

टी. बी. सी. : DFGT-U-GTA

क्रम संख्या



परीक्षण पुस्तिका अनुक्रम

परीक्षण पुस्तिका

सामान्य योग्यता परीक्षण

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समय : दो घण्टे और तीस मिनट

पूर्णांक : 600

अनुदेश

1. परीक्षा प्रारम्भ होने के तुरन्त बाद, आप इस परीक्षण पुस्तिका की पड़ताल अवश्य कर लें कि इसमें कोई बिना छपा, फटा या छूटा हुआ पृष्ठ अथवा प्रश्नांश, आदि न हों। यदि ऐसा है, तो इसे सही परीक्षण पुस्तिका से बदल लीजिए।
2. कृपया ध्यान रखें कि OMR उत्तर-पत्रक में, उचित स्थान पर, रोल नम्बर और परीक्षण पुस्तिका अनुक्रम A, B, C या D को, ध्यान से एवं बिना किसी चूक या विसंगति के भरने और कूटबद्ध करने की जिम्मेदारी उम्मीदवार की है। किसी भी प्रकार की चूक/विसंगति की स्थिति में उत्तर-पत्रक निरस्त कर दिया जाएगा।
3. इस परीक्षण पुस्तिका पर साथ में दिए गए कोष्ठक में आपको अपना अनुक्रमांक लिखना है। परीक्षण पुस्तिका पर और कुछ न लिखें।
4. इस परीक्षण पुस्तिका में 150 प्रश्नांश (प्रश्न) दो भागों में दिए गए हैं : भाग - A और भाग - B। भाग - B में प्रत्येक प्रश्नांश हिन्दी और अंग्रेजी दोनों में छपा है। प्रत्येक प्रश्नांश में चार प्रत्युत्तर (उत्तर) दिए गए हैं। इनमें से एक प्रत्युत्तर को चुन लें, जिसे आप उत्तर-पत्रक पर अंकित करना चाहते हैं। यदि आपको ऐसा लगे कि एक से अधिक प्रत्युत्तर सही हैं, तो उस प्रत्युत्तर को अंकित करें जो आपको सर्वोत्तम लगे। प्रत्येक प्रश्नांश के लिए केवल एक ही प्रत्युत्तर चुनना है।
5. आपको अपने सभी प्रत्युत्तर अलग से दिए गए उत्तर-पत्रक पर ही अंकित करने हैं। उत्तर-पत्रक में दिए गए निर्देश देखिए।
6. सभी प्रश्नांशों के अंक समान हैं।
7. इससे पहले कि आप परीक्षण पुस्तिका के विभिन्न प्रश्नांशों के प्रत्युत्तर उत्तर-पत्रक पर अंकित करना शुरू करें, आपको प्रवेश प्रमाण-पत्र के साथ प्रेषित अनुदेशों के अनुसार कुछ विवरण उत्तर-पत्रक में देने हैं।
8. आप अपने सभी प्रत्युत्तरों को उत्तर-पत्रक में भरने के बाद तथा परीक्षा के समापन पर केवल उत्तर-पत्रक अधीक्षक को सौंप दें। आपको अपने साथ परीक्षण पुस्तिका ले जाने की अनुमति है।
9. कच्चे काम के लिए पत्रक, परीक्षण पुस्तिका के अंत में संलग्न हैं।
10. ग़लत उत्तरों के लिए दंड :

वस्तुनिष्ठ प्रश्न-पत्रों में उम्मीदवार द्वारा दिए गए ग़लत उत्तरों के लिए दंड दिया जाएगा।

- (i) प्रत्येक प्रश्न के लिए चार वैकल्पिक उत्तर हैं। उम्मीदवार द्वारा प्रत्येक प्रश्न के लिए दिए गए एक ग़लत उत्तर के लिए प्रश्न हेतु नियत किए गए अंकों का एक-तिहाई दंड के रूप में काटा जाएगा।
- (ii) यदि कोई उम्मीदवार एक से अधिक उत्तर देता है, तो इसे ग़लत उत्तर माना जाएगा, यद्यपि दिए गए उत्तरों में से एक उत्तर सही होता है, फिर भी उस प्रश्न के लिए उपर्युक्तानुसार ही, उसी तरह का दंड दिया जाएगा।
- (iii) यदि उम्मीदवार द्वारा कोई प्रश्न हल नहीं किया जाता है, अर्थात् उम्मीदवार द्वारा उत्तर नहीं दिया जाता है, तो उस प्रश्न के लिए कोई दंड नहीं दिया जाएगा।

जब तक आपको यह परीक्षण पुस्तिका खोलने को न कहा जाए तब तक न खोलें

Note : English version of the instructions is printed on the back cover of this Booklet.

PART - A
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. Indicate your response 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).

1. Nursery classes for the children starts on April every year. No error
(a) (b) (c) (d)

2. The pollution level is very high in our city, and becomes a health hazard.
(a) (b) (c)

No error

(d)

3. India is a country of linguistic and cultural diversity with multiple ethnic and social groups.
(a) (b) (c)

No error

(d)

4. Why does the lapse rate effect the tendency of air to rise ? No error
(a) (b) (c) (d)

5. The thorax is the upper part of your body from the neck down

(a)

(b)

to the bottom of the ribs and diaphragm. No error

(c)

(d)

6. The practical uses of astrology have seldom been seriously

(a)

(b)

studied outside India. No error

(c)

(d)

7. She collected some armful of medicines and poured them down a drain. No error

(a)

(b)

(c)

(d)

8. In many countries, the United Nations or other internationally organised

(a)

(b)

peacekeeping forces are trying to keep the peace. No error

(c)

(d)

9. Early cities rely on food and water from the surrounding countryside,

(a)

(b)

but today cities often depend on distant sources. No error

(c)

(d)

10. Climate change, whether it is natural or human-induced,

(a)

(b)

is stressful for the people. No error

(c)

(d)

Idioms and Phrases

Directions : Given below are some idioms/phrases followed by four alternative meanings for each. Choose the most appropriate answer from among the options (a), (b), (c) or (d).

11. Once-over

- (a) To do something quickly
- (b) To do something elaborately
- (c) To do something perforce
- (d) To do something for others

12. A bag of bones

- (a) An extremely fat person
- (b) An extremely thin person
- (c) A wealthy person
- (d) A healthy person

13. Muddy the waters

- (a) To spread dirt around
- (b) To make a situation easy
- (c) To make one's life happy
- (d) To make the situation complicated

14. To level with

- (a) To be honest
- (b) To be on a plain
- (c) To cheat someone
- (d) To take revenge

15. Show your hand

- (a) To tell people about the past
- (b) To tell people about the future
- (c) To tell people about them
- (d) To tell people about your plans

16. To pull up

- (a) To lift heavy weights
- (b) To check oneself
- (c) To shorten the distance
- (d) Too short of destination

17. Be out of action

- (a) To get punishment
- (b) To get reward
- (c) To become dysfunctional
- (d) To become superactive

18. Learning from the school of hard knocks

- (a) Learning things from experience
- (b) Learning things from others
- (c) Learning things from environment
- (d) Learning things through difficult experiences

19. Raise some hackles

- (a) To annoy
- (b) To make someone happy
- (c) To do a great task
- (d) To sit idle

20. A man of letters

- (a) An excellent artist
- (b) A scholar in literature
- (c) An outstanding sportsman
- (d) A known novelist

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 mark your response accordingly.

21. symbolic of peace, and prosperity the Gupta Empire in India is

P

Q

represented through numismatic archaeological

and literary evidences of multiple kinds

R

S

The correct sequence should be :

- (a) QPRS
- (b) QSRP
- (c) PSQR
- (d) RSQP

22. the transportation system so that it and not just the affluent section of society

P

Q

provides mobility to everyone

there are many ways to restructure

R

S

The correct sequence should be :

- (a) PQRS
- (b) RQPS
- (c) SPRQ
- (d) QRPS

23. and accurately displays spatial relationships between landforms and water bodies

P

Q

the globe shows Earth's spherical shape

and comparative distance between locations

R

S

The correct sequence should be :

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

24. the function of the capillaries and other material to all the cells in

P

Q

is to take nutrients, oxygen

the body and to take away their waste material

R

S

The correct sequence should be :

- (a) PRQS
- (b) RPQS
- (c) SPQR
- (d) QRPS

25. like mine even to someone with a tin ear her singing sounded pretty melodious

P

Q

R

S

The correct sequence should be :

- (a) PRQS
- (b) RPQS
- (c) SPQR
- (d) QRPS

26. the sorry state of affairs in the modern factories the Government of India

P

Q

under the British was pro-capitalist

though it took some half-hearted steps to mitigate

R

S

The correct sequence should be :

- (a) PRQS
- (b) QRSP
- (c) SPQR
- (d) QPSR

- 27.** of extreme poverty among its people economic policies was the prevalence
- P Q

The correct sequence should be :

- 28.** you can't judge very intelligent, but a book by its cover he doesn't look
- P Q R S

- (a) SQPR
(b) QRSP
(c) RSQP
(d) QPSR

- 29.** membership and partisanship as well as can be found in the decline in party
- P Q

The correct sequence should be :

- | 30. | <u>government, market and voluntary organisations</u> | <u>mixture of contributions from</u> |
|-----|---|--------------------------------------|
| | P | Q |

The correct sequence should be :

Synonyms

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

31. He is essentially a lowbrow person.
(a) coarse
(b) proud
(c) passionate
(d) pathetic
32. His nostalgia is deep.
(a) excitement
(b) longing
(c) happiness
(d) ability
33. His truancy is detrimental.
(a) loyalty
(b) integrity
(c) honesty
(d) absenteeism
34. He is a maleficent person.
(a) generous
(b) cunning
(c) criminal
(d) friendly
35. His solemnity is celebrated.
(a) greed
(b) desire
(c) trust
(d) dignity
36. His bounty is limitless.
(a) benevolence
(b) gallantry
(c) nepotism
(d) chivalry
37. The Holocaust was experienced by millions.
(a) celebration
(b) destruction
(c) construction
(d) beautiful
38. His aversion is known to all.
(a) hospitality
(b) hostility
(c) humility
(d) humbleness
39. To be able to decipher something is wonderful.
(a) decode
(b) encode
(c) simulate
(d) animate
40. It is the opportune time to think about investment in the real estate sector.
(a) honorary
(b) appropriate
(c) difficult
(d) unsuitable

Antonyms

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

41. His opinion is lopsided.
(a) partial
(b) crooked
(c) unequal
(d) balanced
42. His work is praiseworthy.
(a) admirable
(b) condemnable
(c) commendable
(d) creditable
43. His deeds had retrograde results.
(a) progressive
(b) negative
(c) retreating
(d) reverse
44. He always offers palatable solutions.
(a) acceptable
(b) agreeable
(c) unacceptable
(d) pleasant
45. His views on the subject are microscopic.
(a) broad-based
(b) minute
(c) precise
(d) fine
46. He is always obdurate in his behaviour towards other people.
(a) flexible
(b) callous
(c) insensible
(d) obnoxious
47. Mohan always had profound respect for Sohan.
(a) deep
(b) extreme
(c) sincere
(d) superficial
48. We were living in turbulent times.
(a) destructive
(b) unstable
(c) calm
(d) stormy
49. Amit is a dogmatic person.
(a) assertive
(b) amenable
(c) bold
(d) rigid
50. Sachin is very fickle in his behaviour.
(a) stable
(b) capricious
(c) mercurial
(d) vacillating

PART - B

51. Which one from among the following planets is largest in size ?

- (a) Earth
- (b) Venus
- (c) Mars
- (d) Mercury

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

<i>List I</i> (Place)	<i>List II</i> (Feature)
A. Mumbai	1. Queen of the Arabian Sea
B. Visakhapatnam	2. Biggest port of India
C. Chennai	3. Land-locked harbour
D. Kochi	4. Oldest port on the Eastern Coast

Code :

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

53. Which one of the following is a crater lake in India ?

- (a) Lonar Lake
- (b) Sambhar Lake
- (c) Chilika Lake
- (d) Vembanad Lake

54. Fine-grained bed of ephemeral lake in a desert is also known as

- (a) Playa
- (b) Oasis
- (c) Drumlin
- (d) Natural levee

55. Which one of the following factors does **not** affect the distribution of groundwater ?

- (a) Amount of precipitation
- (b) Rate of evaporation
- (c) Ability of the ground surface to allow water to infiltrate into the groundwater system
- (d) Distance from the sea

56. The Constitution (35th Amendment) Act of 1974 is related to which one of the following States ?

- (a) Mizoram
- (b) Sikkim
- (c) Nagaland
- (d) Arunachal Pradesh

57. Which one of the following best describes the electoral system of India ?

- (a) First-Past-the-Post System
- (b) Proportional Representation
- (c) Mixed System
- (d) General Ticket

58. Which one of the following is a non-justiciable right ?
- Right to adequate livelihood
 - Right against exploitation
 - Right of accused
 - Right to life and personal liberty
59. Which one of the following is **not** a writ ?
- Mandamus
 - Habeas Corpus
 - Certiorari
 - Severability
60. Which one of the following is **not** a part of Fundamental Rights ?
- Right to education
 - Right to establish educational institutions by minorities
 - Right to be conferred with titles
 - Right against untouchability
61. Which one of the following is **not** a function of the Constitution of India ?
- To ensure participation of good people in politics
 - To guarantee a set of rights to citizens
 - To define the power of the different organs of government
 - To create conditions for a just society
62. Which one of the following statements about biodiversity is **not** correct ?
- The term 'biodiversity' was coined by Walter G. Rosen in 1986.
 - The term 'biodiversity hotspots' was coined by Norman Myers in 1988.
 - The regions having richest biodiversity are called 'biodiversity hotspots'.
 - More than 100 hotspots of biodiversity are identified in the world.
63. The Earth's atmosphere is mainly heated by which one of the following ?
- Short wave solar radiation
 - Reflected solar radiation
 - Long wave terrestrial radiation
 - Scattered solar radiation
64. Which one of the following is the correct sequence of layers as we move from the Earth's surface upwards ?
- Troposphere, Stratosphere, Thermosphere, Mesosphere
 - Troposphere, Stratosphere, Mesosphere, Thermosphere
 - Thermosphere, Mesosphere, Stratosphere, Troposphere
 - Stratosphere, Mesosphere, Troposphere, Thermosphere

65. Which one of the following is **not** a soil forming factor ?

- (a) Parent material
- (b) Topography
- (c) Climate
- (d) Human habitation

66. Which one of the following best describes the Lithosphere ?

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

67. Which one of the following countries has the maximum time difference from Greenwich Mean Time (GMT) ?

- (a) India
- (b) Nepal
- (c) Sri Lanka
- (d) Bhutan

68. Which one of the following is **not** a feature of the Constitution of India ?

- (a) It provides a set of basic rules.
- (b) It specifies the power of the Government.
- (c) It is the supreme law of the land.
- (d) It specifies the supremacy of the judiciary.

69. Which one of the following statements about the Attorney General of India is **not** correct ?

- (a) He has the right of audience only in the Supreme Court of India.
- (b) He shall receive such remuneration as the President may determine.
- (c) He shall be qualified to be appointed as a Judge of the Supreme Court.
- (d) He shall give advice to the Government of India on all legal matters.

70. Who among the following described the Directive Principles of State Policy as the novel feature of the Constitution of India ?

- (a) Jawaharlal Nehru
- (b) Rajendra Prasad
- (c) S.N. Mukherjee
- (d) B.R. Ambedkar

71. Which of the following statements about the Indian Councils Act of 1861 is/are correct ?

1. It enlarged the Governor General's Council for the purpose of making laws.
2. The Governor General was not authorised to increase the number of members.

Select the correct answer using the code given below :

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

72. Which one of the following statements about *Tattvabodhini Patrika* is correct ?

- (a) It promoted a systematic study of India's past in the Bengali language.
- (b) It promoted a systematic study of India's past through Sanskrit sources.
- (c) It promoted a systematic study of India's past through Persian sources.
- (d) It promoted a systematic study of India's past through Western sources.

73. In which one of the following years did the British demarcate a large area of land as *Damin-i-koh* for settling the Santhals ?

- (a) 1810
- (b) 1793
- (c) 1885
- (d) 1832

74. The Tropic of Cancer does **not** pass through which one of the following States ?

- (a) Manipur
- (b) West Bengal
- (c) Gujarat
- (d) Jharkhand

75. Which of the following pairs of crop and product is/are correctly matched ?

1. Food crop : Ragi
2. Cash crop : Jute
3. Plantation crop : Coconut

Select the correct answer using the code given below :

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

76. Which one of the following coalfields is **not** located in Jharkhand ?

- (a) Jharia
- (b) Ramgarh
- (c) Deogarh
- (d) Umaria

77. Which one of the following is the longest parallel of latitude ?

- (a) Tropic of Cancer
- (b) Tropic of Capricorn
- (c) Arctic Circle
- (d) Equator

78. The periodic rise and fall of ocean water in response to gravitational forces is called

- (a) Current
- (b) Waves
- (c) Tides
- (d) Tsunami

79. Which of the following statements about the first Indian Factory Act passed in 1881 is/are correct ?

1. The Act dealt primarily with the problem of child labour.
2. The Act laid down that children between 7 years and 12 years of age would not work for more than 9 hours a day.

Select the correct answer using the code given below :

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

80. Which of the following statements about Mahatma Gandhi's anti-untouchability campaign is/are correct ?

1. The All India Harijan Sevak Sangh was founded for this purpose.
2. The campaign was to root out untouchability, since it did not enjoy the sanction of the Hindu shastras.

Select the correct answer using the code given below :

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

81. The founders of the *Paramhansa Mandali* founded in Maharashtra believed in which one of the following ?

- (a) Social distancing along caste lines
- (b) Glorification of caste system
- (c) Forbidding widow remarriage
- (d) One God and in breaking caste rules

82. Which one of the following statements about the *ishtahars* issued during the Revolt of 1857 is correct ?

- (a) They glorified the Muslim rule in India.
- (b) They glorified the co-existence of different communities under the Mughal Empire.
- (c) They glorified the message of Islam.
- (d) They glorified the role of Queen Victoria.

83. During the Industrial Revolution, who among the following designed the 'flying shuttle loom' ?

- (a) Samuel Crompton
- (b) Edmund Cartwright
- (c) John Kay
- (d) Richard Arkwright

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

<i>List I</i> (Dam)	<i>List II</i> (State)
A. Hirakud	1. Gujarat
B. Panchet	2. Bihar
C. Kosi	3. Odisha
D. Ukai	4. Jharkhand

Code :

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

85. Which one of the following features is the result of erosion and deposition work of a river ?

- (a) Pothole
- (b) Oxbow lake
- (c) Levee
- (d) Rapid

86. Which one of the following is **not** a feature of agriculture in India ?

- (a) Subsistence agriculture
- (b) Pressure of population on agriculture
- (c) Dependence upon Monsoon
- (d) Predominance of cash crops

87. Which one of the following is **not** a specified Sub-Mission of the National Livestock Mission ?

- (a) Livestock development
- (b) Pig development in north-western region
- (c) Fodder and feed development
- (d) Skill development, technology transfer and extension

88. Who among the following wrote the famous text '*A Discourse on Political Economy*' ?

- (a) Montesquieu
- (b) Voltaire
- (c) Rousseau
- (d) Adam Smith

89. Which of the following statements about the resolution adopted in the Karachi session of the Indian National Congress with regard to fundamental rights and economic policy is/are correct ?

1. It was opposed by Ambalal Sarabhai.
2. Its 20 points included demands for civil liberties and adult suffrage.

Select the correct answer using the code given below :

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

90. Which of the following statements about the Law Commission headed by Lord Macaulay is/are correct ?

1. It attempted to codify the laws.
2. It was opposed to uniform system of Courts.

Select the correct answer using the code given below :

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

91. Dingko Singh, an Asian Games gold medallist, who died recently, was associated with which one of the following games ?
- Swimming
 - Boxing
 - Archery
 - Gymnastics
92. Who among the following is the lone Indian Cricketer included in the ICC Hall of Fame special inductions to mark the inaugural ICC World Test Championship Final ?
- Dilip Vengsarkar
 - Ravi Shastri
 - Mohinder Amarnath
 - Vinoo Mankad
93. Which one of the following nations is **not** a permanent member of G7 ?
- India
 - Canada
 - France
 - Italy
94. Operation Olivia, an initiative to protect Olive Ridley turtles, is undertaken by
- Indian Navy
 - Indian Coast Guard
 - Ministry of Environment, Forest and Climate Change
 - Ministry of Earth Sciences
95. Who among the following is the winner of the French Open 2021 Men's Singles Final ?
- Novak Djokovic
 - Rafael Nadal
 - Stefanos Tsitsipas
 - Daniil Medvedev
96. Economist Rebeca Grynspan, who recently became the first woman to be appointed as the head of the United Nations Conference on Trade and Development (UNCTAD), hails from
- Germany
 - Poland
 - Costa Rica
 - Mexico
97. 'Belt and Road Initiative' is a foreign policy initiative of
- China
 - United States of America
 - Canada
 - Japan
98. Which one of the following is the theme of the International Day of Yoga 2021 ?
- Yoga at home and yoga with family
 - Yoga for climate action
 - Yoga for well-being
 - Yoga for peace
99. Kenneth Kaunda, who died recently at the age of 97, was the former president of
- Brazil
 - Mexico
 - Zambia
 - South Sudan
100. The maiden Indian Navy – European Union Naval Force (IN-EUNAVFOR) Exercise (2021) was conducted in
- Gulf of Mannar
 - Gulf of Aden
 - Gulf of Khambhat
 - Gulf of Aqaba

101. The pH value of Milk of Magnesia is approximately
- Zero
 - 7
 - 10
 - 14
102. Which one of the following compounds is used in 'black and white' photography?
- AgF
 - AgBr
 - AgCl
 - Ag₂SO₄
103. What is the number of water molecules present in a Ferrous Sulphate crystal?
- 1
 - 3
 - 5
 - 7
104. What is the colour of the precipitate obtained by passing CO₂ gas through lime water?
- Green
 - Blue
 - White
 - Brown
105. Which one of the following pairs of elements is liquid at room temperature and at normal pressure?
- Gallium and Bromine
 - Mercury and Bromine
 - Gallium and Mercury
 - Gallium and Caesium
106. Which one of the following methods can be used to separate anthracene from a mixture of salt and anthracene?
- Distillation
 - Sublimation
 - Evaporation
 - Chromatography
107. Shoots of plant show upward movement and it can be designated to be
- Negatively phototropic
 - Positively chemotropic
 - Positively hydrotropic
 - Negatively geotropic
108. Which one of the following statements about the process of photosynthesis is correct?
- Chemical energy is converted into light energy.
 - Carbon dioxide is oxidised to form carbohydrate.
 - Water molecule splits into hydrogen and oxygen.
 - Light energy is directly used to split water.
109. How are evergreen plants with woody stems having naked seed classified?
- Angiosperms
 - Monocotyledons
 - Pteridophytes
 - Gymnosperms
110. Which one of the following tissues is known as basic packing tissue and found in xylem and phloem?
- Collenchyma
 - Parenchyma
 - Sclerenchyma
 - Vessels

111. Girth of stem of a plant increases due to division of cells in

- (a) apical meristem only.
- (b) lateral meristem only.
- (c) apical and intercalary meristem.
- (d) both apical and lateral meristem.

112. Different varieties of the same gene are called

- (a) Genotypes
- (b) Sib pairs
- (c) Alleles
- (d) Isomers

113. Which one of the following viruses used to be responsible for highly infectious disease Smallpox ?

- (a) Adenovirus
- (b) Variola virus
- (c) Aichi virus
- (d) Cocksackie virus

114. Buoyancy is a/an

- (a) upward pressure
- (b) downward pressure
- (c) downward force
- (d) upward force

115. Weight and mass of an object are defined with Newton's laws of motion. Which among the following is true ?

- (a) Weight is a constant of proportionality.
- (b) Mass is a constant of proportionality.
- (c) Mass is not a constant of proportionality.
- (d) Weight is a universal constant.

116. Fundamental laws of physics require

- (a) conservation of energy and non-conservation of charge.
- (b) conservation of charge and non-conservation of linear momentum.
- (c) conservation of charge and non-conservation of energy.
- (d) conservation of energy, momentum and charge.

117. Work is said to be one Joule when a force of

- (a) 4 N moves an object by 25 cm.
- (b) 2 N moves an object by 1 m.
- (c) 1 N moves an object by 1 cm.
- (d) 1 N moves an object by 50 cm.

118. A uniform motion of a car along a circular path experiences

- (a) a change in speed due to a change in its direction of motion.
- (b) a change in velocity due to a change in its direction of motion.
- (c) a change in momentum due to no change in its direction of motion.
- (d) a constant momentum due to a change in its direction of motion.

119. Three equal resistors are connected in parallel configuration in a closed electrical circuit. Then the total resistance in the circuit becomes
- one-third of the individual resistance.
 - two-third of the individual resistance.
 - equal to the individual resistance.
 - three times of the individual resistance.
120. Rutherford's alpha-particle (α) scattering experiment was responsible for the discovery of which one of the following ?
- Electron
 - Proton
 - Atomic Nucleus
 - Neutron
121. What is the maximum number of electrons in the M-Shell ?
- 6
 - 8
 - 18
 - 32
122. Chlorine occurs in nature in two isotopic forms of masses 35 u and 37 u in the ratio of 3 : 1 respectively. What is the average atomic mass of the Chlorine atom ?
- 36.1 u
 - 35.5 u
 - 36.5 u
 - 35.1 u
123. Which one of the following elements' isotopes is used in the treatment of cancer ?
- Iodine
 - Sodium
 - Cobalt
 - Uranium
124. To protect steel and iron from rusting, a thin layer of which one of the following metals is applied ?
- Magnesium
 - Zinc
 - Aluminium
 - Lead
125. Cinnabar is an ore of which one of the following ?
- Copper
 - Zinc
 - Mercury
 - Manganese
126. Imagine a current-carrying straight conductor with magnetic field of lines in anti-clockwise direction. Then the direction of current is determined by
- the Right-Hand Thumb rule and it would be in the downward direction.
 - the Left-Hand Thumb rule and it would be in the downward direction.
 - the Right-Hand Thumb rule and it would be in the upward direction.
 - the Left-Hand Thumb rule and it would be in the upward direction.

127. The device used to produce electric current is known as

- (a) motor
- (b) generator
- (c) ammeter
- (d) galvanometer

128. Myopia is a defect in human vision where an image of a

- (a) nearby object is focused beyond the retina.
- (b) nearby object is focused before the retina.
- (c) distant object is focused before the retina.
- (d) distant object is focused beyond the retina.

129. Tyndall effect is a phenomenon of

- (a) scattering of light by the colloidal particles.
- (b) refraction of light by the colloidal particles.
- (c) dispersion of light by dust particles.
- (d) refraction of light by dust particles.

130. Twinkling of stars is primarily due to the atmospheric

- (a) refraction
- (b) reflection
- (c) polarization
- (d) dispersion

131. Cornea in human eye

- (a) is a light sensitive screen.
- (b) is a muscular diaphragm.
- (c) contains blood vessels.
- (d) is composed of proteins and cells.

132. Power of a lens of focal length 25 cm is

- (a) +2.5 Dioptre
- (b) +3 Dioptre
- (c) +4 Dioptre
- (d) +5 Dioptre

133. What is the total number of chambers in the stomach of domestic animals like cattle, buffalo, goat and sheep ?

- (a) Four
- (b) Two
- (c) One
- (d) Three

134. Intestinal bacteria are main source of which one of the following vitamins ?

- (a) Vitamin E
- (b) Vitamin C
- (c) Vitamin B₁₂
- (d) Vitamin A

135. Which one of the following hormones is responsible for the development of female sexual characters ?

- (a) Prolactin
- (b) Estrogen
- (c) Oxytocin
- (d) Progesterone

136. Spherical mirror formula relating an object distance 'u', image distance 'v' and focal length of mirror 'f' may be applied to a plane mirror when
- focal length goes to infinity.
 - focal length goes to zero.
 - image distance goes to zero.
 - image distance goes to infinity.
137. Nuclear energy is generated by
- nuclear fission and its expression was proposed by Einstein.
 - nuclear fission and its expression was proposed by Rutherford.
 - nuclear fusion and its expression was proposed by Bohr.
 - nuclear fusion and its expression was proposed by Heisenberg.
138. Reverberation is a phenomenon associated with a
- multiple refraction of sound.
 - multiple reflection of sound.
 - single refraction of sound.
 - single reflection of sound.
139. Which among the following is true for propagation of sound waves ?
- Sound can travel in vacuum and it is a transverse wave in air.
 - Sound cannot travel in vacuum and it is a longitudinal wave in air.
 - Sound can travel in vacuum and it is a longitudinal wave in air.
 - Sound cannot travel in vacuum and it is a transverse wave in air.
140. A tennis ball is thrown in the vertically upward direction and the ball attains a maximum height of 20 m. The ball was thrown approximately with an upward velocity of
- 8 m/s
 - 12 m/s
 - 16 m/s
 - 20 m/s
141. An object of mass 2000 g possesses 100 J kinetic energy. The object must be moving with a speed of
- 10.0 m/s
 - 11.1 m/s
 - 11.2 m/s
 - 12.1 m/s
142. Which one of the following ions is *not* iso-electronic with F^- ?
- O^{2-}
 - Na^+
 - Ne
 - N^-
143. What is the total number of covalent bonds in methanol ?
- 3
 - 4
 - 5
 - 6

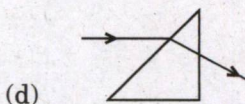
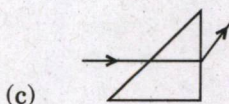
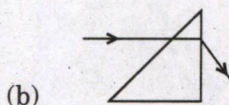
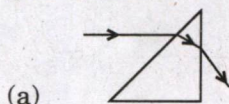
144. Which one of the following is the chemical formula of Plaster of Paris ?

- (a) $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$
- (b) $\text{CaSO}_4 \cdot 2 \text{H}_2\text{O}$
- (c) $\text{CaSO}_4 \cdot 5 \text{H}_2\text{O}$
- (d) $\text{CaSO}_4 \cdot 4 \text{H}_2\text{O}$

145. The unit of the ratio between thrust and impulse is same as that of

- (a) frequency
- (b) speed
- (c) wavelength
- (d) acceleration

146. Which one of the following figures correctly shows the path of a ray of light through a glass prism ?



147. When a light beam falls on a triangular glass prism, a band of colours is obtained. Which one of the following statements is correct in this regard ?

- (a) Red light bends the most, as the refractive index of glass for red light is greatest.
- (b) Red light bends the most, as the refractive index of glass for red light is lowest.
- (c) Violet light bends the most, as the refractive index of glass for violet light is greatest.
- (d) Violet light bends the most, as the refractive index of glass for violet light is lowest.

148. The image of an object formed by a plane mirror is

- (a) erect, real and larger.
- (b) erect, virtual and same size.
- (c) inverted, virtual and same size.
- (d) inverted, real and smaller.

149. Which one of the following is **not** a conservative force ?

- (a) Frictional force
- (b) Electric force
- (c) Gravitational force
- (d) Spring force

150. A negative work is done when an applied force **F** and the corresponding displacement **S** are

- (a) perpendicular to each other.
- (b) parallel to each other.
- (c) anti-parallel to each other.
- (d) equal in magnitude.