	<i>List-IV (Property/ Composition)</i>
A. Diamond	1. Thermosetting polymer	I. Rigid structure	i. Non-conductor of heat
B. Graphite	2. Monomer	II. Sheet-like structure	ii. Ester
C. Rayon	3. Soft	III. Cellulose	iii. Conductor of heat
D. Nylon	4. Viscose process	IV. Soft on heating	iv. Ether
E. Carbon fibre	5. Synthetic fibre	V. Unreactive	v. Silk-like thread
F. Polyvinyl chloride	6. High strength	VI. Corrosion	vi. Spacecraft
G. Terylene	7. Thermoplastic	VII. Melts instead of burning	vii. Chlorine atom replaces hydrogen atom
H. Bakelite	8. Polyester fibre	VIII. Ethylene glycol	viii. Cross-linked
	9. Hardest natural substance	IX. Phenol and formaldehyde	ix. Terephthalic acid

140. *List-I List-II List-III List-IV*

- (a) A 9 I i
 (b) B 3 IV iv
 (c) A 9 I ii
 (d) B 3 II v

142. *List-I List-II List-III List-IV*

- (a) E 6 I vi
 (b) F 7 IV ix
 (c) E 6 VI vi
 (d) F 3 VI v

141. *List-I List-II List-III List-IV*

- (a) C 4 II i
 (b) D 5 VII v
 (c) C 6 V vi
 (d) D 5 II iv

143. *List-I List-II List-III List-IV*

- (a) G 8 I ix
 (b) H 4 IV iii
 (c) G 8 VIII ix
 (d) H 1 VI viii

144. Which one of the following is a transition metal?
- (a) Aluminium (Al)
 (b) Manganese (Mn)
 (c) Magnesium (Mg)
 (d) Calcium (Ca)

145. Which one of the following gases, present in the air near the surface of the Earth, has maximum concentration?
- (a) Oxygen (O_2)
 (b) Hydrogen (H_2)
 (c) Nitrogen (N_2)
 (d) Methane (CH_4)

146. Which one of the following elements will replace hydrogen from acids to form salts?
- (a) Sulphur (S)
 (b) Silicon (Si)
 (c) Zinc (Zn)
 (d) Phosphorus (P)

147. Which of the following represent a chemical change?
1. Magnetization of iron
 2. Condensation of liquid
 3. Burning of fuel
 4. Rusting of iron

Select the correct answer using the code given below :

Code :

- (a) 1 and 2
 (b) 2 and 3
 (c) 3 and 4
 (d) 1 and 4

148. Which one among the following is the correct order of reactivity of the elements?
- (a) $Cu > Mg > Zn > Na$
 (b) $Na > Zn > Mg > Cu$
 (c) $Cu > Zn > Mg > Na$
 (d) $Na > Mg > Zn > Cu$

149. Vinegar is produced from
- (a) ethanoic acid
 (b) valeric acid
 (c) methanoic acid
 (d) butanoic acid

150. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I

List-II

- | | |
|--------------------|---------------------------------------|
| A. Ozone gas | 1. Combines with haemoglobin |
| B. Nitrous oxide | 2. Ultraviolet radiation |
| C. Carbon dioxide | 3. Component of air in small quantity |
| D. Carbon monoxide | 4. Visible radiation |
| | 5. Infrared radiation |

Code :

- (a) A B C D
 1 4 5 3
 (b) A B C D
 2 3 5 1
 (c) A B C D
 1 4 3 2
 (d) A B C D
 2 5 3 1