Direction: Read the passage carefully and answer the questions (Q. Nos. 1 to 4) choosing the correct alternative : Street art is a form of visual art created in public spaces, using a variety of media such as spray paint, stencils, stickers, and varn bombs. These artworks mainly appear in urban areas and public locations such as exterior walls of buildings, highway overpasses, bridges, sidewalks, and trains. Street artists do their work for a reason. They not only transform cityscapes into vibrant canvases and beautify urban landscapes but also tend to convey a social or political message that provokes discussion and reaction and to create awareness about pressing environmental issues. Street art reflects the cultural heritage, values, and aspirations of local on communities. It often becomes emblematic of neighbourhood identity, m fostering a sense of pride and belonging among residents. Street art started out very secretly because it was illegal to paint public and private property without permission. Of late, it has become a global culture and even art museums and galleries are collecting the work of street artists.

- Which statement is false with regard to street art ?
 - (A) It is form of visual art.
 - (B) It is displayed in public spaces.
 - (C) It is found in both cities and village areas.
 - (D) Artists do their work for a reason.

- Which purpose of the street artist is not right ?
 - (A) To earn name and fame and money for himself

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- (B) To beautify urban landscapes
- (C) To create awareness about environmental issues
- (D) To convey a social or political message
- 3. Which technique is not used for street art ?
 - (A) Spray painting
 - (B) Finger painting
 - (C) Stencilling
 - (D) Stickering

Why did street art start out very secretly?

- (A) Because it provoked discussion and reaction
- (B) Because it disfigured neighbourhood identity
- (C) Because it hardly reflected the cultural heritage of a site
- (D) Because it was illegal to encroach public and private property

Direction: Answer the questions (Q. Nos. 5 to 10) choosing the correct alternative :

- 5. Which is the synonym of 'Optimism' ?
 - (A) Cynicism
 - (B) Hopefulness
 - (C) Scepticism
 - (D) Pessimism

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(2)

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- Which is the antonym of 'hazardous' ? 6.
 - (A) Terrible
 - (B) Jealous
 - (C) Safe
 - (D) Dangerous
- A person who does not believe in 7. existence of God is called:
 - (A) Philanthropist
 - (B) Misogynist
 - (C) Atheist
 - (D) Theist
- 8. I asked the boy _
 - Which of the following clauses correctly completes the sentence?
 - (A) how old he was
 - (B) how old he will be
 - (C) how old was he
 - (D) how old he is
- 9 She divided the cake _ five children.

Identify the correct preposition.

- (A) between
- (B) in
- (C) within
- (D) among
- 10. Identify the correct sentence :
 - (A) He made such funny faces that I could not but laughed.
 - (B) He made such funny faces that I could not but laugh.
 - (C) He made such funny faces that I could not but laughing.
 - (D) He made such funny faces that I could not but laughs.

- 11. Gases are good conductors of electricity at :
 - (A) High pressure
 - (B) Low pressure
 - (C) Low temperature
 - (D) High temperature
- 12. The total number of bones in the human body is :
 - (A) 206
 - (B) 260
 - (C) 306
 - (D) 360
- 13. The main function of a Constituent Assembly is :
- (A) Framing the Constitution
 - (B) Amending the Constitution 5
- 3801 (C) Enforcement of the Constitution
 - (D) Interpretation of the Constitution

14. Which of the following is not the organ of a Government?

- (A) Executive
- (B) Judiciary
- (C) Legislature
- (D) Political parties
- 15. The retirement age of a judge of the Supreme Court is :
 - (A) 65 yrs
 - (B) 60 yrs
 - (C) 58 yrs
 - (D) 55 yrs

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(Tum over)



- 16. A society which is governed for the good of all, is called :
 - (A) Capitalist Society
 - (B) Socialist Society
 - .(C) Anarchy
 - (D) Dictatorship
- 17. The National Open School was set up by the Government of India in the year:
 - (A) 1989
 - (B) 1988
 - (C) 1987
 - (D) 1985
- 18 Name of the Educational Policy which was immediately followed by DCO Programme of Action to implement the policy declaration is
 - (A) National Policy on Education -1968
 - (B) National Policy for Persons with Disabilities - 2006
 - (C) National Policy on Education -1986
 - (D) National Education Policy 2020
- 19. The Review Committee on the curriculum for Ten Year School, 1977 is also known as
 - (A) Dr. Malcolm Adiseshiah Committee
 - (B) Dr. Shukla Committee
 - (C) Dr. Jha Committee
 - (D) Iswarbhai Patel Committee
- 20. The District Primary Education Programme was started in the year: (A) 1992

- (8) 1994
- (C) 1973
- (D) 1995
- 21. In a row, Sharad is 7th from right and 27th from left, then how many students, are there in the row ?
 - (A) 31
 - (B) 32
 - ·(C) 33
 - (D) 34
- 22. A, B, C, D and E are five rivers. A in smaller than B but longer than E. C is the longest and D is a little smaller than B and a little longer than A. Which is the smallest river ?
 - (A) A
 - (B) B
 - (C) C
 - ·(D) E

23. If A = 1 and AND = 19, then BAT = ?

- (A) 22 (B) 23 (C) 21
 - (D) 20
- 24. In a certain code language, 'GIWE' is written as 'VIEG' and 'OWER' is written as 'EVRO' How will 'DISK' be written in the same code ?
 - (A) SIDK
 - (B) KISD
 - (C) KDSI
 - ·(D) SIKD

Adda 247



- 25. A , B, C and D are playing cards. A & C and B & D are partners. D is to the right of C. The face of C is towards West. In which direction D is facing ?
 - (A) West
 - (B) East
 - (C) South
 - (D) North
- 26. At present, the ratio between the ages of Arun and Deepak is 4 : 3. After six years, Arun's age will be 26 years. What is the age of Deepak at present?
 - (A) 12 yrs
 - · (B) 15 yrs
 - (C) 19 yrs
 - (D) 25 yrs
- 27. If every second Saturday and all Sundays are holidays in a 30 day month beginning on Saturday, ther how many working days are there in on 3801 that month?
 - 2(A) 20
 - (B) 21
 - (C) 22
 - ·(D) 23
- 28. The positions of how many digits in the number 351462987 will remain unchanged after the digits are rearranged in ascending order within the number?
 - (A) None
 - (B) One
 - (C) Two (D) Three
- US-2C/13

- 29. Arrange the following words in a logical and meaningful order :
 - (1) Country
 - (2)Furniture
 - (3) Forest
 - (4) Wood
 - (5) Trees
 - ·(A) 1, 3, 5, 4, 2
 - (B) 1, 4, 3, 2, 5
 - (C) 2, 4, 3, 1, 5
 - (D) 5, 2, 3, 1, 4
 - 30. Find the next two terms of the given series :
 - Z, S, W, O, T, K, Q, G, ?, ?
 - · (A) N, C
 - (B) N, D
 - (C) O, C
 - (D) O, D
 - 31. When students in a class are frequently off-task during group activities, the teacher should :
 - (A) Allow all student to socialize during group work to keep them comfortable
 - (B) Reduce the number of group activities and focus more on direct instruction
 - (C) Assign all tasks as individual work to avoid distractions
 - (D) Use group roles and provide clear instructions to ensure accountability within each group



- 32. What is the best way for the teacher to handle a classroom while students are frequently disruptive and preventing others from learning ?
 - (A) Assign extra assignments to students who are distrubing.
 - (B) Allow students to continue disruptive behaviour in order to avoid confrontation.
 - (C) Establish clear-cut rules and expectations, while providing consistent positive reinforcement for exhibiting good behaviour.
 - (D) Use punitive measures such as detention for all disruptive students.
- 33. Name the classroom management technique that helps students to become self-disciplined and responsible for their own learning : 80
 - (A) Frequent punishment
 - (B) Authoritarian control
- (C) External rewards only
- (D) Collaborative problem-solving
- According to Lev Vygotsky, learning is
 - (A) An individual activity
 - (B) A positive activity
 - (C) A conditioned activity
 - (D) A social activity
- 35. "Learning is the modification of behaviour through experience and training." This statement was given by:
 - (A) Morgan

- (B) Gates
- (C) Cronbach
- (D) Skinner
- 36. Which of the following is an important social goal of education ?
 - (A) Limiting access to information
 - (B) Encouraging competition among students
 - (C) Developing a sense of cooperation and responsibility
 - (D) Promoting individualism without regard for others
- 37. The role of NTA is to :
 - (A) Oversee curriculum development
 - (B) Manage teaching training programme
 - (C) Conduct national-level entrance examination
 - (D) Develop higher education policies
- One of the key challenges in implementing competency-based education is
 - (A) Emphasizing student's mastery of skills
 - (B) Developing personalized learning assessments
 - (C) Lack of flexibility in learning space
 - (D) Encouraging Real-world application of knowledge



- 39. Which of the following is responsible for implementing the Mid-day Meal Scheme?
 - (A) AICTE
 - (B) UGC
 - · (C) MoE
 - (D) ICSSR
- 40. One of the major disadvantages of excessive use of technology in education is :
 - (A) Enhanced critical thinking skills
 - (B) Reduced accessibility for students from low-income backgrounds
 - (C) Improved classroom
 - (D) Increased teacher-student interaction

38019 41. Two equal masses are attached to the two ends of a spring of spring constant 'k'. The masses are pulled out symmetrically to stretch the spring by a length 'x' over its natural length. The work done by the spring on each mass is :

- (A) $\frac{1}{2}kx^2$
- (B) $-\frac{1}{2}kx^2$
- (C) $\frac{1}{4}kx^2$
- (D) $-\frac{1}{4}kx^2$

42. An empty plastic box of mass 'm' is

found to accelerate up at the rate $\frac{9}{6}$, when placed deep inside water. How much sand should be put inside the box so that it may accelerate down at

rate of
$$\frac{g}{6}$$
?
(A) $\frac{2m}{5}$
(B) $\frac{m}{5}$
(C) $\frac{m}{6}$
(D) $\frac{2m}{3}$

43. A person going away from a factory on his scooter at a speed 36kmh listens to the siren of the factory. If the main frequency of the siren is 600 Hz and a wind is blowing along the direction of the scooter at 36kmh⁻¹, the main frequency as heard by the person is :

(A) 583 Hz (B) 618 Hz (C) 783 Hz (D) 718 Hz

- 44. Monochromatic light of wavelength 600 nm is used in a Young's double slit experiment. One of the slits is covered by a transparent sheet of thickness 1.8 × 10⁻⁵ m made of a material of refractive index 1.6. The number of fringes will shift due to the introduction of the sheet is :
 - (A) 9 (B) 18 (C) 27 (D) 0

60 222 20

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(Turn over)

- 45. A hemispherical bowl of radius 'R' is filled with liquid of density ρ. The pressure at the bottom center of the bowl due to the liquid is :
 - (A) pgR
 - (B) $\frac{2}{3} \rho g R$
 - (C) $\frac{3}{2}$ pgR
 - (D) $\frac{5}{3}\rho gR$
- 46. A charge 'Q' is placed at the center of a cube, the flux of the electric field through the six surfaces of the cube is :



- (D) $\frac{Q}{2\epsilon_0}$
- 47. A uniform wire of resistance 50 ohm is cut into 5 equal parts. These parts are now connected in parallel. The equivalent resistance of the combination is
 - (A) 2 ohm
 - (B) 10 ohm
- US-2C/13

2:18



- (C) 250 ohm
- (D) 6250 ohm
- 48. An electric current 'i enters and leaves

 a uniform circular wire of radius 'a'
 through diametrically opposite
 points. A charged particle 'q' moving
 along the axis of the circular wire
 passes through its center at speed 'v'.

 The magnetic force acting on the particle when it passes through the center has magnitude :

(A)	$\frac{qv\mu_0i}{2a}$
(B)	<u>qvµ₀i 2πa</u>
(C)	<u>qvμ₀i</u> a
(D)	Zero

- 49. A diatomic gas (γ = 1.4) does 200J of work when it is expanded isobarically, the heat given to the gas in the process is
 - (A) 700J
 - (B) 500J
 - (C) 1200J
 - (D) 200J



- 50. The two rails of a railway track, insulated from each other and from the ground, are connected to a millivoltmeter. The vertical component of Earth's magnetic field is 0.2 × 10⁻ ⁴ T and rails are separated by 1m, the reading of the millvoltmeter when the train travels on the track at a speed of 180 kmh⁻¹ is :
 - (A) 1.5 mV

- (B) 0.5 mV
- (C) 2 mV
- (D) 1 mV
- 51. How many possible combinations of quantum numbers are there for the N shell?
 - (A) 8
 - (B) 10
 - (C) 18
 - (D) 32
- 52. Among the following molecules, which one has the highest dipole moment?
 - (A) CH₃CI
 - (B) CH₂Cl₂
 - (C) CHCl₃
 - (D) CCI4
- 53. Which of the following species has unpaired electron(s) ?

l' cinn

- (A) N2
- (B) F₂
- . (C) 02
- (D) O_2^{2-}

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- 1

- 54. Which of the following is a hard acid?
 - (A) Li^{*}
 - (B) Cu*
 - $(C) Ag^{\dagger}$
 - (D) Au[†]
- 55. Bohr's model can explain :
 - (A) Spectrum of hydrogen atom only
 - (B) Spectrum of atom or ion containing one electron only
 - (C) Spectrum of hydrogen molecule
 - (D) Solar spectrum
- 56. The HOMO of CO is :
 - (A) σ-bonding
 - (B) Π-bonding
 - (C) σ-antibonding
 - (D) II-antibonding
- In the reaction :
 - 38019 $4P + 3KOH + 3H_2O \rightarrow 3KH_2PO_2 + PH_3$
 - (A) Phosphorous is oxidized only
 - (B) Phosphorous is reduced only
 - (C) Phosphorous is both oxidized and reduced
 - (D) Phosphorous is neither oxidized nor reduced
 - 58. In which of the following C-H bond, the highest s-character is found?
 - (A) Acetylene
 - (B) Ethylene
 - (C) Methane
 - (D) Carbene

(9)

(Turn over)



- 59. Perchloric acid has :
 - (A) 8 lone pairs, 4 σ bonds, and 3π bonds
 - (B) 9 ione pairs, 6 σ bonds, and no π bonds
 - (C) 11 lone pairs, 5 σ bonds, and no π bonds
 - (D) 13 lone pairs, 4 σ bonds, and 1 π bonds
- 60. If the energies of two photons are in the ratio of 3 : 2, their wavelengths will be in the ratio of :
 - (A) 9:4
 - · (B) 2:3
 - (C) 1:2
 - (D) 3:2

61 Prokaryotic cells do not have

- (A) Chromosome
- (B) Cell wall
- (C) Mitochondrion
- . (D) Plasma membrane
- 62. Sandwich model of plasma membrane was proposed by
 - (A) Danielli and Davson
 - (B) Robertson
 - (C) R. Hooke
 - (D) Singer and Nicholson

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- 63. G2 phase of cell cycle occurs between
 - (A) M-phase and S-phase
 - (B) M-phase and G1-phase
 - (C). G1-phase and S-phase
 - (D) G1-phase and G0-phase
- 64. Which one is said to have semiautonomous nature?
 - (A) Endoplasmic reticulum
 - (B) Golgi complex
 - (C) Peroxisome
 - (D) Chloroplast
- 65. The family Xanthophyceae belongs
 - to _____
 - (A) Algae
 - (B) Fungi

38019

- (C) Bryophyta
- (D) Pteridophyta
- The sporophyte of ______ is devoid of seta.
 - (A) Riccia
 - (B) Marchantia
 - (C) Porella
 - (D) Funaria
- 67. Which statement is wrong about Gymnosperms?
 - (A) The plants are mostly perennial.
 - (B) Strobili are unisexual.
 - (C) In most cases, endosperm develops after fertilization.
 - (D) Pollination is mostly anemophilous.





- 68. Which one is not a resemblance between Bryophytes and Pteridophytes?
 - (A) Multicellular jacketed sex organs
 - (B) Water is mostly a necessity for the process of fertilization
 - (C) Heteromorphic type of alternation of generations
 - (D) Gametophyte is the dominant independent generation
- 69. Which is not a renewable energy source?
 - · (A) Fossil fuel
 - (B) Water
 - (C) Tide
 - (D) Sunlight
- 70. Regarding biological resource, the number of species per unit area is called species _____.
 - (A) Diversity
 - (B) Evenness
 - (C) Equitability
 - (D) Richness
- 71. In relation to energy flow in an ecosystem, PAR refers to:
 - (A) Photosynthetically active radiation
 - (B) Photosynthetically accurate radiation

- (C) Photosynthetically assured radiation
- (D) Photosynthetically absorbed radiation
- 72. The consumers that feed on the herbivores are called :
 - (A) Primary consumers
 - (B) Primary carnivores
 - (C) Primary herbivores
 - (D) Primary decomposers
- 73. Combustion of fossil fuels. mining and industries are the main sources of :
 - (A) Water pollution
 - (B) Air pollution
 - (C) Soil pollution
 - (D) Noise pollution
- 74. The most significant contributor to water pollution due to human interference is :
 - (A) Industry
 - (B) Agriculture
 - (C) Cultural activities
 - (D) Horticulture
- 75. The maintenance processes of living organisms go on everytime, and together they are called :
 - (A) Repair process
 - (B) Life process
 - (C) Renovation process
 - (D) Rejuvenation process

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(Turn over)





- The compounds that are utilised for providing energy to the plants are :
 - (A) Amino acids
 - (B) Fat
 - (C) Carbohydrates
 - (D) Proteins
- 77. The substance that is secreted by gastric glands and protects the inner lining of the stomach from the action of the Hydrochloric acid under normal conditions is :
 - (A) Pepsin
 - (B) Rennin
 - (C) Gastrin
 - (D) Mucus

78. In yeasts, the pyruvate is converted into ______ under anaerobic 38019 condition.

- (A) Ethanol and Butane
- -(B) Ethanol and Carbon dioxide
- (C) Ethanol and Oxygen
- (D) Ethanol and Propane .
- 79. _____ of throat ensure that the air-passage does not collapse.
 - (A) Rings of bones
 - (B) Rings of muscles
 - (C) Rings of Cartilage
 - (D) Rings of Connective tissue

- 80. During day time, when the stomata are open, the major driving force in the movement of water in the xylem is :
 - (A) Transpiration pull
 - (B) Gravitational pull
 - (C) Diffusion pressure
 - (D) Osmotic pressure
- 81. The decimal equivalent of the binary number 11001 is ____
 - .(A) 25
 - (B) 24
 - (C) 23
 - (D) 22
- 82. For the sets $A = \{5n : n \in \mathbb{N}\}$, $\mathsf{B} = \{7\mathsf{n} : \mathsf{n} \in \mathbb{N} \} \text{ and } \mathsf{C} = \{35\mathsf{n} : \mathsf{n} \in \mathbb{N} \},\$ which one of the following options is
 - true? (A) $(A \cap B) \cup C = \phi$ (B) $(A \cup B) \cap C = \phi$ (C) $(A - B) \cup C = \phi$ (D) $(A \cap B) - C = \phi$
- 83. On the set {1, 2, 3, 4}, consider the relation R = {(1, 2), (3, 1), (3, 4)}. What is the minimum number of elements to be added in R to make it an equivalence relation?

- (A) 11
- (B) 10
- (C) 8
- (D) 6

(12)

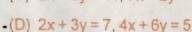


- 84. Which of the following relations on R is not a function ?
 - (i) $\{(x, y): y^2 = x\}$

(ii) {
$$(x, y): y = \sqrt{4 - x^2}, |x| \ge 2$$
}

(iii) {(x, y):
$$x^2 + y^2 = 1$$
}

- · (A) Only (ii)
 - (B) Only (i) and (ii)
 - (C) Only (i) and (iii)
 - (D) Only (ii) and (iii)
- 85. Which of the following pairs of linear equations is inconsistent?
 - (A) x 2y = 6, 2x + 3y = 4
 - (B) 9x 8y = 17, 18x 16y = 34
 - (C) 5x 3y = 11, 7x + 2y = 13



86. Choose the correct answer from the following options for the Assertion (A) followed by the Reason (R).

Assertion (A) : The number of common solution(s) for the system of linear equations :

5x + 4y + 6 = 0 and 10x + 8y - 12 = 0is zero.

Reason (R) : The system of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ has a unique

- solution, if $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$.
- (A) Both (A), (R) are correct and (R) is the correct explanation for (A).
- US-2C/13

- (B) Both (A), (R) are correct, but (R) is not the correct explanation for (A).
- (C) (A) is correct, but (R) is incorrect.
- (D) (A) is incorrect, but (R) is correct.
- 87. What is the remainder when the polynomial $x^{100} + x^{50} + 1$ is divided by $x^{2} + 1?$
 - (A) 3
 - (B) 2
 - . (C) 1
 - (D) 0
- 38019 Hardik and Shivang attempted to solve the same guadratic equation. Hardik made a mistake in writing down the constant term and ended up in getting the roots 4, 3, respectively. Shivang made a mistake in writing down the coefficient of x and got the root 3, 2, respectively. The correct roots of the equation are.
 - · (A) 1,6 (B) 3.4 (C) - 4, 3(D) - 6, -1
 - 89. What is the value of (0.000001)³?
 - (A) 0.00001 (B) 0.0001 (C) 0.001 (D) 0.01

(Turn over)

100 10.01

(13)



- 90. Rs. 8400 is divided among A. B. C and D in such a way that the shares of A and B. B and C. C and D are in the ratios of 2 : 3, 4 : 5 and 6 : 7 respectively, then what is the share of A ?
 - (A) Rs. 1280
 - (B) Rs. 1320
 - (C) Rs. 1380
 - (D) Rs. 1420
- 91. If x varies inversely as y³ 1 and x = 6 when y = 3, then what is the value of x, when y = 8 ?
 - (A) $\frac{155}{510}$
 - (B) $\frac{156}{511}$ (C) $\frac{157}{512}$
 - (D) 158 513
- 92. $\frac{\log_2(24)}{\log_{96}(2)} \frac{\log_2(192)}{\log_{12}(2)} =$ _____ (A) 1 (B) 2 US - 2C/13

- (C) 3
- (D) 4
- 93. If $\log_{10}(2) = 0.3010$, then what is the number of digits in 2^{64} ?
 - (A) 18
 (B) 20
 (C) 22
 (D) 24
- 94. Which of the following assertions is /are true ?
 - (i) $\sin^2(2^\circ) + \sin^2(4^\circ) + \sin^2(6^\circ)$ + + $\sin^2(88^\circ)$ + $\sin^2(90^\circ) = 23$
 - (ii) $\cos(2\theta) > | \sin(\theta) |$

18/2 7 Sin

for $-\frac{\pi}{6} < \theta < \frac{\pi}{6}$.

(A) Only (i) (B) Only (ii)

38019

(14)

- (C) Both (i) and (ii)
- (D) Neither (i) nor (ii)
- 95. For $x \in \mathbb{R}$, which one of the following assertions is **false**?
 - (A) $\sec^2(x) \tan^2(x) = 1$
 - (B) $\sin^2(x) + \cos^2(x) = 1$
 - (C) $\cos(2x) = 1 2\sin^2(x)$
 - (D) sin(2x) = 2sin(x) cos(x)





96. In a $\triangle ABC$, if $\angle C = 60^\circ$, then what is

the value of	$\frac{\cos A + \cos B}{2}$?
and Falled of	$\cos\left(A-B\right)$
	2
	. 2
(A) 3	1. 40
(B) 2	* (
	(05 Gon (0630
(C) 12	100 30 1
(D) 1	(er

- 97. The angle of elevation of the top of a tower is 30°. If the height of the tower is doubled, then the angle of elevation 100. Which one of the following statements 38019
 - (A) Equal to 30°
 - . (B) Equal to 60°
 - (C) Less than 60°
 - (D) Greater than 60°
- 98. If the shadow of a tower standing on the level ground is found to be 40 meters longer. when the Sun's altitude is 30° than when it was 60°, then what is the height of the tower?
 - (A) $40\sqrt{3}$ meters
 - (B) $20\sqrt{3}$ meters

- (C) 20 meters
- (D) $15\sqrt{3}$ meters
- 99. Three or more lines which pass through the same point are called
 - (A) Intersecting lines

as_

- (B) Collinear lines
- (C) Concurrent lines
- (D) Parallel lines
- is incorrect?
 - (A) A rectangle circumscribing a circle is a square.
 - (B) A right angled triangle can always be inscribed in a circle, if the hypotenuse of the triangle is the diameter of the circle.
 - (C) The centroid of an equilateral triangle inscribed in a circle coincides with the center of the circle.
- (D) All of the above

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