

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

T.B.C. : B-QGC-O-JBU

Test Booklet Series

Serial No.

TEST BOOKLET
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. 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

SENTENCE IMPROVEMENT

Directions: In this section, 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 improves the sentence, indicate (d) as your response on the Answer Sheet. Thus, a "No improvement" response will be signified by the letter (d).

1. Had she been hungry, she would have devoured the whole lot of it.
(a) Unless she had been hungry
(b) However she had been hungry
(c) As if she had been hungry
(d) No improvement
2. Until you don't finish the work, you won't be given leave.
(a) Until you must finish
(b) Until finishing
(c) Until you finish
(d) No improvement
3. The names of the defaulters have been cut off the register.
(a) cut out
(b) struck out
(c) struck off
(d) No improvement
4. This is a matter I'd rather not talk about.
(a) of which I'd rather not talk about
(b) I rather not talk about
(c) than I'd rather not talk about
(d) No improvement
5. Only when you left I did sleep.
(a) I slept
(b) did I sleep
(c) had I slept
(d) No improvement
6. I will be happy if you will buy me apples.
(a) buy
(b) bought
(c) will be buying
(d) No improvement
7. After I saved some money, I shall go abroad.
(a) shall save
(b) should have saved
(c) have saved
(d) No improvement
8. Can you arrange the car to be ready this evening?
(a) arrange with the car
(b) arrange for the car
(c) arrange that the car
(d) No improvement
9. Hardly had he reached home when the telephone rang.
(a) he had reached
(b) did he reach
(c) he reached
(d) No improvement
10. He is likely to win the elections by the sweeping majority.
(a) with the sweeping majority
(b) in sweeping majority
(c) by a sweeping majority
(d) No improvement

ORDERING OF WORDS IN A SENTENCE

Directions: Each of the following items in this section consists of a sentence the parts of which have been jumbled. These parts have been labelled P, Q, R and S. Given below each sentence are four sequences namely (a), (b), (c) and (d). You are required to re-arrange the jumbled parts of the sentence and select the correct sequence.

11. His uncle for success in life, always advised his son, who was a self-made man
(P) (Q) (R)
to depend on his own efforts
(S)
The proper sequence should be:
(a) SQPR
(b) RQSP
(c) PRSQ
(d) QPSR
12. The doctor did not like the behavior of the patients who was very competent in his profession
(P) (Q)
when they talked at length about their problems
(R) (S)
The proper sequence should be:
(a) RPSQ
(b) SRPQ
(c) QPRS
(d) PRQS

13. from leadership in culture ^(P) in military situations and in face-to-face small groups ^(Q)
leadership has wide range of expressions ^(R) to leadership in politics ^(S)

The proper sequence should be:

- (a) RSQP
- (b) PQRS
- (c) RPSQ
- (d) SQRP

14. He sat glancing occasionally ^(P) peering through the window ^(Q) at the figure of the old woman ^(R)
until he was chilled with the cold ^(S)

The proper sequence should be:

- (a) PSRQ
- (b) QRPS
- (c) SPRQ
- (d) PRSQ

15. After the earthquake tremors, the TV showed a haggard man shaking his fist at the sky ^(P)
clambering over the ruins ^(Q) and collapsing with a howl of revolt ^(R) of his house and factory ^(S)

The proper sequence should be:

- (a) SRQP
- (b) QSPR
- (c) PQRS
- (d) RPSQ

16. Everyone acknowledges ^(P) when he considers the case calmly ^(Q) who knows you ^(R)
that you have been wronged ^(S)

The proper sequence should be:

- (a) RSQP
- (b) RPQS
- (c) PQRS
- (d) QRPS

SYNONYMS

Directions: Each item in this section consists of a sentence with an underlined word followed by four words. Select the word that is **nearest in meaning** to the underlined word and mark your response in your Answer Sheet accordingly.

- | | |
|---|--|
| <p>17. Many of his acquaintances avoid him because he is so <u>garrulous</u>.</p> <ul style="list-style-type: none"> (a) unreasonable (b) talkative (c) quarrelsome (d) proud | <p>20. In spite of hard work, the farmers could only get a <u>meagre</u> yield.</p> <ul style="list-style-type: none"> (a) satisfactory (b) scanty (c) plenty (d) normal |
| <p>18. He bore the pain with great <u>fortitude</u>.</p> <ul style="list-style-type: none"> (a) resignation (b) defiance (c) indifference (d) forbearance | <p>21. He was <u>exhilarated</u> at the outcome of the election results.</p> <ul style="list-style-type: none"> (a) satisfied (b) surprised (c) disappointed (d) overjoyed |
| <p>19. He gave his <u>tacit</u> approval to the proposition.</p> <ul style="list-style-type: none"> (a) full (b) loud (c) clean (d) implied | |

ANTONYMS

Directions: Each item in this section consists of a sentence with an underlined word followed by four words. Select the word that is **opposite in meaning** to the underlined word and mark your response in your Answer Sheet accordingly.

22. He concealed his thoughts very cleverly.
(a) emphasized
(b) expressed
(c) affirmed
(d) revealed
23. The proposal was denounced by one and all.
(a) renounced
(b) recommended
(c) announced
(d) commended
24. She was skeptical about the safety of the new drug.
(a) doubtful
(b) certain
(c) hopeful
(d) sanguine
25. The answers to the question were coherent.
(a) relaxed
(b) loose
(c) consistent
(d) disconnected
26. It was no altruistic motive that prompted him to help her.
(a) selfish
(b) inhuman
(c) brutal
(d) wicked

SELECTING WORDS

Directions: Each of the following sentences in this section has a blank space and four words or group of words given after the sentence. Select whichever word or group of words you consider most appropriate for the blank space and indicate your response on the Answer Sheet accordingly.

27. Man has won his dominant position on this planet by his _____ of technology.
(a) command
(b) emphasis
(c) belief
(d) stress
28. The day was extremely hot and, in no time, my back was drenched with _____.
(a) prickly heat
(b) perspiration
(c) sores
(d) fatigue
29. The Government is encouraging village upliftment _____ in the country.
(a) programmes
(b) designs
(c) talks
(d) propaganda
30. Satish was endowed _____ a natural talent for music.
(a) in
(b) by
(c) for
(d) with
31. Mr. Ghosh is very happy _____ his son's excellent result.
(a) for seeing
(b) to see
(c) by seeing
(d) see
32. Sunlight filtering _____ the stained glass window created a mosaic of colours on the floor.
(a) in
(b) through
(c) at
(d) into

33. Are you feeling doubtful _____ your decision?
 (a) about
 (b) upon
 (c) at
 (d) for
34. I want to study Geology now for I _____ Zoology for the last three years.
 (a) am studying
 (b) have been studying
 (c) had studied
 (d) had been studying
35. Increase in storage facilities has made it possible to store goods at places _____ to people all over the country.
 (a) safe
 (b) easy
 (c) proper
 (d) convenient
36. To say that we were surprised at the cleverness of the child is an understatement; we were really _____.
 (a) annoyed
 (b) astounded
 (c) flattered
 (d) confused
37. In spite of the old woman's repeated entreaties, he remained _____.
 (a) ashamed
 (b) docile
 (c) indifferent
 (d) lethargic
38. There was _____ competition for electoral seats.
 (a) diligent
 (b) rapid
 (c) cut-throat
 (d) sparse
39. The cricket team _____ mainly of State players.
 (a) composed
 (b) consist
 (c) made with
 (d) comprises
40. His love for money is the only _____ that drives him to work so hard.
 (a) programme
 (b) plan
 (c) reason
 (d) greed
41. According to _____ sources, the Chief Minister did not consult his Cabinet Members on this issue.
 (a) intelligent
 (b) simple
 (c) reliable
 (d) fundamental

SPOTTING ERRORS

Directions: Each item in this section has a sentence with three underlined parts labelled (a), (b) and (c). Read each sentence to find out whether there is any error in any underlined part and indicate your answer in the Answer Sheet against the corresponding letter i.e., (a) or (b) or (c). If you find no error, your response should be indicated as (d).

42. I am told John is ill since Monday. No error.
 (a) (b) (c) (d)
43. I shall leave school as soon as I shall find a job. No error.
 (a) (b) (c) (d)
44. He is a rich man: he is owning a number of buildings in Bombay. No error.
 (a) (b) (c) (d)
45. We were able to make it in spite of a bad weather. No error.
 (a) (b) (c) (d)
46. Neither of the two letters of credit were useful when he needed it. No error.
 (a) (b) (c) (d)
47. Little he realized that he wouldn't live to see his grandson married. No error.
 (a) (b) (c) (d)
48. A difficult syllabus is supposed to hurt juvenile mind. No error.
 (a) (b) (c) (d)
49. The voice of sanity and patriotism are important to dispel the prevailing confusion.
No error.
 (a) (b) (c) (d)
50. You were going to explain your late arrival, isn't it? No error.
 (a) (b) (c) (d)

PART-B

51. A brass ball is tied to a thin wire and swung so as to move uniformly in a horizontal circle. Which of the following statements in this regard is / are true?
1. The ball moves with constant velocity
 2. The ball moves with constant speed
 3. The ball moves with constant acceleration
 4. The magnitude of the acceleration of the ball is constant
- Select the correct answer using the code given below:
- (a) 1 only
(b) 1 and 3
(c) 1, 2 and 4
(d) 2 and 4 only
52. Two long wires each carrying a d.c. current in the same direction are placed close to each other. Which one of the following statements is correct?
- (a) The wires will attract each other
(b) The wires will repel each other
(c) There will be no force between the wires
(d) There will be a force between the wires only at the moment when the current is switched ON or OFF
53. The first Indian Satellite, Aryabhata, was launched in the year:
- (a) 1972
(b) 1975
(c) 1976
(d) 1979
54. Which one of the following sea routes is the shortest from point to point?
- (a) Kolkata to Yangon
(b) Kolkata to Chennai
(c) Chennai to Port Blair
(d) Mumbai to Colombo
55. Which one of the following is *not* a Green House Gas?
- (a) Water vapours
(b) Methane
(c) Ozone
(d) Carbon Monoxide
56. Muscle fatigue is due to the accumulation of:
- (a) Cholesterol
(b) Lactic acid
(c) Lipoic acid
(d) Triglycerides
57. The absolute zero, i.e., temperature below which is *not* achievable, is about:
- (a) 0 °C
(b) -273 K
(c) -273 °C
(d) -300 °C
58. Lightning conductors are used to protect building from lightning strikes. Which of the following statements is / are true about lightning conductors?
1. Lightning conductors create an electric field at its top so that lightning strikes it preferentially
 2. Lightning conductors reduce the effect of the strike by uniformly distributing the charge (current) over the surface of the building
 3. Lightning conductors take all charge (current) to deep down in the earth
 4. Lightning conductors must be installed at a place taller than the building
- Select the correct answer using the code given below:
- (a) 1 and 2
(b) 3 and 4 only
(c) 1, 3 and 4
(d) 4 only

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

List I (Manufacturing site)	List II (Industry)
A. Ludhiana	1. Auto parts
B. Kanpur	2. Woollen garments
C. Varanasi	3. Leather
D. Vijayawada	4. Handloom

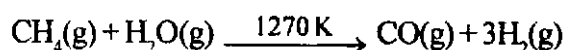
Code:

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

60. Which one of the following is **not** a sea port?

- Paradeep
- Haldia
- Diamond Harbour
- Dhamra

61. Consider the following reaction:



In the reaction given above, the mixture of CO and H₂ is:

- natural gas
- water gas
- producer gas
- industrial gas

62. Living things are grouped into subgroups like plant kingdom / animal kingdom. Which one of the following is **not** correct for animal kingdom?

- Cannot make their own food
- Body contains cellulose
- Do not have chlorophyll
- Migrate from one place to another

63. The silvering in thermos flasks is done to avoid heat transfer by:

- Convection
- Conduction
- Radiation
- Both convection and conduction

64. The Manas National Park is situated in the State of:

- Madhya Pradesh
- Jharkhand
- Assam
- West Bengal

65. Addition of gypsum to cement:

- reduces setting time of cement
- produces very light colour cement
- increases setting time of cement
- shining surface is formed

66. In case of a compound microscope which of the following statements is / are correct?

- The focal length of the eye piece is larger than the focal length of the objective
- The focal length of the eye piece is smaller than the focal length of the objective
- The image produced in a normal optical microscope is real
- The image produced in a normal optical microscope is virtual

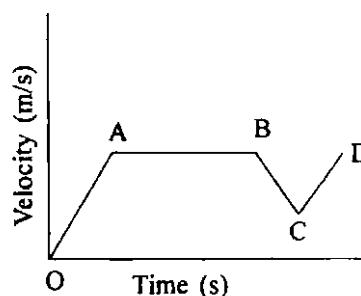
Select the correct answer using the code given below:

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

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

- The radius of curvature of a concave mirror is twice its focal length
- Power of a convex lens is negative and that of a concave lens is positive
- The radius of curvature of a plane mirror is infinity
- When a ray of light passes from an optically denser medium to an optically rarer medium, the angle of refraction is greater than the corresponding angle of incidence

68. Identify the place that is **not** an oil field:
- Naharkatiya
 - Kalol
 - Ledo
 - Ankleshwar
69. Ammonia (NH_3) obtained from different sources always has same proportion of Nitrogen and Hydrogen. It proves the validity of law of:
- Reciprocal proportion
 - Constant proportion
 - Multiple proportions
 - None of the above
70. Which one of the following statements is **not** correct?
- If the velocity and acceleration have opposite sign, the object is slowing down
 - If the velocity is zero at an instant, the acceleration should also be zero at that instant
 - If the velocity is zero for a time interval; the acceleration is zero at any instant within the time interval
 - If the position and velocity have opposite sign, the object is moving towards the origin
71. The IST meridian $82\frac{1}{2}^\circ\text{E}$ passes through a number of States in India. Which one of the following sets of States is correct in this respect?
- Uttarakhand, Uttar Pradesh, Chhatisgarh and Andhra Pradesh
 - Uttar Pradesh, Jharkhand, Chhatisgarh and Odisha
 - Uttarakhand, Uttar Pradesh, Madhya Pradesh and Chhatisgarh
 - Uttar Pradesh, Odisha, Andhra Pradesh and Chhatisgarh
72. Boric acid is an acid because its molecule:
- accepts OH^- from water releasing proton
 - combines with proton from water molecule
 - contains replaceable H^+ ion
 - gives up a proton
73. Who among the following discovered the antibiotic producing fungus from *Penicillium* genus?
- Louis Pasteur
 - Sir Alexander Fleming
 - Stanley Prusiner
 - Robert Hooke
74. Three equal resistances when combined in series are equivalent to 90 ohm. Their equivalent resistance when combined in parallel will be:
- 10 ohm
 - 30 ohm
 - 270 ohm
 - 810 ohm
75. The following figure represents the velocity-time graph of a moving car on a road:



Which segment of the graph represents the retardation?

- AB
 - BC
 - CD
 - None
76. Which one among the following places is **not** an iron-ore mining area?
- Badampahar
 - Zawar
 - Bailadila
 - Anantpur

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

List I (Forest Conservation Type)	List II (Place)
A. National Park	1. Dudhwa
B. Sanctuary	2. Bhitarkanika
C. Biosphere Reserve	3. Chilka
D. Tiger Reserve	4. Nokrek

Code:

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

78. The main constituent of Vinegar is:
- Acetic acid
 - Ascorbic acid
 - Citric acid
 - Tartaric acid
79. White Phosphorus glows in the dark due to:
- amorphous character
 - slow oxidation
 - high ignition temperature
 - good conducting property of electricity
80. Which one of the following is *not* an example of eukaryotic organism?
- Yeast
 - Bacteria
 - Plant
 - Human being
81. Which one of the following statements is *not* correct?
- The Kelvin scale of temperature is called the Absolute scale
 - Visible light radiation has wavelength range of 400—700 nm
 - The capacity to do work is called power
 - The wavelength of Gamma rays is less than that of X-rays

82. A man is sitting in a train which is moving with a velocity of 60 km/hour. His speed with respect to the train is:

- 10/3 m/s
- 60 m/s
- infinite
- zero

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

List I (Place)	List II (Normal vegetation type)
A. Western Ghats	1. Tropical Moist Deciduous
B. Himachal Pradesh	2. Tropical Evergreen
C. Haryana and Punjab	3. Himalayan Moist Forest
D. Chhotanagpur Plateau	4. Tropical Thorny Forest

Code:

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

84. The term 'Regur' is used to mean:
- Laterite soil
 - Deltaic soil
 - Red soil
 - Black cotton soil
85. Graphite is a much better conductor of heat and electricity than diamond. This is due to the fact that each carbon atom in graphite:
- undergoes sp^2 hybridization and forms three sigma bonds with three neighbouring carbon atoms
 - undergoes sp^3 hybridization
 - is tetrahedrally bonded
 - is free from van der Waals force

86. Which one of the following vitamins is synthesized in our own skin?
- Vitamin A
 - Vitamin B
 - Vitamin C
 - Vitamin D
87. Which one of the following is the SI unit of the thermal conductivity of a material?
- $\text{Wm}^{-1}\text{K}^{-1}$
 - Wm/K
 - $\text{Wm}^{-1}/\text{K}^{-1}$
 - $\text{Js}^{-1}\text{m}^{-1}\text{K}$
88. Which one of the following statements is **not** correct?
- Conduction can occur easily in solids, less easily in liquids but hardly at all in gases
 - Heat energy is carried by moving particles in a convection current
 - Heat energy is carried by electromagnetic waves in radiation
 - The temperature at which a solid changes into a liquid is called the boiling point
89. Which one of the following combinations of stalactites and stalagmites occurrences is correct?
- Stalactites hang as icicles of different diameters and stalagmites hang from the floor of the caves
 - Stalactites hang as icicles of different diameters and stalagmites rise up from the floor of the caves
 - Stalactites rise up from the floor of the caves and stalagmites hang as icicles of different diameters
 - Stalactites hang as icicles of different diameters and stalagmites also hang as icicles of different diameters
90. Which one of the following is the correct sequence about various levels of organization of Biosphere?
- Eco system – Biosphere – Community – Population
 - Population – Organism – Eco system – Biosphere
 - Organism – Community – Population – Biosphere
 - Organism – Population – Eco system – Biosphere
91. Which of the following are the properties of an electron?
- Electron is a constituent of cathode ray
 - Electron is a negatively charged particle
 - The mass of the electron is equal to the mass of the proton
 - Electron is deflected by the electric field but not by magnetic field
- Select the correct answer using the code given below:
- 1 and 2 only
 - 1, 2 and 3
 - 3 and 4
 - 1 and 4
92. Carbon and energy requirements of autotrophic organisms are fulfilled by:
- Photosynthesis
 - Gluconeogenesis
 - Glycogenesis
 - External sources
93. The resistance of a wire of length l and area of cross-section a is x ohm. If the wire is stretched to double its length, its resistance would become:
- $2x$ ohm
 - $0.5x$ ohm
 - $4x$ ohm
 - $6x$ ohm

94. Which one of the following describes the Lithosphere?

- (a) Upper and lower mantle
- (b) Crust and upper mantle
- (c) Crust and core
- (d) Mantle and core

95. Which of the following statements regarding heavy water are correct?

- 1. It is extensively used as a moderator in nuclear reactors
- 2. It cannot be used in exchange reaction to study reaction mechanism
- 3. Viscosity of heavy water is relatively smaller than that of ordinary water
- 4. The dielectric constant of heavy water is smaller than that of ordinary water

Select the correct answer using the code given below:

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

96. Conservation of momentum in a collision between particles can be understood on the basis of:

- (a) Newton's first law of motion
- (b) Newton's second law of motion only
- (c) Both Newton's second law of motion and Newton's third law of motion
- (d) Conservation of energy

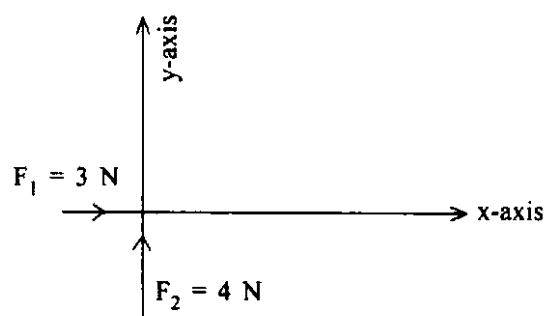
97. Which one of the following statements is **not** correct?

- (a) Temperatures decrease from the equator to poles
- (b) Temperatures in equatorial regions change substantially from January to July
- (c) Large land masses located in the subarctic and arctic zones develop centres of extremely low temperatures in winter
- (d) Highlands are always colder than surrounding low lands

98. To weld metals together, high temperature is required. Such a high temperature is obtained by burning:

- (a) Acetylene in oxygen
- (b) LPG in oxygen
- (c) Methane in oxygen
- (d) Acetylene in nitrogen

99. Two forces, one of 3 newton and another of 4 newton are applied on a standard 1 kg body, placed on a horizontal and frictionless surface, simultaneously along the x-axis and the y-axis, respectively, as shown below:



The magnitude of the resultant acceleration is:

- (a) 7 m/s^2
- (b) 1 m/s^2
- (c) 5 m/s^2
- (d) $\sqrt{7} \text{ m/s}^2$

100. Magnetic meridian is an imaginary:

- (a) line along north-south
- (b) point
- (c) vertical plane
- (d) horizontal plane

101. An up fold in rock is:

- (a) graben
- (b) horse
- (c) anticline
- (d) syncline

102. Which one of the following gases is found in highest quantity in Exosphere?

- (a) Hydrogen
- (b) Helium
- (c) Nitrogen
- (d) Oxygen

103. In blood, platelets are required for:

- (a) transporting oxygen
- (b) transporting carbon dioxide
- (c) initiating blood clotting
- (d) initiating degradation of urea

104. In SI unit of force 'Newton' (N) is given by (where m stands for metre and s stands for second):

- (a) $1 \text{ N} = 1 \text{ kg/ms}^2$
- (b) $1 \text{ N} = 1 \text{ kgm/s}^2$
- (c) $1 \text{ N} = 1 \text{ kg s}^2/\text{m}$
- (d) $1 \text{ N} = 1 \text{ kg m s}^2$

105. The acceleration due to gravity 'g' for objects on or near the surface of earth is related to the universal gravitational constant 'G' as ('M' is the mass of the earth and 'R' is its radius):

- (a) $G = g \frac{M}{R^2}$
- (b) $g = G \frac{M}{R^2}$
- (c) $M = \frac{gG}{R^2}$
- (d) $R = \frac{gG}{M^2}$

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

List I (Low-Latitude Climate)	List II (Characteristic)
A. Wet Equatorial	1. Uniform temperatures, mean near 27 °C
B. Monsoon and trade wind coastal	2. Marked temperature cycle with very high temperature before the rainy season
C. Wet-dry tropical	3. Temperatures show an annual cycle with high temperature in the high-Sun season
D. Dry tropical	4. Strong temperature cycle, with intense temperature during high-Sun season

Code:

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

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

List I (Element)	List II (Use)
A. Li	1. Time keeper in atomic clocks
B. Na	2. Batteries
C. K	3. Transfer of nerve impulses
D. Cs	4. Control of the water content in the blood

Code:

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

108. Which one of the following is **not** a site of action in human body for the malarial parasite plasmodium?
- Liver
 - Kidney
 - Red blood cell
 - Brain
109. The loudness of sound is related to:
- its frequency
 - its amplitude
 - its speed
 - its pitch
110. X-rays are electromagnetic radiation whose wavelengths are of the order of:
- 1 metre
 - 10^{-1} metre
 - 10^{-5} metre
 - 10^{-10} metre
111. Which one of the following pairs of properties of typical air masses is correct?
- | <i>Air Mass</i> | <i>Source Region</i> |
|--------------------------|---|
| (a) Maritime | : Warm oceans in the equatorial zone |
| (b) Maritime Polar | : Warm oceans in the tropical zone |
| (c) Continental Tropical | : Less warm oceans in the tropical zone |
| (d) Continental Polar | : Moist oceans in the polar zone |
112. The symbol of the element 'Tungsten' is:
- Ta
 - W
 - Tl
 - Tc
113. In Egypt, ancient mummies can be found to have their arteries intact due to well preserved:
- mineralized blood
 - fibroblasts fibre
 - elastic fibre
 - brown fat
114. Which one of the following statements is correct?
- The image formed by a concave mirror for an object lying at infinity is at the principal focus, highly diminished, real and inverted
 - A ray of light parallel to the principal axis after reflection from a concave mirror appears to diverge from the principal focus of the mirror
 - The focal length of a spherical mirror is double of its radius of curvature
 - A ray of light travelling from a rarer medium to a denser medium bends away from the normal
115. Which one of the following statements is correct?
- Rutherford's alpha-particle scattering experiment led to the discovery of electron
 - J J Thomson suggested that the nucleus of an atom contains protons
 - The atomic number of an element is the same as the number of protons in the nucleus of its atom
 - The mass number of an atom is equal to the number of electrons in its shells
116. Which one of the following statements is **not** correct?
- Application of lime makes the soil acidic
 - High acidity in soil is typical of humid climate
 - Increasing soil acidity results in declining soil fertility
 - Arid climate is characterized by alkaline soil
117. The alkali metals have relatively low melting point. Which one of the following alkali metals is expected to have the highest melting point?
- Li
 - Na
 - K
 - Rb
118. Which one of the following is useful in paper manufacturing industry?
- Fibrous plants
 - Orchids
 - Non-flowering plants
 - Plants growing in high altitude
119. Which one of the following statements is **not** correct?
- In steady flow of a liquid, the velocity of liquid particles reaching at a particular point is the same at all points
 - Steady flow is also called streamlined flow
 - In steady flow, each particle may not follow the same path as taken by a previous particle passing through that point
 - Two streamlines cannot intersect each other

120. According to the Geo-scientists, the shape of the earth is:

1. round
2. spherical
3. close to that of a sphere
4. an oblate ellipsoid

Select the correct answer using the code given below:

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

121. The word 'Secular' was inserted into the Constitution of India by:

- (a) 44th Amendment Act
- (b) 52nd Amendment Act
- (c) 42nd Amendment Act
- (d) 34th Amendment Act

122. Which one of the following is *not* correct in the context of balance of payments of India during 2013-2014?

- (a) India's exports were less than its imports
- (b) Trade balance was negative
- (c) Net invisibles were positive
- (d) Capital account balance was negative

123. Which one of the following continents accounts for the maximum share in exports from India?

- (a) Asia
- (b) Europe
- (c) Africa
- (d) North America

124. The two provisions of the Constitution of India that most clearly express the power of judicial review are:

- (a) Article 21 and Article 446
- (b) Article 32 and Article 226
- (c) Article 44 and Article 152
- (d) Article 17 and Article 143

125. Which one of the following statements about Subsidiary Alliance devised by Lord Wellesley in the year 1798 is *not* correct?

- (a) The territories entering into a subsidiary alliance with the British were responsible for their own internal and external protection
- (b) In the territory of the ally, a British armed contingent would be stationed
- (c) The ally would have to provide the resources for maintaining the British contingent in the territory
- (d) The permission of the British was needed for the ally to enter into agreements with other rulers

126. Who among the following was associated with the Mughal Court as a physician to Prince Dara Shukoh?

- (a) Hakim Afzal Khan
- (b) Ibn Battuta
- (c) Francois Bernier
- (d) Duarte Barbosa

127. During the Eleventh Five Year Plan (FYP), agriculture sector in India witnessed a growth rate of 3.3 per cent per annum which is higher than 2.4 per cent per annum in the previous FYP. This is largely due to better performance of:

- (a) Crops and Livestock
- (b) Oilseeds and Fibres
- (c) Fishing and Oilseeds
- (d) Fibres and Fishing

128. An emergency under Article 352 of the Constitution of India can be declared only during:

- (a) War, external aggression or internal disturbance.
- (b) War, external aggression or armed rebellion.
- (c) Failure of Constitutional Machinery in the State.
- (d) Financial instability in the country.

129. Which of the following statements about the Livestock sector in India is/are correct ?

1. Livestock contributed about 25 per cent of gross value added in agriculture
2. It provides self employment to a large segment of population
3. Rapid growth of livestock sector can be egalitarian and inclusive

Select the correct answer using the code given below:

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

130. Which one of the following statements about Khilafat Movement is **not** correct?

- (a) The Khilafat Movement demanded that the Khalifa must retain control over Muslim holy places
- (b) The radical trend in the Khilafat Movement was represented by younger leaders like Muhammad Ali, Shaukat Ali, and Maulana Azad
- (c) Indian Muslim leaders used Khilafat as a symbol that could unite the Indian Muslim community
- (d) The Delhi conference of the Central Khilafat Committee in 1920 decided to launch a massive Non-Cooperation Movement

131. Which one of the following is **not** correct in the current Indian scenario?

- (a) Life expectancy is on the increase and is about 67 years as of now
- (b) Infant mortality rate is on the decline and has reached 47 per thousand
- (c) Maternal mortality rate (MMR) is on the rise due to lack of medical facilities
- (d) Percentage of women giving birth in health institutions is on the rise

132. The Fourth Schedule to the Constitution of India deals with:

- (a) provisions related to the administration of tribal areas.
- (b) allocation of seats in the Council of States.
- (c) the Union List, the State List and the Concurrent List.
- (d) recognized languages of the Union of India.

133. The British Officer who was a representative of the Governor General and who lived in a State which was not under direct British rule was called:

- (a) Collector
- (b) Viceroy
- (c) Resident
- (d) Agent

134. Which of the following features of the Permanent Settlement of 1793 is / are correct?

- 1. The Permanent Settlement vested Land ownership rights in the peasants
- 2. The Permanent Settlement vested land ownership rights in the Zamindars
- 3. The Zamindars had to pay a fixed amount of rent by a particular date
- 4. The Zamindars benefited hugely from the Permanent Settlement while the peasants suffered

Select the correct answer using the code given below:

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

135. The Vijayanagara Empire received its death blow at the battle of:

- (a) Talikota in 1565
- (b) Panipat in 1661
- (c) Talikota in 1665
- (d) Raichur in 1510

136. The 'Basic Structure Doctrine' was enunciated by the Supreme Court during the:

- (a) Golak Nath case
- (b) Maneka Gandhi case
- (c) Kesavananda Bharati case
- (d) S R Bommai case

137. Consider the following statements about the travellers who visited India:

- 1. Abdur Razzaq Samarqandi from Herat visited Delhi and Daulatabad.
- 2. Ibn Battuta provides detailed accounts of both Delhi and Daulatabad.
- 3. According to Francois Bernier there was no private property in land in Mughal India.

Which of the statements given above is/are correct?

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

138. Which of the following statements about hill stations of colonial India is/are correct?

1. The architecture of hill stations sought to recreate the European style
2. Hill stations were developed as sanitariums where soldiers were treated for illness
3. Shimla became the official residence of the Commander in Chief of the Indian Army
4. In 1864, Shimla had to be evacuated because of a Typhoid epidemic

Select the correct answer using the code given below:

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

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

List I (Dynasty)	List II (Architecture)
A. Chalukyas	1. Sun Temple, Konark
B. Hoysalas	2. Pattadakal Temples
C. Pandyas	3. Kesava Temple, Somnathpur
D. Eastern Gangas	4. Eastern <i>gopura</i> of Chidambaram Temple

Code:

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

140. The Senia tradition is:

- (a) musical tradition that emerged from the colonial army (Sena)
- (b) dance drama written by Keshab Chandra Sen
- (c) textile tradition of eastern UP
- (d) musical tradition that invoked the name of Tansen, the celebrated musician of Akbar's Court

141. Who among the following founded the Rajahmundri Social Reform Association in 1878 in support of widow remarriage?

- (a) Vishanshastri Pandit
- (b) Ishwar Chandra Vidyasagar
- (c) Pandita Ramabai
- (d) Veeresalingam Pantulu

142. The SAARC Secretariat is located at:

- (a) New Delhi
- (b) Colombo
- (c) Kathmandu
- (d) Karachi

143. The 19th Century Faraizi Movement in eastern Bengal developed under the leadership of:

- (a) Titu Rai
- (b) Haji Shariatullah
- (c) Shah Sayyid Ahmad
- (d) Dudu Miyan

144. The Indian States Committee was formed in 1928 under:

- (a) The Raja of Junagadh
- (b) Ian Copland
- (c) Sir Harcourt Butler
- (d) Motilal Nehru

145. The Panchayati Raj system under Part-IX of the Constitution of India does **not** apply to the States of:
- (a) Assam, Mizoram and Nagaland
 - (b) Nagaland, Meghalaya and Tripura
 - (c) Nagaland, Meghalaya and Mizoram
 - (d) Sikkim, Tripura and Meghalaya
146. The First Five Year Plan (1951—1956) was drafted by:
- (a) P C Mahalanobis
 - (b) K N Raj
 - (c) J C Kumarappa
 - (d) Jawaharlal Nehru
147. Who among the following is the author of the book, "Pakistan Paradox: Instability and Resilience"?
- (a) Christophe Jaffrelot
 - (b) G Parthasarthy
 - (c) Imran Khan
 - (d) Mamnoon Hussain
148. Which one of the following was the theme of the "International Day of United Nations Peacekeepers" for the year 2015?
- (a) Peacekeeping is a Global Partnership
 - (b) UN 70 and UN Peacekeeping: Past, Present, and Future
 - (c) Women in Peacekeeping
 - (d) A Force for the Future
149. Indian athlete Vikas Gowda is associated with:
- (a) Wrestling
 - (b) Sprint
 - (c) Discus throw
 - (d) Archery
150. The 19th Federation Cup National Senior Athletic Championships (2015) was held in:
- (a) Karnataka
 - (b) Haryana
 - (c) Uttar Pradesh
 - (d) Kerala