

NDA II 2019 GAT (Previous Year Paper)

1. A four-year-old girl got a new lease of life after doctors at a hospital _____ a cancerous tumour from one of her kidneys.

- A. rejuvenated
- B. removed
- C. displaced
- D. replaced

2. It is common for patients to step _____ medicine as soon as they start feeling better.

- A. eating
- B. gulping
- C. swallowing
- D. taking

3. Scores of villagers are _____ a sit-in protest against the construction of a new underpass.

- A. performing
- B. sitting
- C. staging
- D. standing

4. The victims were fruit vendors and they were going in an auto when they _____ an accident on the way.

- A. met with
- B. ran into
- C. experienced
- D. heard

5.

The Election Commission on Saturday _____ that the Assembly elections in five States will be held from November 12 to December 7.

- A. pronounced
- B. announced
- C. promulgated

D. issued

###COMMON###6###6###Direction: In this section you have a short passage. After the passage, you will find some items based on the passage. First read the passage and then answer the items based on it. You are required to select your answers based on the contents of the passage and opinion of the author only.

Studies serve for delight, for ornament, and for ability. Their chief use for delight, is in privateness and retiring; for ornament, is in discourse; and for ability, is in the judgment, and disposition of business. For expert men can execute, and perhaps judge of particulars, one by one; but the general counsels, and the plots and marshalling of affairs, come best from those that are learned. To spend too much time in studies is sloth; to use them too much for ornament, is affectation; to make judgement wholly by their rules, is the humor of a scholar. They perfect nature, and are perfected by experience: for natural abilities are like natural plants, that need pruning, by study; and studies themselves do give forth directions too much at large, except they be bounded in by experience. Crafty men condemn studies, simple men admire them, and wise men use them; for they teach not their own use; but that is a wisdom without them, and above them, won by observation. Read not to contradict and confute; nor to believe and take for granted; nor to find talk and discourse; but to weigh and consider.

###DONE###

6. According to the author, one should read to

- A. only argue
- B. only believe
- C. evaluate and understand
- D. preach and believe

7. Which kind of human beings denounce studies?

- A. Innocent
- B. Cunning
- C. Stupid
- D. Wise

8. According to the author, how can the studies be perfected?

- A. By reflection
- B. By application
- C. By conversation
- D. By experience

9. Why does the author not recommend too much of studies?

- A. Because it reflects idleness
- B. Because it requires too much money
- C. Because it is dangerous for the health of the mind
- D. Because it makes men crafty

10.

According to the author, why should one study?

- A. To gather information about the world
- B. To pass the time in a creative way
- C. For pleasure, enhanced capability and holistic growth
- D. To become only worldly wise

###COMMON###11###11###Direction: Each of the following items in this section consists of a sentence, the parts of which have been jumbled. These parts have been labeled 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. ###DONE###

11. a sell-off as US Treasury yields surged to multi-year highs on robust economic data

P Q R

global markets also witnessed

S

- A. R S Q P
- B. P Q S R
- C. Q R P S
- D. S P Q R

12. humans and machines have co-existed dating back to the invention of

P Q

the potter's wheel in ancient Mesopotamia at the physical level for millennia

R S

- A. R S P Q
- B. Q S P R
- C. Q R P S
- D. P S Q R

13. without any mandate of law the plea through the advocate

P Q

online is illegal and submitted that the sale of drugs and prescription medicines

R S

- A. R Q S P
- B. Q S R P
- C. Q R S P
- D. P R S Q

14. relieve nausea, pain and stress aromatherapy may also help

P Q

using lavender oil on their skin but patients are cautioned against

R S

- A. R Q P S
- B. S Q P R
- C. Q P S R
- D. R P S Q

15.

closely monitor the situation by the disturbing allegations we are deeply concerned

P Q R

and will continue to

S

- A. R Q S P
- B. S P Q R
- C. S P Q R
- D. P R S Q

###COMMON###16###16###Direction: Given below are some idioms/phrases followed by four alternative meanings to each. Choose the response (a), (b), (c) or (d) which is the most appropriate expression. ###DONE###

16. To be in seventh heaven

- A. To fly in the air
- B. To be extremely happy
- C. To be completely alone
- D. To visit a place which is in the list of the seven wonders of the world.

17. Yellow journalism

- A. Paid storytelling
- B. Government reports published on yellow colored papers.
- C. Writings in newspapers that try to influence people's opinion by using strong language and false information
- D. Journalism which agrees completely with the policies of the governments and capitalists.

18. Turn a blind eye

- A. To run away
- B. To being to behave in a more positive manner
- C. To change a situation
- D. To choose to ignore behavior that you know is wrong.

19. Bite your tongue

- A. To stop yourself from saying something because it would be better not to
- B. To bite off your tongue while eating
- C. To feel sorry

D. To ask someone something that you want.

20.

Be over the hill

- A. To be on a mountain top
- B. To travel in the jungle
- C. To be too old to do things
- D. To do something in the most complete way

###COMMON###21###21###Directions: Each item in the section has a sentence with three underlined parts labeled (a), (b) and (c). Read each sentence to find out whether there is any error in any underlined part and 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). ###DONE###

21. He asked whether either of the brothers were at home. No error

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

22. A time slot of fifteen minutes are allowed to each speaker. No error

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

23. Many a man has succumbed this temptation. No error

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

D. D

24. Neither praise nor blame seem to affect him. No error

(a) (b) (c) (d)

- A. A
- B. B
- C. C
- D. D

25. Every one of the boys love to ride. No error

(a) (b) (c) (d)

- A. A
- B. B
- C. C
- D. D

26. Turbidity current is a fast-moving current that sweeps down submarine canyons,

(a) (b)

carrying sand and mud into the deep sea. No error

(c) (d)

- A. A
- B. B
- C. C
- D. D

27. The Eastern Ghats are home of 2600 plant species and this habitat fragmentation

(a) (b)

can pose a serious threat to endemic plants. No error

(c) (d)

- A. A
- B. B
- C. C
- D. D

28. Work hard lest you do not fail. No error

- (a)
- (d)
- (c) (d)

- A. A
- B. B
- C. C
- D. D

29. Most of us who are older competitive runners

(a)

are not able to race anywhere at the same speed as we do when were
30. No error

- (b)
- (c)
- (d)

- A. A
- B. B
- C. C
- D. D

30.

He had arrived at Cairo a few months before protests shook the Arab world.

- (a)
- (b)
- (c)

No error

(d)

- A. A
- B. B
- C. C
- D. D

###COMMON###31###31###**Direction:** Each item in this section consists of a sentence with an underlined word followed by four options. Select the option that is opposite in meaning to the underlined word mark your response in your Answer Sheet accordingly. ###DONE###

31. Mahatma Gandhi was one of the most prominent leaders of his times.

- A. renowned
- B. distinguishable
- C. eminent
- D. unknown

32. He has been obstinate since his childhood.

- A. stubborn
- B. dogged
- C. amenable
- D. rigid

33. The bill received a vehement resistance from the opposition party in the Parliament.

- A. animated
- B. apathetic
- C. fervent
- D. vigorous

34. Malaria is a widespread disease.

- A. endemic
- B. pervasive
- C. common
- D. rare

35. The debate was highly stimulating.

- A. arousing
- B. invigorating
- C. boring
- D. stirring

36. Friendship is always reciprocal.

- A. mutual
- B. one-sided
- C. shared
- D. corresponding

37. Rakesh is an eccentric prodigal.

- A. extravagant
- B. profligate
- C. wasteful
- D. thrifty

38. He wrote an incisive article on corruption in politics.

- A. vague
- B. penetrating
- C. trenchant
- D. precise

39. The politician was a dissident.

- A. agitator
- B. rebel
- C. conformist
- D. revolutionary

40.

His conversations are always absurd.

- A. farcical
- B. foolish
- C. preposterous
- D. rational

###COMMON###41###41###**Direction:** Each item in this section consists of a sentence with an underlined word followed by four options. Select the option that is **nearest in meaning** to the underlined word mark your response in your Answer Sheet accordingly. ###DONE###

41. He could not muster courage to speak the truth before his friend.

- A. injure
- B. spoil
- C. gather
- D. maim

42. He loves doing nasty things.

- A. nice
- B. fastidious
- C. foul
- D. finicky

43. The Managing Director of the company declared that he is broke and there is a need to seek support from the government.

- A. Bankrupt
- B. rich
- C. making profit
- D. having liabilities

44. His language is political and vitriolic.

- A. imaginative
- B. sprightly
- C. vivacious
- D. abusive

45. A human being is always vulnerable to other human beings.

- A. resilient
- B. elastic
- C. defenceless
- D. crude

46. The imagery used in the poem is vivid.

- A. lively
- B. inert
- C. ebullient
- D. caustic

47. Hitler was a despot.

- A. conservative
- B. dictator
- C. passionate
- D. monstrous

48. Ravi loves seclusion. Therefore, he lives in the mountains.

- A. nature
- B. scripture
- C. seafaring
- D. solitariness

49. The poems of Kabir are ecstatic in nature.

- A. efficacious
- B. eerie
- C. rapturous
- D. reverential

50.

He is always anxious.

- A. worried
- B. dispassionate
- C. sluggish
- D. torpid

51. The normal lapse rate to temperature Earth's atmosphere drops to 0°C at the

- A. upper part of ionosphere.
- B. upper boundary of the tropopause.
- C. lower part of mesosphere.
- D. upper boundary of stratopause.

52. Who among the following died in exile?

- A. Rani Laxmibai
- B. Bahadur Shah Zafar

- C. Tantia Tope
- D. Nana Saheb

53. Who was the Education Minister in the first Cabinet of independent India?

- A. Sarvepalli Radhakrishnan
- B. Sardar Vallabhbhai Patel
- C. Maulana Abul Kalam Azad
- D. Acharya Narendra Dev

54. Article 46 of the Constitution of India refers to the promotion of educational and economic interests of

- A. religious minorities.
- B. Scheduled Castes, Scheduled Tribes and other weaker sections.
- C. displaced persons from large irrigation projects.
- D. the economically deprived.

55. Which among the following was/were among the factors for England to experience the Industrial Revolution first?

- 1) The scientific inventions had paved the way for the Industrial Revolution.
- 2) It had favourable social and political structures in place.
- 3) Navigable rivers had made inland transport easier.
- 4) It had seen the ascendancy of capitalist practices.

Select the correct answer using the code given below:

- A. 1 and 3 only
- B. 1, 3 and 4 only
- C. 4 only
- D. 1, 2, 3 and 4

56. Who among the following was the first Indian to qualify for the Indian Civil Service?

- A. Satyendranath Tagore
- B. Surendranath Banerjee
- C. R.C Dutt

D. Subhas Chandra Bose

57. Which among the following statements is not correct about the Reign of Terror?

- A. The Jacobins dashed out the Girondists with the help of sans-culottes.
- B. The Jacobins were in league with the French clergy.
- C. The arrest for anti-revolutionary activities was by law restricted to the political class.
- D. The Reign of Terror came to an end with the execution of Robespierre by guillotine in

58. Which one of the following statements about the Suez Canal is not correct?

- A. The Suez Canal was constructed in 1869.
- B. It links the Mediterranean Sea and the Red Sea.
- C. It has a six lock system and ships cross the different levels through these locks.
- D. It has given Europe a new gateway to the Indian Ocean.

59. The Munda language group belongs to which family?

- A. Austric
- B. Dravidian
- C. Sino-Tibetan
- D. Indo-European

60. How many Ramsar conservation sites have been enlisted from India so far?

- A. 12
- B. 16
- C. 27
- D. 62

61. In which one of the following folds is the axial plane found to be virtually horizontal?

- A. Isoclinal
- B. Anticlinal
- C. Recumbent

D. Monoclinial

62. According to the Koppen climatic classification, the letter code Cfa denotes

- A. Tropical wet climate.
- B. Humid subtropical climate.
- C. Tundra climate.
- D. Tropical wet and dry climate.

63. Which one of the following sedimentary rocks are organically formed?

- A. Shale
- B. Chert
- C. Halite
- D. Chalk

64. Which one of the following land territories of Indonesia is not touched by the Equator?

- A. Sumatra
- B. Sulawesi
- C. Java
- D. Kalimantan

65. Which of the following was/were among the decisions taken by the First Continental Congress held in Philadelphia in September 1774?

- 1) It rejected a plan for a colonial union under the British authority.
- 2) It drew up a statement of grievances.
- 3) It agreed upon a scheme to stop trade between the Colonies and England.

Select the correct answer using the code given below:

- A. 1 and 3 only
- B. 2 only
- C. 1 and 2 only
- D. 1, 2 and 3

66. Consider the following statements concerning the Russian Revolution:

1) The Bolsheviks believed that in a repressive society like Tsarist Russia, the party should be disciplined and should control the number of its members.

2) The Mensheviks believed that the party should be opened to all (as in Germany).

Which of the statement/s given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

67. Consider the following statements related to Wellesley's administration:

1) In the six years of Wellesley's administration, the army accounted for 42.5 percent of the Company's total expenditure.

2) Wellesley's administrative measures were restricted to the affairs of the Company and had nothing to do with the commercial and military affairs of the Indian ruling families.

Which of the statement/s given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

68. Consider the following statements related to the Virashaiva tradition in Karnataka:

1) The Virashaiva movement was led by a Brahmana named Basavanna, a minister in the court of the Kalachuri ruler in the twelfth century.

2) The Virashaivas encouraged practices, approved by the Dharmashastras, like post-puberty marriages and remarriage of widows.

Which of the statement/s given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2

D. Neither 1 nor 2

69. Which among the following struggles, based on Gandhi's philosophy of Satyagraha, involved the industrial working class?

- A. Champaran
- B. Kheda
- C. Ahmedabad
- D. Bardoli

70. Which one of the following hypothesis/theory explains the origin of the universe?

- A. Nebular Hypothesis
- B. Binary theory
- C. Big Bang theory
- D. Planetesimal hypothesis

71. Paradeep Port is located on the delta of the river

- A. Rihand
- B. Ganga
- C. Mahanadi
- D. Baitarani

72. Which one of the following ocean currents is a cold current?

- A. South Atlantic Drift
- B. Mozambique Current
- C. East Australian Current
- D. Caribbean Current

73. The rivers of North-West Europe are good examples of

- A. parallel pattern of drainage.
- B. radial pattern of drainage.
- C. barbed pattern of drainage.
- D. trellis pattern of drainage.

74. Which one of the following is a Rabi crop in the Northern States of India?

- A. Rice
- B. Bajra
- C. Barley
- D. Ragi

75. Which one of the following is a non-metallic mineral?

- A. Iron
- B. Mica
- C. Copper
- D. Bauxite

76. Which one of the following films was adjudged as the Best Feature Film in the 66th National Film Awards?

- A. Bulbul Can Sing
- B. Hellaro
- C. Badhaai Ho
- D. Uri

77. Aishwarya Pissay excels in which one of the following sports?

- A. Badminton
- B. Boxing
- C. Motorsports
- D. Chess

78. Along with Pranab Mukherjee, how many more persons have conferred the Bharat Ratna Award in the year 2019?

- A. One
- B. Two
- C. Three
- D. Four

79. Which one of the following is the name given to the lander of Chandrayaan-2?

- A. Vigyan
- B. Anusandhan
- C. Pragyan

D. Vikram

80. World Humanitarian Day is celebrated on

- A. 26th June
- B. 17th July
- C. 19th August
- D. 27th September

81. Which one of the following pairs of travellers and their nationality is not correctly matched?

- A. Ibn Battuta – Moroccan
- B. Duarte Barbosa – Portuguese
- C. Jean Baptiste Tavernier – Dutch
- D. Niccolo Manucci – Venetian

82. Which country among the following was not a part of the Third Coalition against Napoleon?

- A. Russia
- B. Prussia
- C. Sweden
- D. France

83. The ruins of Vijayanagara (Hampi) were brought to public light in the year 1800 by the following British surveyor and engineer:

- A. James Prinsep
- B. Colin Mackenzie
- C. James Rennell
- D. Charles Metcalfe

84. During the Swadeshi movement, a National College was started in Calcutta under the principalship of

- A. Rabindranath Tagore
- B. Aurobindo Ghosh
- C. Rajani Kant Sen
- D. Syed Abu Mohammad

85.Which one of the following statements is not true about Ijarah system?

- A. It was a system of revenue farming.
- B. It encouraged the role of middlemen.
- C. Under this system, land revenue was fixed for the peasant.
- D. The ijaradar paid a fixed amount to the State treasury.

86.CORAS is a separate Commando Unit of

- A. National Security Guard
- B. Central Industrial Security Force
- C. Railway Protection Force
- D. Central Reserve Police Force

87.SAMARTH is a flagship skill development scheme of which one of the following Ministries?

- A. Ministry of Textiles
- B. Ministry of Agriculture and Farmers Welfare
- C. Ministry of Skill Development and Entrepreneurship
- D. Ministry of Human Resource Development

88.Betel leaf of which one of the following States has been accorded a GI tag recently?

- A. Andhra Pradesh
- B. Madhya Pradesh
- C. Kerala
- D. Mizoram

89.Who among the following were selected for the Rajiv Gandhi Khel Ratna Award 2019?

- A. Vijay Kumar and Yogeshwar Dutt
- B. Sakshi Malik and Jitu Rai
- C. Virat Kohli and Mirabai Chanu
- D. Bajrang Punia and Deepa Malik

90.The first UDAY (Utkrisht Double Decker Air-Conditioned Yatri) Express train runs between

- A. Delhi and Kalka
- B. Bengaluru and Coimbatore
- C. Chennai and Visakhapatnam
- D. Chennai and Bengaluru

91. Consider the following statements concerning the American War of Independence:

- 1) The Americans raised the slogan, 'No taxation without representation'.
- 2) The American merchants resorted to the boycott of the British products.

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

92. Consider the following statements related to Dayanand's idea of social reform:

- 1) Dayanand's reform envisaged a social order, where different castes performed functions suitable to their status determined by merit.
- 2) Dayanand's 'robust Vedic counterpart' challenged the masculine West that had enslaved the Aryavarta.

Which of the statement/s given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

93. The provisions of the Fifth Schedule of the Constitution of India shall not apply to the administration and control of the Scheduled Areas and Scheduled Tribes in

- 1) Chhattisgarh, Jharkhand and Odisha
- 2) Assam and Tripura
- 3) Meghalaya and Mizoram

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

94.The principal component(s) of the Nehru-Mahalanobis strategy of economic development was/were

- 1) Restructuring economic dependency on metropolitan capitalism into independent economic development.
- 2) Transition from semi-feudal agriculture to capitalist farming.

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

95.Lithosphere consists of

- A. upper and lower Mantle
- B. Crust and Core
- C. Crust and uppermost solid Mantle
- D. Mantle and Core

96.Which one of the following is a major plate?

- A. Pacific Plate
- B. Cocos Plate
- C. Arabian Plate
- D. Philippine Plate

97.A deep valley characterized by step-like slope is known as

- A. U-shaped Valley
- B. Blind Valley
- C. Gorge
- D. Canyo

98. Stalactite, Stalagmite and Pillars are the depositional landforms of

- A. running water.
- B. wind.
- C. glacier.
- D. underground water.

99. Loktak Lake is situated in the State of

- A. Sikkim
- B. Manipur
- C. Odisha
- D. Mizoram

100. The headquarters of the National Research Laboratory for Conservation of Cultural Property (NRLC) is located at

- A. New Delhi
- B. Lucknow
- C. Kolkata
- D. Bhopal

101. Which of the following are the characteristics of electromagnetic waves?

- 1) They are elastic waves.
- 2) They can also move in a vacuum.
- 3) They have electric and magnetic components which are mutually perpendicular.
- 4) They move with speed equal to 3 lakh meters per second.

Select the correct answer using the code given below:

- A. 1, 2, 3, and 4
- B. 1, 2 and 4 only
- C. 2 and 3 only
- D. 3 and 4 only

102. Radiations coming from the Sun are mostly in the form of

- A. light only.
- B. light and long-wavelength infrared.
- C. light and short-wavelength infrared.
- D. both short and long-wavelength infrared.

103. The temperature of a place on one sunny day is 113 on the Fahrenheit scale. The Kelvin scale reading of this temperature will be

- A. 318 K
- B. 45 K
- C. 62.8 K
- D. 335.8 K

104. A rigid body of mass 2 kg is dropped from a stationary balloon kept at the height of 50 m from the ground. The speed of the body when it just touches the ground and the total energy when it is dropped from the balloon are respectively

(acceleration due to gravity = 9.8 m/s^2)

- A. 980 m.s^{-1} and 980 J
- B. $\sqrt{980} \text{ m.s}^{-1}$ and $\sqrt{980} \text{ J}$
- C. 980 m.s^{-1} and $\sqrt{980} \text{ J}$
- D. $\sqrt{980} \text{ m.s}^{-1}$ and 980 J

105. Compared to audible sound waves, ultrasound waves have

- A. higher speed.
- B. higher frequency.
- C. longer wavelength.
- D. both higher speed and frequency.

106. Which one of the following diseases may be caused by the deficiency of vitamin C?

- A. Rickets
- B. Rabies
- C. Hepatitis
- D. Scurvy

107. Which one of the following statements regarding viruses is not true?

- A. Viruses need living cells to reproduce.
- B. All viruses are parasites.
- C. Viruses can synthesize their food through photosynthesis.
- D. Viruses are similar to chemical substances outside the host.

108. Which one of the following is a bacterium that causes disease in the human body?

- A. Varicella zoster
- B. Trypanosoma gambiense
- C. Salmonella typhi
- D. Plasmodium falciparum

109. The thyroid gland produces a hormone called "Thyroxine" which

- A. controls blood glucose levels.
- B. controls ovulation.
- C. controls metabolic rate.
- D. maintains pregnancy.

110. Which one of the following is the major constituent of biogas?

- A. Carbon dioxide
- B. Nitrous oxide
- C. Methane
- D. Oxygen

111. Which one of the following represents the correct order of electron releasing tendency of metals?

- A. $Zn > Cu > Ag$
- B. $Ag > Cu > Zn$
- C. $Cu > Zn > Ag$
- D. $Cu > Ag > Zn$

112. Which one of the following is a monatomic element?

- A. Copper
- B. Helium
- C. Iodine
- D. Barium

113. A very large volume of hydrogen can be accommodated by making

- A. non-metallic hydrides.
- B. hydrogen peroxide
- C. non-stoichiometric hydrides.
- D. alkali metal hydrides.

114. Which one of the following statements regarding cathode rays is not correct?

- A. Cathode ray particles are electrons.
- B. Cathode ray particles start from the anode and move towards the cathode.
- C. In the absence of electrical and magnetic fields, cathode rays travel in straight lines.
- D. Television picture tubes are cathode ray tubes.

115. Light rays move in straight lines. But through an optical fibre, they can move in any type of zigzag path because

- A. the holes through the fibre are extremely fine.
- B. light rays are absorbed in the entry end and relieved at the exit end of the fibre.
- C. scattering of light occurs inside the fibre.
- D. successive total internal reflections occur as a ray moves through the fibre.

116. Two bodies of mass M each are placed R distance apart. In another system, two bodies of mass $2M$ each are placed $\frac{R}{2}$ a distance apart. If F be the gravitational force between the bodies in the first system, then the gravitational force between the bodies in the second system will be

- A. $16 F$
- B. $1 F$
- C. $4 F$
- D. None of the above

117. The loudness of a sound depends upon the

- A. velocity of sound waves in the medium.
- B. amplitude of the sound waves.
- C. frequency of the sound waves.

D. frequency and velocity of the sound waves.

118. A pendulum clock is lifted to a height where the gravitational acceleration has a certain value g . Another pendulum clock of the same length but of double the mass of the bob is lifted to another height where the gravitational acceleration is $g/2$. The time period of the second pendulum would be :

(in terms of period T of the first pendulum)

- A. $\sqrt{2}T$
- B. $\frac{1}{\sqrt{2}}T$
- C. $2\sqrt{2}T$
- D. T

119. Water is heated with a coil of resistance R connected to domestic supply. The rise of temperature of the water will depend on

- 1) Supply voltage.
- 2) Current passing through the coil.
- 3) Time for which voltage is supplied.

Select the correct answer from among the following :

- A. 1, 2 and 3
- B. 1 and 2 only
- C. 1 only
- D. 2 and 3 only

120. Who among the following popularized the use of embryological characters in taxonomy?

- A. Carl Linnaeus
- B. Panchanan Maheshwari
- C. Birbal Sahni
- D. Bentham and Hooker

121. Which one of the following statements is correct?

- A. Xylem consists of tracheids, vessels, xylem parenchyma and xylem fibres.
- B. Flexibility in plants is due to sclerenchyma.
- C. The parenchyma has no intercellular spaces.
- D. Xylem consists of sieve plate, sieve tube and companion cells.

122. Mitochondria are able to produce their own

- A. Nucleus
- B. Proteins
- C. Chloroplasts
- D. Digestive enzymes

123. Blood is a type of

- A. Epithelial tissue
- B. Muscular tissue
- C. Nervous tissue
- D. Connective tissue

124. The net movement of water from a dilute to a concentrated solution through a selectively permeable membrane is called

- A. Diffusion
- B. Dispersion
- C. Osmosis
- D. Absorption

125. Which one of the following is termed as 'Dry ice'?

- A. Ice present in ice-cream
- B. Solid water at Antarctica
- C. The solid-state of carbon dioxide
- D. Solid water of ionosphere

126. Which one of the following substances is not a mixture?

- A. Tin
- B. Seawater
- C. Soil
- D. Air

127. Soaps clean surfaces on the principle-based on

- A. Viscosity
- B. Floatation
- C. Elasticity
- D. Surface tension

128. Which one of the following does not represent the salt, Calcium carbonate?

- A. Lime water
- B. Limestone
- C. Chalk
- D. Marble

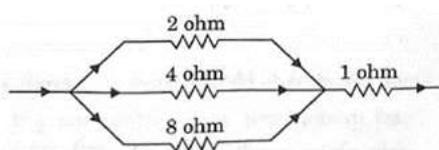
129. 10 g of ice at -10°C is mixed with 10 g of water at 0°C . The amount of heat required to raise the temperature of the mixture to 10°C is

- A. 4000 cal
- B. 550 cal
- C. 1050 cal
- D. 1200 cal

130. Which one of the following statements regarding lenses is not correct?

- A. A convex lens produces both real and virtual images.
- B. A concave lens provides both real and virtual images.
- C. A convex lens can produce images equal, greater and smaller than the size of the object.
- D. A concave lens always provides images smaller than the size of the object.

131. Consider the following part of an electric circuit :



The total electrical resistance in the given part of the electric circuit is

- A. $\frac{15}{8}$ ohm
- B. $\frac{15}{7}$ ohm
- C. 15 ohm
- D. $\frac{17}{3}$ ohm

132.If the work done on the system or by the system is zero, which one of the following statements for a gas kept at a certain temperature is correct?

- A. Change in internal energy of the system is equal to the flow of heat in or out of the system.
- B. Change in internal energy of the system is less than heat transferred.
- C. Change in internal energy of the system is more than the heat flow.
- D. Cannot be determined.

133.A student measures certain lengths using a meter scale having least count equal to 1mm. Which one of the following measurements is more precise?

- A. 0.50 mm
- B. 29.07 cm
- C. 0.925 m
- D. 910 mm

134."The sum of emf's and potential differences around a closed loop equals zero" is a consequence of :

- A. Ohm's law.
- B. Conservation of charge.
- C. Conservation of momentum.
- D. Conservation of energy.

135.A car starts from Bengaluru, goes 50 km in a straight line towards the south, immediately turns around and returns to Bengaluru. The time taken for this round trip is 2 hours the magnitude of the average velocity of the car for this round trip.

- A. is 0.
- B. is 50 km/hr.
- C. is 25 km/hr.

D. cannot be calculated without knowing acceleration.

136. Two substances of densities P_1 and P_2 are mixed in equal volume, and their relative density is 4. When they are mixed in equal masses, relative density is 3. The values of P_1 and P_2 respectively are;

- A. 6, 2
- B. 3, 5
- C. 12, 4
- D. 9, 3

137. A solid disc and a solid sphere have the same mass and same radius. Which one has a higher moment of inertia about its centre of mass?

- A. The disc
- B. The sphere
- C. Both have the same moment of inertia
- D. The information provided is not sufficient to answer the question

138. If an object moves at a non-zero constant acceleration for a certain interval of time, then the distance it covers in that time.

- A. depends on its initial velocity.
- B. is independent of its initial velocity.
- C. increases linearly with time.
- D. depends on its initial displacement.

139. A sample of 'soft soap' contains

- A. Caesium
- B. Potassium
- C. Calcium
- D. Magnesium

140. Which one of the following statements about water is not true?

- A. Hydrogen bonds are present in liquid water.
- B. Water has a high boiling point.
- C. Water has a high heat of fusion.
- D. Water is a non-polar molecule.

141. The raw materials used for the manufacture of Portland cement are

- A. Lime, silica and sulphur dioxide
- B. Lime, silica and carbon dioxide
- C. Lime, silica and alumina
- D. Lime, silica and boric acid

142. Which one of the following statements about diamond and graphite is not correct?

- A. Diamond has a tetrahedral structure, whereas graphite has a hexagonal planar structure.
- B. Both the physical and chemical properties of diamond and graphite are different.
- C. Graphite is soft, but the diamond is hard.
- D. Graphite is a good conductor of electricity while the diamond is not.

143. Which one of the following statements is correct?

- A. Both boiling and evaporation are surface phenomena.
- B. Boiling is a surface phenomenon, but evaporation is a bulk phenomenon.
- C. Both boiling and evaporation are bulk phenomena.
- D. Boiling is a bulk phenomenon, but evaporation is a surface phenomenon.

144. Which one of the following statements about glass is not correct?

- A. Glass is often said to be a supercooled liquid.
- B. Glass has no definite melting point.
- C. Soda glass is harder than pyrex glass.
- D. Boron is present in pyrex glass.

145. Which one of the following compounds does not exhibit a different oxidation number of the same element?

- A. Pb_2O_4
- B. Fe_3O_4
- C. Fe_2O_3
- D. Mn_3O_4

146. When does a ball bounce off the ground, which of the following changes suddenly?

(Assume no loss of energy to the floor)

- A. Its speed
- B. Its momentum
- C. Its kinetic energy
- D. Its potential energy

147. Which one of the following statements regarding Ohm's law is not correct?

- A. Ohm's law is an assumption that current through a conductor is always directly proportional to the potential difference applied to it.
- B. A conducting device obeys Ohm's law when the resistance of a device is independent of magnitude and polarity of applied potential difference.
- C. A conducting material obeys Ohm's law when the resistance of a material is independent of the magnitude and direction of the applied electric field.
- D. All homogeneous materials obey Ohm's law irrespective of whether the field is within range or strong.

148. In which of the following phenomena do heatwaves travel along a straight line with the speed of light?

- A. Thermal conduction
- B. Thermal convection
- C. Thermal radiation
- D. Both thermal conduction and radiation

149. Let there be an object having some chemicals in it. It starts moving with a uniform velocity v , and a chemical reaction starts happening. In this case, which of the following statement/s is/are correct?

- 1) Chemical reactions happening in the system cannot change the velocity v of the centre of mass of the object.
- 2) Chemical reactions happening in the system cannot change the kinetic energy of the particles inside with respect to the centre of mass an object weighs 36g in air and has a volume of 8.0 cmof an object.

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

150. A thin disc and a thin ring, both have mass M and radius R . Both rotate about axes through their centre of mass and are perpendicular to their surfaces at the same angular velocity. Which of the following is correct?

- A. The ring has higher kinetic energy
- B. The disc has higher kinetic energy
- C. The ring and the disc have the same kinetic energy
- D. Kinetic energies of both the bodies are zero since they are not in linear motion

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