

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

T.B.C. : B-PFCA-O-JCV

Test Booklet Series

Serial No.

0441661

TEST BOOKLET

GENERAL ABILITY TEST

A

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. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.
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 three/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 THE CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are three/four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** 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 छपा है ।

PART – A

Spotting Errors

Directions :

In this Section, a number of sentences are given. The sentences are underlined in three separate parts and each one is labelled (a), (b), (c). Read each sentence to find out whether there is an error in any underlined part. No sentence has more than one error. When you find an error in any one of the underlined parts (a), (b) or (c), indicate your response on the Answer Sheet at the appropriate space. You may feel that there is no error in a sentence. In that case letter '(d)' will signify a 'No error' response.

1. Unless you stop to make noise at once, I will have no option but to
(a) (b)
bring the matter to the attention of the police. No error.
(c) (d)
2. He couldn't but help shed tears at the plight of the villagers
(a) (b)
rendered homeless by a devastating cyclone. No error.
(c) (d)
3. Since it was his first election campaign, the candidate was confused;
(a)
none could clearly understand either the principles he stood for or the benefits he promised.
(b) (c)
No error.
(d)
4. It is an established fact that the transcendental American poets and philosophers,
(a)
who lived in the latter half of the nineteenth century,
(b)
were more influenced by Indian philosophy, in particular by Upanishadic Philosophy.
(c)
No error.
(d)
5. No sooner did I open the door when the rain, heavy and stormy, rushed in
(a) (b)
making us shiver from head to foot. No error.
(c) (d)

6. After opening the door we entered into the room next to the kitchen. No error.
 (a) (b) (c) (d)
7. When the dentist came in my tooth was stopped aching
 (a) (b)
out of fear that I might lose my tooth. No error.
 (c) (d)
8. Emphasis on equality of life ensures for the health and happiness of every individual.
 (a) (b) (c)
No error.
 (d)
9. The students were awaiting for the arrival of the chief guest. No error.
 (a) (b) (c) (d)
10. You will come to my party tomorrow, isn't it ? No error.
 (a) (b) (c) (d)
11. Having read a number of stories about space travel
 (a) (b)
his dream now is about to visit the moon. No error.
 (c) (d)
12. The meeting adjourned abruptly by the Chairman after about three hours of deliberation.
 (a) (b) (c)
No error.
 (d)
13. Not one of the hundreds of striking workers were allowed to go near the factory.
 (a) (b) (c)
No error.
 (d)
14. If I had known this earlier I will have helped him. No error.
 (a) (b) (c) (d)
15. Mr. Smith was accused for murder but the court found him not guilty and acquitted him.
 (a) (b) (c)
No error.
 (d)

Sentence Improvement

Directions :

Look at the underlined part of each sentence. Below each sentence are given three possible substitutions for the underlined part. If one of them, (a), (b) or (c), is better than the underlined part, indicate your response on the Answer Sheet against the corresponding letter (a), (b) or (c). If none of the substitutions improve the sentence, indicate (d) as your response on the Answer Sheet. Thus a 'No improvement' response will be signified by the letter (d).

16. Although India is still by far a poor country, it can become rich if its natural and human resources are fully utilised.
- (a) few and far between
(b) by and large
(c) by and by
(d) No improvement
17. The more they earn, more they spend.
- (a) More they earn, more they spend
(b) More they earn, the more they spend
(c) The more they earn, the more they spend
(d) No improvement
18. But in all these cases conversion from one scale to another is easy because scales have well-formulated.
- (a) can be well-formulated
(b) are well-formulated
(c) well-formulated
(d) No improvement
19. Five years ago on this date, I am sitting in a small Japanese car, driving across Poland towards Berlin.
- (a) was sitting
(b) sat
(c) have been sitting
(d) No improvement
20. The old man felled some trees in the garden with hardly no effort at all.
- (a) hard effort
(b) hardly any effort
(c) a hardly any effort
(d) No improvement
21. She says she's already paid me back, but I can't remember, so I'll have to take her word.
- (a) to take her word true
(b) to take her at her word
(c) to take her word for it
(d) No improvement
22. The workers are hell bent at getting what is due to them.
- (a) hell bent on getting
(b) hell bent for getting
(c) hell bent to getting
(d) No improvement
23. You are warned against committing the same mistake again.
- (a) to commit
(b) for committing
(c) against to commit
(d) No improvement

24. While we would like that all Indian children to go to school, we need to ponder why they do not.

- (a) that all the Indian children
- (b) if all the children of India
- (c) all Indian children
- (d) No improvement

25. Due to these reasons we are all in favour of universal compulsory education.

- (a) Out of these reasons
- (b) For these reasons
- (c) By these reasons
- (d) No improvement

26. When it was feared that the serfs might go too far and gain their freedom from serfdom, the Protestant leaders joined the princes at crushing them.

- (a) into crushing
- (b) in crushing
- (c) without crushing
- (d) No improvement

27. In India, today many of our intellectuals still talk in terms of the French revolution and the Rights of Man, not appreciating that much has happened since then.

- (a) much has been happening
- (b) much had happened
- (c) much might happen
- (d) No improvement

28. Taxpayers are to be conscious of their privileges.

- (a) have to
- (b) need
- (c) ought to
- (d) No improvement

29. I would have waited for you at the station if I knew that you would come.

- (a) had known
- (b) was knowing
- (c) have known
- (d) No improvement

30. No one could explain how a calm and balanced person like him could penetrate such a mindless act on his friends.

- (a) perpetuate
- (b) perpetrate
- (c) precipitate
- (d) No improvement

Ordering of Sentences

Directions :

In items in this section, each passage consists of six sentences. The first and the sixth sentences are given in the beginning as S1 and S6. The middle four sentences in each have been removed and jumbled up. These are labelled P, Q, R and S. You are required to find out the proper order for the four sentences and mark accordingly on the Answer Sheet.

31. S1: At the roadside the driver will be asked to blow through a small glass tube into a plastic bag.

S6: The driver will be asked to go to the police station.

P : And if the colour change does not reach the line the driver cannot be punished under the new law.

Q : Inside the tube are chemically treated crystals which change colour if the driver has alcohol on his breath.

R : But if the colour change does reach the line then the test has proved positive.

S : If the colour change goes beyond a certain line marked on the tube this indicates that the driver is probably over the specified limit.

The proper sequence should be

(a) P S Q R

(b) S Q R P

(c) R P S Q

(d) Q S P R

32. S1: Hope springs eternally in the heart of man.

S6: This is the central idea of the poem.

P : But hope is everlasting.

Q : Love, friendship and youth perish.

R : It is nursed by the glorious elements of nature.

S : Man derives hope from nature in his gallant struggle after some noble ideal.

The proper sequence should be

(a) Q P R S

(b) S R Q P

(c) R S Q P

(d) Q P S R

33. S1: Mr Sherlock Holmes and Doctor Watson were spending a weekend in a University town.

S6: It was clear that something very unusual happened.

P : One evening they received a visit from an acquaintance, Mr Hilton Soames.

Q : On that occasion he was in a state of great agitation.

R : They were staying in furnished rooms, close to the library.

S : Mr Soames was a tall, thin man of a nervous and excitable nature.

The proper sequence should be

(a) P R S Q

(b) R P S Q

(c) P Q R S

(d) R P Q S

34. S1: The machines that drive modern civilisation derive their power from coal and oil.

S6: Nuclear energy may also be effectively used in this respect.

P : But they are not inexhaustible.

Q : These sources may not be exhausted very soon.

R : A time may come when some other sources have to be tapped and utilised.

S : Power may, of course, be obtained in future from forests, water, wind and withered vegetables.

The proper sequence should be

(a) P Q R S

(b) Q P R S

(c) S R Q P

(d) S P Q R

35. S1: The body can never stop.

S6: It comes from food.

P : To support this endless activity, the body needs all the fuel for action.

Q : Sometimes it is more active than at other times, but it is always moving.

R : Even in the deepest sleep we must breathe.

S : The fuel must come from somewhere.

The proper sequence should be

(a) P Q R S

(b) P R Q S

(c) Q R P S

(d) S R Q P

36. S1: American idealism is essentially a belief in the idea of progress.

S6: This sense they have inherited from the English.

P : Therefore, he believes that, because of human effort, the future will be better than the past.

Q : But if Americans are usually optimistic, they are not wholly unrealistic.

R : The American tends to view history as a record of human achievement.

S : They have some common sense practicality.

The proper sequence should be

(a) P Q R S

(b) P Q S R

(c) R P Q S

(d) P R Q S

Selecting Words

Directions :

In the following passage at certain points you are given a choice of three words marked (a), (b) and (c), one of which fits the meaning of the passage. Choose the best word out of the three. Mark the letter, viz., (a), (b) or (c), relating to this word on your Answer Sheet. Examples K and L have been solved for you.

- | K | L |
|---|------------------------|
| The (a) boy was in the school in Simla. | (a) She was home sick. |
| (b) horse | (b) It |
| (c) dog | (c) He |

Explanation : Out of the list given in item K, only 'boy' is the correct answer because usually, a boy, and not a horse or a dog, attends school. So '(a)' is to be marked on the Answer Sheet for item K. A boy is usually referred to as 'he', so for item L, '(c)' is the correct answer. Notice that to solve the first item K you have to read the rest of the sentence and then see what fits best.

Passage

After having slept for an hour, Bond decided to go out into the city and try to find his contact. After changing his suit, he carefully locked his room and stepped out of the hotel. No one was

- around. But he had walked only for a few minutes when it suddenly
- 37.
- (a) felt to him
- (b) occurred
- (c) happened
- that he was being
- 38.
- (a) followed by someone. There was really no
- (b) shot
- (c) looked
- 39.
- (a) reason for
- (b) cause
- (c) evidence
- it except a very slight
- 40.
- (a) weight of footsteps. He was now walking
- (b) sound
- (c) hurting
- 41.
- (a) from the
- (b) down
- (c) over
- 42.
- main street, which was crowded (a) with people. He became extremely aware of the danger
- (b) by
- (c) in
- of people threatening him.

Synonyms

Directions :

Each item in this section consists of a sentence with an underlined word followed by four words or group of words. Select the word or group of words that is most *similar* in meaning to the underlined word.

43. He was fired for negligence on duty.
(a) relieved of his job
(b) scolded
(c) rebuked
(d) attacked
44. Democracy is not the standardising of everyone so as to obliterate all peculiarity.
(a) demolish
(b) extinguish
(c) erase
(d) change
45. Divine grace is truly ineffable.
(a) that which cannot be rubbed out
(b) incapable of being understood
(c) that which is too great to be expressed in words
(d) too powerful to be defeated
46. The convocation address was very edifying.
(a) tedious
(b) in need of editing
(c) instructive
(d) exciting

Antonyms

Directions :

Each item in this section consists of a sentence with an underlined word, followed by four words. Select the word that is most nearly *opposite* in meaning to the underlined word.

47. John is always shabbily dressed.
(a) decently
(b) beautifully
(c) extravagantly
(d) scantily
48. The new manager of the Bank is urbane in his manners.
(a) civilised
(b) slow
(c) rude
(d) foolish
49. It is necessary to develop thrifty habits to be able to lead a comfortable life.
(a) expensive
(b) extravagant
(c) economical
(d) good
50. Many people suffer because of pride.
(a) lowliness
(b) submission
(c) humility
(d) obedience

PART – B

Directions :

The following 8 (*Eight*) 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 : Growth of plants is smooth with a complete fertilizer.

Statement II : A complete fertilizer always contains N, P, K.

52. Statement I : The granules of modern gunpowder (also called black powder) are typically coated with Graphite.

Statement II : Graphite prevents the build-up of electrostatic charge.

53. Statement I : Colour of nitrogen dioxide changes to colourless at low temperature.

Statement II : At low temperature Nitrogen tetroxide (N_2O_4) is formed which is colourless.

54. Statement I : Diamond is very bright.

Statement II : Diamond has very low refractive index.

55. Statement I : Oxygen gas is easily produced at a faster rate by heating a mixture of potassium chlorate and manganese dioxide than heating potassium chlorate alone.

Statement II : Manganese dioxide acts as a negative catalyst.

56. Statement I : A body weighs less on a hill top than on earth's surface even though its mass remains unchanged.

Statement II : The acceleration due to gravity of the earth decreases with height.

57. Statement I : While putting clothes for drying up, we spread them out.

Statement II : The rate of evaporation increases with an increase in surface area.

58. Statement I : Due to diffused or irregular reflection of light, a closed room gets light even if no direct sunlight falls inside the room.

Statement II : Irregular reflection, where the reflected rays are not parallel, does not follow the laws of reflection.

59. Ultrasonic waves of frequency 3×10^5 Hz are passed through a medium where speed of sound is 10 times that in air (Speed of sound in air is 300 m/s). The wavelength of this wave in that medium will be of the order of

- (a) 1 cm
- (b) 10 cm
- (c) 100 cm
- (d) 0.1 cm

60. If radius of the earth were to shrink by 1%, its mass remaining the same, g would decrease by nearly

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

61. The displacement-time graph of a particle acted upon by a constant force is

- (a) a straight line
- (b) a circle
- (c) a parabola
- (d) any curve depending upon initial conditions

62. Which one of the following is *not* a result of surface tension ?

- (a) Nearly spherical drop of rain
- (b) Capillary rise
- (c) Removal of dirt by soap or detergent
- (d) Flow of a liquid

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

List I
(Compound)

List II
(Nature)

- | | |
|----------------------|----------------|
| A. Sodium hydroxide | 1. Strong acid |
| B. Calcium oxide | 2. Alkali |
| C. Acetic acid | 3. Weak acid |
| D. Hydrochloric acid | 4. Base |

Code :

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

64. Which one of the following statements is *not* correct ?

- (a) Kerala is the largest producer of natural rubber in India
- (b) Neyveli is an important thermal power generating area of Tamil Nadu
- (c) Ratnagiri Bauxite mining area is located in Karnataka
- (d) Assam is the largest tea producing state in India

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

List I
(Paper industry
centre)

List II
(State)

- | | |
|----------------|-------------------|
| A. Kamptee | 1. Karnataka |
| B. Rajahmundry | 2. Maharashtra |
| C. Shahdol | 3. Andhra Pradesh |
| D. Belagola | 4. Madhya Pradesh |

Code :

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

66. The newly formed state of Telengana is surrounded by

- (a) 5 States
- (b) 4 States
- (c) 6 States
- (d) 3 States

67. Energy is required for maintenance of life. It is obtained by a process called

- (a) Metabolism
- (b) Phagocytosis
- (c) Photorespiration
- (d) Decomposition

68. All life forms contain "molecules of life". These are

- (a) Carbohydrates
- (b) Proteins
- (c) Nucleic acids
- (d) All of the above

69. If a charged particle (+q) is projected with certain velocity parallel to the magnetic field, then it will

- (a) trace helical path
- (b) trace circular path
- (c) continue its motion without any change
- (d) come to rest instantly

70. Optical fibres, though bent in any manner, allows light to pass through. What is the inference that one can draw from it ?

- (a) The concept that light travels in straight path is wrong
- (b) Light can flow through the optical fibres
- (c) Light can travel through the fibres because of their ductility
- (d) Light can travel through the fibres due to multiple total internal reflections

71. Which one among the following happens when a swing rises to a certain height from its rest position ?

- (a) Its potential energy decreases while kinetic energy increases
- (b) Its kinetic energy decreases while potential energy increases
- (c) Both potential and kinetic energy decrease
- (d) Both potential and kinetic energy increase

72. Which one among the following is used in making gunpowder ?

- (a) Magnesium sulphate
- (b) Potassium nitrate
- (c) Sodium stearate
- (d) Calcium sulphate

73. The cleaning action of soap and detergent in water is due to the formation of

- (a) Micelle
- (b) Salt
- (c) Base
- (d) Acid

74. The chemical used as a fixer/developer in photography is

- (a) Sodium sulphate
- (b) Sodium sulphide
- (c) Sodium thiosulphate
- (d) Sodium sulphite

75. Rain shadow effect is associated with

- (a) Cyclonic rainfall
- (b) Orographic rainfall
- (c) Convectional rainfall
- (d) Frontal rainfall

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

List I (Place)	List II (Industry)
A. Jabalpur	1. Petro-chemical industry
B. Bengaluru	2. IT industry
C. Mathura	3. Paper industry
D. Ballarpur	4. Automobile industry

Code :

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

77. Which one of the following irrigation canals is the most important in terms of area coverage in Haryana ?

- (a) Bhakra canal
- (b) The Western Yamuna canal
- (c) Jawaharlal Nehru canal
- (d) Gurgaon canal

78. Which one of the following is the smallest unit showing the properties of life such as capacity for metabolism, response to the environment, growth and reproduction ?

- (a) Gene
- (b) Chromosome
- (c) Nucleus
- (d) Cell

Code :

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

79. In plants, which one of the following gases is released during Photosynthesis ?

- (a) Carbon dioxide
- (b) Oxygen
- (c) Hydrogen
- (d) Methane

81. A ray of light when refracted suffers change in velocity. In this context, which one among the following statements is correct ?

- (a) Velocity increases as the ray passes from a rarer to a denser medium
- (b) Velocity decreases as the ray passes from a denser to a rarer medium
- (c) Velocity decreases as the ray passes from a rarer to a denser medium
- (d) Change of velocity does not depend on the nature of medium

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

List I (Physical quantity)	List II (Unit)
A. Distance	1. Mole
B. Amount of material	2. Coulomb
C. Amount of electrical charge	3. Light year
D. Energy	4. Watt hour

82. An object is placed 10 cm in front of a convex lens of focal length 15 cm. The image produced will be

- (a) Real and magnified
- (b) Virtual and magnified
- (c) Virtual and reduced in size
- (d) Real and reduced in size

83. Why is Graphite used in electrolytic cells ?

- (a) Graphite is soft and can be easily moulded into electrodes
- (b) Graphite is made of layers of carbon atoms which can slide
- (c) Graphite is inert to most of the chemicals and remains intact in electrolytic cells
- (d) Graphite is a good conductor of electricity

84. Washing Soda is the common name for

- (a) Calcium Carbonate
- (b) Magnesium Carbonate
- (c) Sodium Carbonate
- (d) Potassium Carbonate

85. Which one of the following Indian states has the highest proportion of area under forest cover ?

- (a) Madhya Pradesh
- (b) Sikkim
- (c) Meghalaya
- (d) Mizoram

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

List I
(National Park/
Wildlife Sanctuary)

List II
(State)

- | | |
|----------------------|------------------|
| A. Chandra Prabha | 1. Uttarakhand |
| B. Silent Valley | 2. Chhattisgarh |
| C. Valley of flowers | 3. Uttar Pradesh |
| D. Indravati | 4. Kerala |

Code :

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

87. To a perpendicular to the plane of ecliptic, Earth's axis of rotation makes an angle of $23\frac{1}{2}$ degrees. Had this angle been zero degree, which one among the following would result ?

- (a) There would have been no season
- (b) The length of day and night would have been the same throughout the year
- (c) The length of the day and night would have been the same all over the earth
- (d) All of the above

88. Gametophytes of sexually reproducing flowering plants are

- (a) Haploid
- (b) Diploid
- (c) Tetraploid
- (d) Polyploid

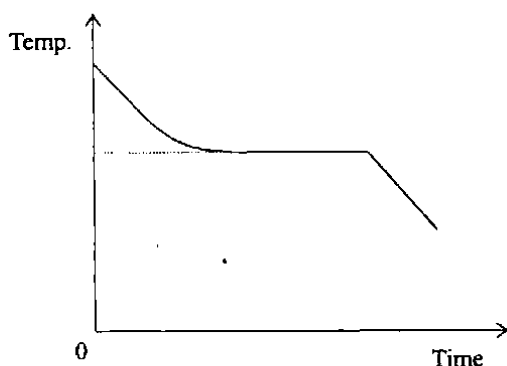
89. The seeds of flowering plants are made up of

- (a) Ovary and ovary wall
- (b) Embryo, food reserves and coat
- (c) Cotyledons
- (d) Zygotes

90. A person stands on his two feet over a surface and experiences a pressure P . Now the person stands on only one foot. He would experience a pressure of magnitude

- (a) $4P$
- (b) P
- (c) $\frac{1}{2}P$
- (d) $2P$

91. A solid is melted and allowed to cool and solidify again. The temperature is measured at equal intervals of time. The graph below shows the change of temperature with time.



The part of the curve that is practically horizontal is due to

- (a) latent heat given away by the liquid
- (b) specific heat given away by the liquid
- (c) thermal capacity changes with time keeping temperature constant
- (d) change in density during transformation

92. A deep sea diver may hurt his ear drum during diving because of

- (a) lack of oxygen
- (b) high atmospheric pressure
- (c) high water pressure
- (d) All of the above

93. When you walk on a woolen carpet and bring your finger near the metallic handle of a door an electric shock is produced. This is because

- (a) charge is transferred from your body to the handle
- (b) a chemical reaction occurs when you touch the handle
- (c) the temperature of the human body is higher than that of the handle
- (d) the human body and the handle arrive at thermal equilibrium by the process

94. Which one among the following does *not* wet the walls of the glass vessel in which it is kept ?

- (a) Water
- (b) Alcohol
- (c) Mercury
- (d) Phenol

95. Permanent hardness of water is due to the presence of

- (a) sulphates of sodium and potassium
- (b) sulphates of magnesium and calcium
- (c) carbonates of sodium and magnesium
- (d) bicarbonates of magnesium and calcium

96. In the reaction $\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$, 'C' acts as

- (a) an acid
- (b) a base
- (c) an oxidising agent
- (d) a reducing agent

97. Which of the following are the characteristics of organic farming ?

1. Use of chemical fertilizers to improve soil fertility.
2. Frequent decomposing and fallowing.
3. Use of herbs to control pests.
4. Higher productivity per hectare.

Select the correct answer using the code given below :

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

98. 'Yakuts' are the nomadic herders of

- (a) Gobi
- (b) Sahara
- (c) Tundra
- (d) Kalahari

99. A farmer in a semi-arid area claims that his farming practice is very environment friendly. Which of the following practices on his farm can justify his claim ?

1. Planting a tree belt.
2. Practising crop rotation.
3. Carrying out a large scale irrigation system.
4. Using organic fertilizers.

Select the correct answer using the code given below :

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

100. The luxuriant growth of natural vegetation in tropical rainforest is due to

1. fertile soil.
2. hot and wet climate throughout the year.
3. intense sunlight for photosynthesis.
4. seasonal change to facilitate nutrient absorption.

Select the correct answer using the code given below :

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

101. Which endocrine gland requires iodine to synthesize a particular hormone whose deficiency may cause goitre disease ?

- (a) Hypothalamus
- (b) Pancreas
- (c) Thymus
- (d) Thyroid gland

102. Which one of the following is *not* a part of nerves ?

- (a) Axons
- (b) Connective tissues

(c) Schwann cells

(d) Smooth muscles

103. The product of conductivity and resistivity of a conductor

- (a) depends on pressure applied
- (b) depends on current flowing through conductor
- (c) is the same for all conductors
- (d) varies from conductor to conductor

104. We use CFL to save electrical energy and to provide sufficient light. The full form of CFL is

- (a) Condensed filament light
- (b) Compact filament lamp
- (c) Condensed fluorescent lamp
- (d) Compact fluorescent lamp

105. When the sun is 30° above the horizon, shadow of one tree is 17.3 m long. What is the height of this tree ?

- (a) 20 m
- (b) 17.30 m
- (c) 10 m
- (d) 1.73 m

106. When heat rays are reflected from Earth, gases like Carbon dioxide, Nitrous oxide do not allow them to escape back to the space causing our planet to heat up. These gases are known as

- (a) Noble gas
- (b) Green-house gas
- (c) Hot gas
- (d) Blue gas

107. A spring can be used to determine the mass m of an object in two ways : (i) by measuring the extension in the spring due to the object; and (ii) by measuring the oscillation period for the given mass. Which of these methods can be used in a space-station orbiting Earth ?

- (a) Both
- (b) Only the extension method
- (c) Only the oscillation method
- (d) Neither

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

List I (Region)	List II (Vegetation)
A. Selvas	1. Conifers
B. Savannas	2. Mosses and Lichens
C. Taiga	3. Epiphytes
D. Tundra	4. Grasses and trees

Code :

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

109. Which of the following statements with regard to the western coastal plain of India are correct ?

1. It is a narrow belt.
2. It is an example of submerged coastal plain.
3. It provides natural conditions for development of ports.
4. It has well developed deltas.

Select the correct answer using the code given below :

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

110. Which one of the following weather conditions indicates a sudden fall in barometer reading ?

- (a) Stormy weather
- (b) Calm weather
- (c) Cold and dry weather
- (d) Hot and sunny weather

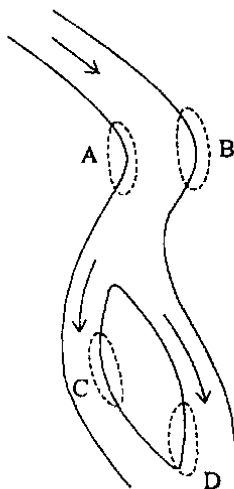
111. Match List I with List II and select the correct answer using the code given below the Lists :

List I (Island)	List II (Location)
A. Continental island	1. Mauritius
B. Coral island	2. Madagascar
C. Volcanic island	3. Andaman and Nicobar islands
D. Mountain island	4. Maldives

Code :

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

112. Consider the following diagram :



In which one among the following lettered areas of the diagram would erosion most likely change the shapes of the riverbed ?

- (a) A
- (b) B
- (c) C
- (d) D

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

List I (Cloud)	List II (Characteristic)
A. Cirrus	1. Rain giving
B. Stratus	2. Feathery appearance
C. Nimbus	3. Vertically growing
D. Cumulus	4. Horizontally spreading

Code :

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

114. The concept of demographic transition provides a model for

- (a) analyzing government responses to changing pattern of population growth
- (b) explaining major patterns of global population movement throughout the history
- (c) analyzing spatial variations in the distribution, growth and movement of population over time
- (d) examining the relationship between economic development and natural population change

115. Precursor of which one of the following vitamins comes from β -carotene ?

- (a) Vitamin A
- (b) Vitamin C
- (c) Vitamin D
- (d) Vitamin K

116. 'Lub-dup' sound is produced due to action of

- (a) Large intestine
- (b) Lungs
- (c) Heart
- (d) Oesophagus

117. The Sun is observed to be reddish when it is near the horizon, i.e., in the morning and the evening. This is because

- (a) red light is least scattered by atmosphere
- (b) red light is most scattered by atmosphere
- (c) it is the colour of the Sun in the morning and evening
- (d) Earth's atmosphere emits red light

118. Thermal conductivity of aluminium, copper and stainless steel increases in the order

- (a) Copper < Aluminium < Stainless Steel
- (b) Stainless Steel < Aluminium < Copper
- (c) Aluminium < Copper < Stainless Steel
- (d) Copper < Stainless Steel < Aluminium

119. Perspiration cools the body because

- (a) presence of water on the skin is cooling
- (b) evaporation requires latent heat
- (c) water has a high specific heat
- (d) water is a poor conductor of heat

120. The radius of the Moon is about one-fourth that of the Earth and acceleration due to gravity on the Moon is about one-sixth that on the Earth. From this, we can conclude that the ratio of the mass of Earth to the mass of the Moon is about

- (a) 10
- (b) 100
- (c) 1,000
- (d) 10,000

121. Which of the following country/countries successfully inserted a spacecraft into Mars' orbit by maiden attempt ?

- (a) USA
- (b) USA and Russia
- (c) India
- (d) China

122. The European Space Agency (ESA) successfully landed a spacecraft on a speeding comet that lies 310 million miles away from Earth. As a result, the scientists may find out

- (a) the age of the Sun
- (b) the age of the Universe
- (c) new fundamental atomic particles
- (d) the role of the comets in bringing organic matter and water to Earth

123. Who among the following Nobel laureates has recently announced to put his Nobel Medal under auction ?

- (a) Kailash Satyarthi
- (b) J D Watson
- (c) Mikhail Gorbachev
- (d) Jody Williams

124. Which one among the following statements with regard to a climate deal adopted between USA and China in November 2014 is *not* correct ?

- (a) China committed to cap its output of carbon pollution by the year 2030 or earlier
- (b) China committed to increase its use of zero emission energy to 20% by the year 2030
- (c) USA agreed to reduce its emissions by 26% – 28% below its year 2005 levels in the year 2025
- (d) Both the countries agreed to completely phase out coal technologies by the year 2020

125. Which one among the following books is centered around 'environment' ?

- (a) The Late, Great Planet Earth
- (b) Silent Spring
- (c) Here I Stand
- (d) And Then One Day

126. Who among the following cricket players has **not** died while playing a match ?

- (a) Wasim Raja
- (b) Phillip Hughes
- (c) Raman Lamba
- (d) Vijay Hazare

127. Which one among the following films was conferred the 'Golden Peacock' award in the 45th International Film Festival of India (2014) ?

- (a) Ek Hazarachi Note
- (b) A Short Story
- (c) Leviathan
- (d) Ajeyo

128. Which one among the following films was awarded the best motion picture (Drama) in the 72nd Golden Globe Awards ?

- (a) The Theory of Everything
- (b) Boyhood
- (c) Still Alice
- (d) Birdman

129. East Zone won the prestigious Deodhar Trophy cricket tournament 2014-15 by defeating

- (a) South Zone
- (b) Central Zone
- (c) West Zone
- (d) North Zone

130. Which one of the following books won the Man Booker Prize 2014 ?

- (a) History of the Rain
- (b) The Lives of Others
- (c) The Narrow Road to the Deep North
- (d) How to be Both

131. The Second Five Year Plan that called for the establishment of Socialist pattern of society was commonly referred to as the

- (a) Harrod-Domar Plan
- (b) Mahalanobis Plan
- (c) Nehru Plan
- (d) Peoples Plan

132. Harappan crafts display an amazing degree of standardization. According to Kenoyer, what was the possible reason for such an achievement ?

- (a) Availability of raw materials at local level
- (b) Centralized markets for crafts
- (c) Specialized training centres for craftsmen
- (d) State control

133. Consider the following statements about Ashokan rock edicts :

1. Major Rock Edict XIII records Ashoka's remorse at the sufferings caused by his Kalinga campaign.
2. Major Rock Edict X records Ashoka's visit to Lumbini.
3. Major Rock Edict XII refers to *Dhamma Mahamattas* as a new category of officers instituted by Ashoka.
4. Major Rock Edict XII speaks about showing tolerance towards all sects.

Which of the statements given above are correct ?

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

134. Which one of the following is the common element among Rajagriha, Vaishali and Pataliputra ?

- (a) Pali canon of the *Sthaviravadins* was compiled there
- (b) Ashokan Major Rock Edicts were found there
- (c) Places where Buddhist Councils were held
- (d) Places associated with the compilation of Buddhist canons of the Mahasanghikas

135. Which one among the following sects was associated with Gosala Maskariputra ?

- (a) Vajrayana
- (b) Ajivikas
- (c) Sthaviravadins
- (d) Mahasanghikas

136. Consider the following statements about the early modern technology in India :

1. The Portuguese brought European movable metal types to Goa in 1550.
2. The first Indian script of which types were prepared was Tamil.
3. The English Company's first experiment with printing press was at Calcutta.
4. The English Company imported printing press to India in 1674-75 at the request of Bhimji Parak.

Which of the statements given above are correct ?

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

137. Which of the following statement(s) is/are true for Olympe de Gouges ?

1. She was one of the most important politically active woman in revolutionary France.
2. She was one of the members of the Committee that drafted the Declaration of Rights of Man and Citizen.
3. She wrote the Declaration of the Rights of Woman and Citizen.

Select the correct answer using the code given below :

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

138. Arrange the following inventions in the field of cotton industry in chronological order (starting with the earliest) :

1. James Hargreaves's Spinning Jenny
2. John Kay's Flying Shuttle
3. Samuel Crompton's Mule
4. Richard Arkwright's Water Frame

Select the correct answer using the code given below :

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

139. While opposing the Public Safety Bill, 1928 who among the following said that it was 'a direct attack on Indian nationalism, on the Indian National Congress' and as 'the Slavery of India, Bill No. 1' ?

- (a) Motilal Nehru
- (b) Lala Lajpat Rai
- (c) T Prakasam
- (d) Diwan Chaman Lal

140. Soon after the formation of Indian National Congress, the British became suspicious of nationalists. Who among the following called Congress representing only the elite — 'a microscopic minority' ?

- (a) Lord Napier
- (b) Lord Dufferin
- (c) Lord Ripon
- (d) Lord Lytton

141. What is the common element among Ram Prasad Bismil, Roshan Singh and Rajendra Lahiri ?

- (a) They threw a bomb in the Central Legislative Assembly on 8 April, 1929
- (b) They were the founder members of Swaraj Party
- (c) They were the founders of Hindustan Republican Association
- (d) They were associated with Kakori Conspiracy case

142. Which of the following is/are *not* fundamental right(s) under the Constitution of India ?

1. Right to education.
2. Right to work.
3. Right to form associations.
4. Right to practise any profession.

Select the correct answer using the code given below :

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

143. Mahatma Gandhi's *Hind Swaraj* is essentially

- (a) a critique of Western modernity
- (b) an outline of his philosophy of Satyagraha
- (c) an invocation to Indians to free themselves from the British
- (d) a blueprint of Gram Swaraj

144. The Seventh Schedule of the Constitution of India contains

- (a) provisions regarding the administration of tribal areas
- (b) the Union List, the State List and the Concurrent List
- (c) a list of recognized languages
- (d) provisions about the disqualification of Members of Legislatures on grounds of defection

145. Pochampally in Nalgonda district of Telengana became famous in April, 1951 because

- (a) the Bhoodan movement was launched there by Vinoba Bhave
- (b) the landless peasants rose up in arms against the landlords
- (c) it witnessed violent anti-Hindi agitation
- (d) Silk weavers' cooperative was formed for the first time in India

146. Who among the following was *not* associated with the Sarvodaya movement ?

- (a) Jaya Prakash Narayan
- (b) Acharya Vinoba Bhave
- (c) Dharendra Mazumdar
- (d) G V Apparao

147. Article 368 of the Constitution of India deals with

- (a) the powers of the Parliament of India to amend the Constitution
- (b) financial emergency
- (c) reservation of seats for Scheduled Castes and Scheduled Tribes in the Lok Sabha
- (d) Official Language of the Union of India

148. Which among the following is *not* a basic feature of the Constitution of India ?

- (a) Fundamental rights
- (b) Independence of judiciary
- (c) Federalism
- (d) The unquestioned right of the Parliament to amend any part of the Constitution

149. Which one among the following is *not* a fundamental duty ?

- (a) To abide by the Constitution of India and respect the national flag and national anthem
- (b) To safeguard public property

(c) To protect the Sovereignty, Unity and Integrity of India

(d) To render compulsory military service

150. Which of the following are the basic features of the Constitution (73rd Amendment) Act ?

1. Provides for a three-tier structure of panchayats in the village, intermediary and district levels.
2. Reservation of seats for Scheduled Castes and Scheduled Tribes and women in all the tiers of panchayats.
3. Election to panchayats under the supervision of the State Election Commissions.
4. Introduction of the 11th Schedule to the Constitution.

Select the correct answer using the code given below :

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