

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

**T.B.C. : KJU-F-GTA**

**Test Booklet Series**

# TEST BOOKLET GENERAL ABILITY TEST

**B**

**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 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 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 मुख पृष्ठ पर छपा है ।

## PART - A

### ANTONYMS

#### Directions :

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

1. He nodded absently throughout the meeting.

- (a) capably
- ☒ (b) alertly
- (c) agitatedly
- (d) dreamily

2. I fully believe that the cornerstone of good policy is an electorate that is educated on the national issues.

- (a) cerebral
- ☒ (b) enlightened
- ☒ (c) ignorant
- (d) erudite

3. For important medical decisions, even finding a doctor you trust is not enough.

- (a) significant
- ☒ (b) trivial
- (c) basic
- (d) probable

4. Planets move in their orbits.

- (a) push
- (b) rotated
- ☒ (c) stall
- (d) flow

5. Temperature is a measure of internal energy of an object and is frequently expressed by physicists in units of Kelvin.

- (a) found
- (b) told
- (c) distributed
- ☒ (d) concealed

6. People argue about why Venus is so much warmer than the Earth.

- (a) friendlier
- ☒ (b) colder
- (c) wilder
- (d) heavier



7. Scientists are concerned whether the oceans and land biosphere will take up as much carbon in the future as they presently do.

- ☒ (a) worried  
☒ (b) indifferent  
☐ (c) curious  
☐ (d) puzzled

8. The biggest debate among scientists today is about *cloud feedback*.

- ☐ (a) contend  
☐ (b) moot  
☐ (c) wrangle  
☒ (d) agreement

9. The Earth's climate sensitivity is conventionally defined as the equilibrium temperature increase caused by a doubling of carbon dioxide.

- ☒ (a) imperviousness  
☐ (b) willingness  
☒ (c) responsiveness  
☐ (d) closeness

10. The oceans carry a huge amount of heat from the tropics to the high latitudes.

- ☐ (a) significant  
☐ (b) major  
☒ (c) tiny  
☐ (d) dormant

### ORDERING OF WORDS IN A SENTENCE

#### Directions :

Each of the following items in this section consists of a sentence(s), the parts of which have been jumbled. These parts have been labelled as P, Q, R and S. Given below each sentence are four sequences namely (a), (b), (c) and (d). You are required to rearrange the jumbled parts of the sentence and mark your response accordingly.

11. several years ago, course on climate change at Texas A&M University

P

Q

Professor Andrew Dessler created an introductory for freshmen and sophomores

R

S

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

12. I realize that solving the climate change problem P than solving Q will be much harder R  
the ozone depletion problem S

☒ P R Q S ✓

(b) Q R P S

(c) S Q R P

(d) P Q R S

13. although the temperature of this layer of the P when directly comparing the satellite Q  
measurements of temperature R  
atmosphere should generally track the surface temperature, we must be careful S

(a) P R Q S

☒ P S Q R ✓

(c) S Q R P

(d) P Q R S

14. the element heats up, P eventually reaching high temperatures Q  
glowing like a dark orange that radiates R the visible range, S

(a) P Q S R

(b) Q P S R

(c) S Q R P

☒ P R S Q ✓

15. two people argue about why Venus is so much warmer

P

to the Sun, so it absorbs more solar energy. The second argues

Q

that it's because Venus has a thick, greenhouse-gas rich atmosphere

R

than the Earth. The first argues that it's because Venus is closer

S

☒ P S Q R ✓

(b) Q R P S

(c) S Q R P

(d) P Q R S

16. are now used by more than a thousand firms and are growing in popularity

P

Q

in the United States and Europe gain sharing-plans

R

S

(a) P R Q S ✓

(b) Q R P S<sup>x</sup>

☒ P R S Q ✓

(d) S P R Q

17. adversity without succumbing to the clouds of doubt and jealousy

P

Q

between friends which is subjected to both prosperity and

R

the essay 'Of Friendship' by Francis Bacon celebrated the intimacy

S

(a) P R Q S

(b) Q R P S ✓

☒ S R P Q ✓

(d) P Q R S



18. friends without which the world is make friends and a person will want true

P

Q

it is miserable solitude that compels a person to

R

nothing other than a place of wilderness

S

(a) P R Q S

(b) Q R P S

☒ (c) R Q P S

(d) P Q R S

19. takes the longest that never started the job to finish

P

Q

R

S

(a) P R Q S

☒ (b) R Q P S

(c) S Q R P

(d) P Q R S

20. to what you can create control, shift your energy instead of worrying about

P

Q

R

what you cannot

S

(a) P R S Q

(b) Q R S P

(c) S Q R P

☒ (d) R S Q P

## SYNONYMS

### Directions :

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

21. She got the divorce within no time.

☒ (a) detachment

(b) breaking down

(c) annulment

(d) punishment

22. He was known for his gentle disposition.

(a) harmful

☒ (b) amiable

(c) cunning

(d) adjusting

23. The harder we kick, the better the ball bounces back.

- ☒ recoils
- (b) deflates
- (c) inflates
- (d) ascends

24. I plan and execute.

- (a) desire
- (b) debate
- ☒ accomplish
- (d) discard

25. He listened to me with equanimity.

- (a) carelessly
- (b) excitedly
- ☒ patiently
- (d) half-heartedly

26. The whole thing was a futile exercise.

- (a) costly
- ☒ pointless
- (c) indecisive
- ~~(d) successful~~

27. He was too cunning for her.

- (a) capable
- (b) fit
- (c) intelligent
- ☒ dodgy

28. This decision is crucial for me.

- ☒ momentous
- (b) natural
- ~~(c) primitive~~
- ~~(d) inept~~

29. The media went into a frenzy about the case.

- (a) silent
- (b) creative
- ☒ berserk
- (d) wrong

30. He has been yearning to go home.

- (a) declining
- ~~(b) demanding~~
- (c) begging
- ☒ hankering

## PREPOSITIONS

### Directions :

Each item in this section has a sentence with a missing preposition. Select the correct preposition from the given options and mark your response on your Answer Sheet accordingly.

31. Simulations of the 20th century by climate models that exclude the observed increase \_\_\_\_\_ greenhouse gases fail to simulate the increase in temperature over the second half of the 20th century.

(a) of  
☒ (b) in  
(c) by  
(d) to

32. In extremely poor societies, children can be put to work \_\_\_\_\_ a young age and are therefore a source of income.

(a) in  
(b) on  
(c) by  
☒ (d) at

33. People who are averse \_\_\_\_\_ hard work, generally do not succeed in life.

☒ (a) to  
☒ (b) about  
(c) at  
(d) on

34. I have known her \_\_\_\_\_ a long time.

☒ (a) since  
☒ (b) for  
(c) at  
(d) before

35. I accepted the offer \_\_\_\_\_ certain conditions.

☒ (a) on

(b) in  
(c) by  
(d) within

36. She is a woman \_\_\_\_\_ humble origin.

(a) off  
☒ (b) of  
(c) from  
(d) within

37. There is no cure \_\_\_\_\_ the common cold.

☒ (a) for  
☒ (b) of  
(c) to  
(d) on

38. I ran \_\_\_\_\_ John yesterday, and it was a pleasant surprise.

(a) by  
(b) off  
(c) beside  
☒ (d) into

39. My grandmother enjoyed boating \_\_\_\_\_ the lovely lake.

☒ (a) in  
(b) on  
(c) beside  
(d) within

40. He visits the needy to relieve them \_\_\_\_\_ their sufferings and poverty.

☒ (a) from  
(b) off  
(c) of  
(d) on



## SPOTTING ERRORS

### Directions :

Each item in this section has a sentence with three underlined parts labelled as (a), (b) and (c). Read each sentence to find out whether there is any error in any underlined part and indicate your response on 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).

41. This building comprises of six houses, three parking lots and one basement.  
(a) (c)

No error.  
(d)

42. I look forward to meet you. No error.  
(b) (c) (d)

43. I cannot cope up with this pressure. No error.  
(a) (c) (d)

44. I came to this place by walk. No error.  
(a) (b) (d)

45. What is the time in your watch ? No error.  
(a) (b) (d)

46. The price of my dress is higher than that of yours. No error.  
(b) (c) (d)

47. My friend's daughter-in-laws have come. No error.  
(a) (c) (d)

48. I prefer seafood than Mediterranean food. No error.  
(a) (b) (d)

49. We were discussing about the issue. No error.  
(a) (c) (d)

50. Dispose off the garbage from the shelves. No error.  
(b) (c) (d)

## PART – B

51. New Zealand is considered part of which one of the following island groups ?

- (a) Micronesia
- (b) Melanesia
- ☒ (c) Polynesia
- (d) Hawaii Island chain

52. Which of the following statements with regard to *Pradhan Mantri Krishi Sinchayee Yojana* (PMKSY) is/are correct ?

- 1. PMKSY was launched during 2015-16
- 2. The basic aim of PMKSY is to enhance physical access of water on farm
- 3. One of the main objectives of PMKSY is to achieve convergence of investments in irrigation at the field level

Select the correct answer using the code given below :

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

53. According to Article 79 of the Constitution of India, which of the following is/are described as a part of Parliament of India ?

- 1. The House of the People
- 2. The Council of States
- 3. The President of India

Select the correct answer using the code given below :

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

54. The Five Year Plan was first launched in

- (a) China
- ☒ (b) USSR
- (c) India
- (d) Bhutan

55. The call for *Garibi Hatao* was incorporated in

- (a) Fourth Five Year Plan
- ☒ (b) Fifth Five Year Plan
- (c) Sixth Five Year Plan
- (d) Seventh Five Year Plan



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

List I (Major Objective)	List II (Five Year Plan)
A. Faster and more inclusive growth	1. First
B. Faster, more inclusive and sustainable growth	2. Fifth
C. Correction of disequilibrium caused by Second World War	3. Eleventh
D. Attaining self-reliance	4. Twelfth

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

57. Which one of the following Directive Principles was inserted by the Constitution (42<sup>nd</sup> Amendment) Act, 1976 ?

- (a) The State shall minimise inequalities in income
- (b) Equal justice and free legal aid
- (c) Promotion of co-operative societies
- (d) Provision for early childhood care

58. A common High Court for two or more states can be established by

- (a) a law passed by the Parliament
- (b) an order of the Supreme Court of India
- (c) an order of the President of India
- (d) an amendment to the Constitution of India

59. In the year 1928, a committee of Congress leaders drafted a Constitution for India. The Committee was headed by

- (a) Mahatma Gandhi
- (b) T. B. Saprú
- (c) Motilal Nehru
- (d) Jawaharlal Nehru

60. Which one of the following statements about Jaipal Singh is NOT correct ?

- (a) He was a member of the Constituent Assembly
- (b) He founded the Adivasi Maha Sabha
- (c) He was the captain of the first Indian national hockey team
- (d) He campaigned for a separate state of Chhattisgarh

61. What is 'Tikki Mausi' in the context of Malnutrition ?

(a) A specially packaged food item ✗

☒ (b) A mascot ✓

(c) Name of a scheme

(d) Name given to the healthcare providers ✗

62. Which one of the following was the theme of the World Tourism Day, 2019 ?

(a) Sustainable tourism

(b) Tourism and the digital transformation

(c) Tourism : responding to the challenge of climate change

☒ (d) Tourism and jobs: a better future for all ✓

63. Which one of the following countries has hosted the Army Exercise TSENTR, 2019 ?

☒ (a) Russia ✓

(b) China

(c) Kazakhstan

(d) Kyrgyzstan

64. Which one of the following countries is called the 'country of winds' ?

(a) India ✗

(b) China ✗

☒ (c) Denmark ✓

(d) Germany ✗

65. Which one of the following is the oldest scientific department of Government of India ?

(a) Department of Biotechnology

☒ (b) Survey of India

(c) India Meteorological Department

(d) DRDO

66. 'Naseem-Al-Bahr' is a bilateral naval exercise between India and

☒ (a) United Arab Emirates ✓

(b) Iran ✗

(c) Saudi Arabia ✗

☒ (d) Oman ✓



67. Koneru Humpy excels in which one of the following sports?

- (a) Boxing
- (b) Table Tennis
- ☒ (c) Chess ✓
- (d) Billiards

68. Which one of the following was the official mascot of Khelo India Youth Games, 2020?

- ☒ (a) Vijaya ✓
- (b) Yaya
- (c) Rongmon
- (d) Ammu

69. In January 2020, a passenger aircraft crashed in Iran soon after taking off from Tehran's Imam Khomeini airport killing about 170 people onboard. The airplane belongs to

- (a) Qatar Airways
- ☒ (b) Ukraine International Airlines ✓
- (c) Singapore Airlines
- (d) Cathay Pacific

70. MILAN, a multilateral naval exercise, 2020 was hosted by which one of the following cities?

- (a) Port Blair
- (b) Kochi
- ☒ (c) Visakhapatnam ✓
- (d) Panaji

71. Chalk and marble are different forms of

- (a) Calcium hydrogen carbonate
- ☒ (b) Calcium carbonate ✓
- (c) Calcium acetate
- (d) Sodium carbonate

72. The number of maximum electrons in N Shell is

- (a) 2
- (b) 8
- (c) 18
- ☒ (d) 32 ✓

73. Vinegar is also known as

- ☒ (a) ethanoic acid ✓
- (b) nitric acid
- (c) sulphuric acid
- (d) tartaric acid

74. A liquid is kept in a glass beaker. Which one of the following statements is correct regarding the pressure exerted by the liquid column at the base of the beaker?

- (a) The pressure depends on the area of the base of the beaker
- ☒ (b) The pressure depends on the height of liquid column ✓
- (c) The pressure does not depend on the density of the liquid
- (d) The pressure neither depends on the area of the base of the beaker nor on the height of liquid column

75. Which of the following statements is NOT correct regarding the travel of sound waves ?

- (a) Sound waves can travel through water
- (b) Sound waves can travel through air
- (c) Sound waves can travel through steel

☒ (d) Sound waves can travel through vacuum

76. Deendayal Port is located at

(a) Kerala

☒ (b) Gujarat

(c) Maharashtra

(d) Goa

77. Which one of the following cities is associated with Biosafety Protocol to the Convention on Biological Diversity (2000) ?

(a) Geneva

(b) Nairobi

☒ (c) Cartagena

(d) Rio de Janeiro

78. Krishna Raja Sagara Dam/Reservoir is developed on

(a) river Krishna

(b) river Tungabhadra

(c) river Godavari

☒ (d) river Kavery

79. Which one of the following Indian states does NOT share international border with two or more countries ?

(a) Arunachal Pradesh

(b) Assam

☒ (c) Mizoram

☒ (d) Tripura

80. According to Census of India, 2011, which one among the following is the least populated state in India ?

(a) Maharashtra

(b) Madhya Pradesh

☒ (c) Odisha

☒ (d) Punjab

81. The speakers of major Indian languages belong to how many language families ?

(a) Two

(b) Three

☒ (c) Four

(d) Six

82. Where did Gandhiji initially forge the techniques of *Satyagraha* ?

(a) England

☒ (b) South Africa

(c) North Africa

(d) India



83. Who was the Viceroy of India at the time of Gandhiji's Dandi march?

- ☒ Lord Irwin ✓
- (b) Lord Linlithgow
- (c) Lord Reading
- (d) Lord Willingdon

84. Which one among the following American newsmagazines was highly sceptical of Gandhiji's Dandi march initially but within a week completely changed its opinion and saluted him as a Saint and Statesman?

- (a) Saturday Evening Post
- (b) Readers Digest
- ☒ Time ✓
- (d) Life

85. In which of the following years were passenger trains introduced in England?

- (a) 1823
- ☒ 1825
- ☒ 1848 ✓
- (d) 1861

86. The correct relation between the radius of curvature  $R$  and focal length  $f$  of a spherical mirror is

- (a)  $R = f$
- ☒  $R = 2f$
- (c)  $R = 3f$
- (d)  $R = 4f$

$$\frac{R}{2} = f$$

87. A lemon kept in water in a glass tumbler appears to be larger than its actual size. It is because of

- (a) reflection of light
- (b) scattering of light
- ☒ refraction of light
- (d) polarization of light

88. Light enters the eye through a thin membrane called

- (a) retina
- ☒ cornea
- (c) pupil
- ☒ iris

89. Name the scientist who first used a glass prism to obtain the spectrum of sunlight

- (a) C. V. Raman
- (b) Lord Rayleigh
- ☒ Isaac Newton
- (d) S. Chandrasekhar

90. The cost of energy to operate an industrial refrigerator that consumes 5 kW power working 10 hours per day for 30 days will be

(Given that the charge per kW.h of energy = ₹ 4)

(a) ₹ 600

☒ (b) ₹ 6,000

(c) ₹ 1,200

☒ (d) ₹ 1,500

91. Which one of the following statements regarding magnetic field is NOT correct?

(a) Magnetic field is a quantity that has direction and magnitude

(b) Magnetic field lines are closed curves

☒ (c) Magnetic field lines are open curves

(d) No two magnetic field lines are found to cross each other

92. Which one of the following statements is NOT correct?

(a) Buckminsterfullerene is an allotrope of carbon

☒ (b) Diamond is a good conductor of electricity

(c) Graphite is a good conductor of electricity

(d) In graphite, each carbon atom is linked to three other carbon atoms

93. How many covalent bonds are present in a Chloropropane molecule having molecular formula,  $C_3H_7Cl$ ?

(a) 6

(b) 8

(c) 9

☒ (d) 10

94. Which one of the following is the most fundamental characteristic of an element?

(a) Melting point

☒ (b) Atomic number

☒ (c) Colour

(d) Atomic weight

95. Neutrons were discovered by

☒ (a) James Chadwick

(b) Ernest Rutherford

(c) J. J. Thomson

(d) John Dalton

96. Atomic mass of an element is equal to the sum of number of

☒ (a) electrons and protons only

☒ (b) protons and neutrons only

(c) electrons and neutrons only

(d) electrons, protons and neutrons



**97.** Which one of the following element's isotope is used in the treatment of cancer ?

(a) Uranium

☒ (b) Cobalt

(c) Sodium

(d) Iodine

**98.** Which one of the following cell organelles may play a role in expelling excess water and wastes in case of unicellular organisms ?

(a) Lysosome

☒ (b) Vacuole

(c) Golgi body

(d) Endoplasmic reticulum

**99.** Which one of the following terms describes the practice of growing two or more crops simultaneously on the same piece of land ?

(a) Crop rotation

☒ (b) Mixed cropping

(c) Intercropping

(d) Mixed farming

**100.** Which one of the following statements is correct about effects of antibiotics on viruses ?

(a) Viruses are "non-living" entities but it can interact with antibiotics ✗

(b) Taking antibiotics cures viral infections ✗

☒ (c) Viruses do not possess metabolic pathways on which antibiotics can function, whereas bacteria have such pathways

(d) Viruses are resistant to antibiotics

☒ **101.** The Panama Canal opened in 1914, links

(a) Red Sea and Mediterranean Sea

☒ (b) Atlantic Ocean and Pacific Ocean

(c) Indian Ocean and Pacific Ocean

(d) Adriatic Sea and Black Sea

**102.** The United Nations Charter was signed by 51 original members of the United Nations in 1945 at the

(a) Hague Conference ✓

(b) London Conference ✓

☒ (c) San Francisco Conference ✓

(d) Berlin Conference ✗

**103.** Land Revenue Records maintained in India have categorized land-use into

- ☒ 6 categories
- (b) 9 categories
- (c) 15 categories
- (d) 21 categories

**104.** Dry land farming in India is largely confined to areas with rainfall less than

- (a) 100 cm
- (b) 85 cm
- (c) 80 cm
- ☒ 75 cm

**105.** For an area to be excluded from the drought-prone category, what percentage of its gross cropped area should be under irrigation?

- (a) 10 per cent or more
- ☒ 20 per cent or more
- (c) 25 per cent or more
- (d) 30 per cent or more

**106.** Which one of the following is NOT a current of Pacific Ocean?

- (a) Oyashio current
- (b) Alaska current

☒ Agulhas current

(d) California current

**107.** The duration of monsoon in India extends for an average period of

- (a) 80 – 140 days
- (b) 100 – 120 days

☒ 90 – 130 days

(d) 100 – 140 days

**108.** Which one of the following is the natural vegetation of South east China?

(a) Subtropical broadleaf evergreen forest

(b) Tropical broadleaf evergreen forest

(c) Tropical deciduous forest

☒ Temperate evergreen forest

**109.** Which one of the following is a cold local wind?

~~(a)~~ Santa Ana

(b) Chinook

☒ Mistral

(d) Loo



**110.** What was the consequence of Permanent Settlement on rural society in Bengal ?

- (a) The zamindars invested capital and enterprise to improve agriculture along lines of British yeoman farmers
- (b) A group of rich peasants known as jotedars succeeded in consolidating their position in the villages

☒ The ryots prospered as a result of fixed revenue levy imposed on them

- (d) The system of Collectorate introduced by the Company for exercising supervisory control on zamindars failed to take off

**111.** What was *Damin-i Koh* in Rajmahal area ?

☒ A large area of land demarcated and declared to be the land of the Santhals

- (b) The land of the Paharias cultivated exclusively for paddy
- (c) The British territory marked for their military camp
- (d) The land earmarked for locating settled agriculturists

**112.** Which one of the following statements about the Revolt of 1857 is correct ?

- (a) It was a Revolt carefully organised and planned by the Rajas, Nawabs and Taluqdars
- (b) Rumours and prophecies did not play any role in its outbreak and spread
- (c) The rebel proclamations in 1857 repeatedly appealed to all sections of the population irrespective of their caste and creed.

☒ The British succeeded in quickly and easily controlling the rebels

**113.** Which one among the following was NOT a *Panch Sheel* principle ?

- (a) Peaceful Co-existence
- (b) Mutual respect for territorial integrity
- ☒ (c) Nuclear deterrence
- (d) Non-interference in internal affairs

**114.** Who among the following had organised, in 1904, a secret society of revolutionaries named *Abhinav Bharat* ?

- (a) Khudiram Bose
- (b) Shyamji Krishna Verma
- ~~(c) Har Dayal~~
- ☒ (d) V D Savarkar

115. The principle that the framing of the new Constitution for independent India should be primarily (though not solely) the responsibility of Indians themselves, was for the first time conceded in the

- (a) Government of India Act, 1935
- (b) August Offer of Viceroy Linlithgow
- ☒ (c) Cripps Proposals
- (d) Cabinet Mission

116. Which one of the following is a major environmental issue in eastern Canada ?

- ☒ (a) Acid precipitation
- (b) Groundwater depletion
- (c) Land degradation
- (d) Desertification

117. Which one of the following mountains lies in between Caspian Sea and Black Sea ?

- ☒ (a) Caucasus
- (b) Carpathians
- (c) Apennine
- (d) Elburz

118. Bagalihar, Dulhasti and Salal hydro power projects have been developed on which of the following rivers ?

- (a) Chenab and Jhelum
- (b) Chenab and Indus
- (c) Ravi
- ☒ (d) Chenab only

119. Which of the following statements with regard to Biosphere Reserve is/are correct ?

1. The idea of Biosphere Reserve was initiated by UNESCO in 1973-74
2. There are 18 designated Biosphere Reserves in India
3. All Biosphere Reserves in India have been included in world network of Biosphere Reserves of UNESCO

Select the correct answer using the code given below :

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

120. Which one of the following countries does NOT have direct access to the sea/ocean ?

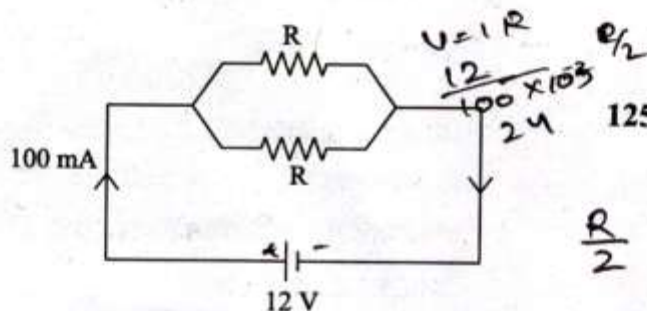
- (a) Syria
- (b) Jordan
- ☒ (c) Azerbaijan
- (d) Armenia



121. In an incandescent electric bulb, the filament of the bulb is made up of which metal ?

- (a) Aluminium
- (b) Copper
- ☒ (c) Tungsten
- (d) Silver

122. Two equal resistors  $R$  are connected in parallel, and a battery of 12 V is connected across this combination. A dc current of 100 mA flows through the circuit as shown below :



The value of  $R$  is

- (a) 120  $\Omega$
- ☒ (b) 240  $\Omega$
- (c) 60  $\Omega$
- (d) 100  $\Omega$

123. Which one of the following is NOT the unit of energy ?

- (a) Joule ✓
- (b) Watt-hr
- (c) Newton-metre
- ☒ (d) kg-metre/sec<sup>2</sup> ✓

124. Which one of the following statements is NOT correct ?

- (a) Biomass is a renewable source of energy
- (b) Gobar gas is produced when cow-dung, crop residues, vegetable waste and sewage are allowed to decompose in the absence of oxygen ✓
- (c) Biogas generation reduces soil and water pollution ✓

☒ (d) Heating capacity of biogas is very low

125. In prokaryotic organisms, nuclear region is not surrounded by a membrane. This undefined nuclear region is known as

- (a) Nucleic acid
- ☒ (b) Nucleoid
- (c) Nucleolus
- (d) Nucleosome

126. Which one of the following plant tissues has dead cells ?

- (a) Epidermis
- (b) Parenchyma
- (c) Collenchyma
- ☒ (d) Sclerenchyma ✓

127. Cartilage is NOT found in

- (a) larynx
- (b) nose
- (c) ear
- ☒ (d) urinary bladder

128. Two planets orbit the Sun in circular orbits, with their radius of orbit as  $R_1 = R$  and  $R_2 = 4R$ . Ratio of their periods ( $T_1/T_2$ ) around the Sun will be

- ☒ (a) 1/16
- ☒ (b) 1/8
- (c) 1/4
- (d) 1/2

$$T^2 \propto R^3$$

$$\frac{T_1^2}{T_2^2} = \frac{R_1^3}{R_2^3}$$

$$\frac{T_1^2}{T_2^2} = \frac{R^3}{(4R)^3}$$

$$\frac{T_1^2}{T_2^2} = \frac{1}{64}$$

$$\frac{T_1}{T_2} = \frac{1}{8}$$

129. A metallic wire having resistance of  $20 \Omega$  is cut into two equal parts in length. These parts are then connected in parallel. The resistance of this parallel combination is equal to

- (a)  $20 \Omega$
- ☒ (b)  $10 \Omega$
- ☒ (c)  $5 \Omega$
- (d)  $15 \Omega$

$$\frac{1}{4 \times 2}$$

$$\frac{1}{8}$$

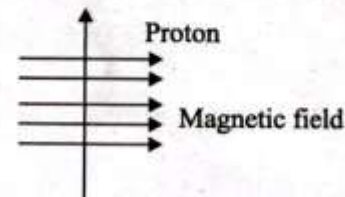
130. Light of uniform intensity impinges perpendicularly on a totally reflecting surface. If the area of the surface is halved, the radiation force on it will become

- ☒ (a) double
- (b) half
- (c) four times
- ☒ (d) one fourth

131. The part of the human eye on which the image is formed is

- (a) pupil
- (b) cornea
- ☒ (c) retina
- (d) iris

132. Consider the following image :



A proton enters a magnetic field at right angles to it, as shown above. The direction of force acting on the proton will be

- (a) to the right
- (b) to the left
- (c) out of the page
- ☒ (d) into the page

133. Which one of the following statements about sound is NOT correct ?

- (a) Sound travels at a speed slower than the speed of light ✓
- ☒ (b) Sound waves are transverse waves
- (c) Sound waves are longitudinal waves
- ☒ (d) Sound travels faster in moist air than in dry air



134. When the short circuit condition occurs, the current in the circuit

- (a) becomes zero ✓
- (b) remains constant ✗
- ☒ (c) increases substantially ✓
- (d) keeps on changing randomly ✗

135. Which one of the following is NOT a component of human male reproductive system?

- ☒ (a) Cervix
- (b) Urethra
- (c) Seminal vesicle
- ☒ (d) Vas deferens

136. Which one of the following is NOT a reason of decrease in biodiversity?

- (a) Large scale deforestation ✓
- (b) Exploitation of forest produce ✓
- ☒ (c) Maintaining sacred groves ✓
- (d) Encroachment in forest areas ✓

137. Which one of the following is NOT a cause of depletion in groundwater?

- ☒ (a) Afforestation
- (b) Loss of forests
- (c) Excessive pumping of groundwater
- (d) Construction of large scale concrete buildings

138. Which one of the following types of radiations has the smallest wavelength?

- ☒ (a) Microwaves
- (b) Infra-red ✗
- (c) Visible light ✓
- ☒ (d) X-rays ✓

139. The instrument used for detecting the presence of electric current in a circuit is

- (a) Refractometer
- ☒ (b) Galvanometer
- (c) Viscometer
- (d) Diffractometer

140. Which one of the following is the largest composition in biogas?

- (a) Carbon dioxide
- ☒ (b) Methane
- (c) Hydrogen
- (d) Hydrogen sulphide

141. The Sun appears reddish during sunrise and sunset. The phenomenon in optics which is responsible for this appearance of the Sun is

- (a) Reflection
- (b) Total internal reflection
- ☒ (c) Scattering
- (d) Interference

142. A lens has a power of +2.0 Dioptre. Which one of the following statements about the lens is true?

- (a) The lens is concave and has a focal length of 0.5 metre ✗
- (b) The lens is convex and has a focal length of 2.0 metre
- ☒ (c) The lens is convex and has a focal length of 0.5 metre
- (d) The lens is concave and has a focal length of 2.0 metre ✗

143. At nearly 70°C, sodium bicarbonate shows the property of gradually decomposing, which makes it usable in bakery products. The product of decomposition responsible for this use of sodium bicarbonate is

- ☒ (a) Carbon dioxide
- (b) Hydrogen
- (c) Water vapour
- (d) Oxygen

144. Number of molecules of water of crystallization in copper sulphate, sodium carbonate and Gypsum are

- ☒ (a) 5, 10 and 2 respectively
- (b) 10, 2 and 5 respectively
- (c) 5, 2 and 10 respectively
- (d) 2, 5 and 10 respectively

145. Which one of the following is the correct sequence of change in colours when a turmeric stain on white clothes is scrubbed by soap and then washed with water?

- (a) Yellow – pink – blue ✗
- (b) Yellow – reddish brown – yellow/
- ☒ (c) Yellow – reddish brown – blue ✓
- (d) Yellow – blue – pink ✗

146. Which one of the following statements regarding Bleaching powder and D.D.T. is correct?

- (a) Both are inorganic compounds
- (b) Both are organic compounds
- ☒ (c) Both contain chlorine
- (d) Both contain calcium

147. Which one of the following is the best example of desiccant?

- ☒ (a) Silica gel ✓
- (b) Polystyrene
- (c) Sodium chloride
- (d) Sodium carbonate

148. Which one of the following was the first mineral acid discovered?

- ☒ (a) Sulphuric acid ✓
- (b) Hydrochloric acid
- (c) Nitric acid
- (d) Phosphoric acid



**149.** The refractive index of fused quartz is 1.46 and that of sapphire is 1.77. If  $v_q$  is the speed of light in quartz and  $v_s$  is the speed of light in sapphire, then which one of the following relations is correct ?

☒ (a)  $v_q > v_s$

(b)  $v_s > v_q$

(c)  $v_s = v_q$

(d)  $v_s = \frac{v_q}{2}$

**150.** In case of a concave mirror, if an object is kept between principal focus F and pole P of the mirror, then which one of the following statements about the image is NOT correct ?

(a) The image will be virtual ✓

(b) The image will be enlarged or magnified ✓

☒ (c) The image will be formed at infinity ✓

(d) The image will be erect ✓

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