

Bridgewater International College

1. An astronaut's boots weigh 100N on earth ($g_e = 10 \text{ m/s}^2$). They will weighon Mars? ($g_m = 4 \text{ m/s}^2$)
(a) 25N (b) 250N (c) 40N (d) 100N
2. Which type of energy depends on the state or configuration of the body?
(a) chemical (b) nuclear (c) potential (d) kinetic
3. A scrap metal dealer uses a large electromagnet, which pair of the following metals will it pick up?
(a) Aluminium and Brass (b) Copper and Iron
(c) Iron and Steel (d) Steel and Zinc
4. An electric heater takes 4A of current from a 250V supply operating normally. How long would it take the heater to convert 400,000J of electrical energy?
(a) 40s (b) 400s (c) 1000s (d) 1600s
5. A cube with sides 2m long is made from a material of density 8kg/m^3 . What is the weight of the cube?
(a) 40N (b) 320N (c) 640N (d) 160N
6. A positively charged object is made neutral by a man touching it due to flowing.....the object.
(a) Electron.....onto (b) Electron..... from
(c) Protons.....onto (d) Protons.....from
7. What is reduced by step down transformer?
(a) current (b) resistance (c) voltage (d) power
8. Which component of the Sun's electromagnetic spectrum produces the greatest heating effects?
(a) infra-red (b) ultraviolet (c) visible (d) gamma
9. Which of the following correctly describes the image formed by a thin converging lens when used as a magnifying glass?
(a) real, erect, magnified (b) real, inverted, magnified
(c) virtual erect magnified (d) virtual inverted magnified
10. What happens to the molecules when steam condenses to water at room temperature?
(a) become regularly arranged (b) become smaller
(c) loose energy (d) move further apart
11. A small car of mass 500kg, reaches a hill 10m high by traveling a distance of 200m with uniform speed.

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How much work is done by the car in doing so?

- (a) 5000J (b) 100000J (c) 50000J (d) zero

12. Pitch and frequency of the sound wave depend on respectively.
(a) amplitude & frequency (b) frequency & amplitude
(c) frequency and speed (d) speed and amplitude
13. The kilowatt hour is the unit of
(a) charge (b) power (c) energy (d) current
14. Saurabh stands 50m from a wall and knocks two wooden blocks together. When the frequency of knocking is 3 knocks per second, the echo of a knock is heard at the instant of the next one. Calculate the speed of the sound in air.
(a) 150m/s (b) 200m/s (c) 300m/s (d) 330m/s
15. A steel tube is heated. The internal diameter and the external diameter of the tube respectively.
(a) increase & decreases (b) decreases and increases
(c) both increases (d) both decreases
16. Which of the physical quantity doesn't have the same dimensions as the others?
(a) frequency (b) velocity gradient
(c) angular frequency (d) torque
17. An object of mass 10kg is moving with a velocity of 6ms^{-1} moves a distance of before coming to rest if a constant opposing force of 20N is applied.
(a) 3m (b) 6m (c) 9m (d) 12m
18. The magnetic compass experiences force at neutral points.
(a) maximum (b) zero (c) between 'a' and 'b'
(d) depends upon the location of neutral points
19. What is the pressure exerted by a liquid column of length 10cm at the base given that the density of the liquid is 1000kg/m^3 .
(a) 1000N/m^2 (b) 10N/m^2 (c) 100N/m^2 (d) 200N/m^2
20. Dimensional formula of Universal constant 'G' is.....
(a) $\text{M}^1\text{L}^3\text{T}^{-2}$ (b) $\text{M}^{-1}\text{L}^3\text{T}^{-2}$ (c) $\text{M}^{-1}\text{L}^3\text{T}^{-1}$ (d) $\text{M}^1\text{L}^{-3}\text{T}^2$
21. Pure water always contain ratios of H_2 and O_2 by weight.
(a) 1:2 (b) 2:1 (c) 1:8 (d) 1:16
22. Which of the following is a physical change?
(a) Burning of sulphur in air (b) Burning of carbon in air
(c) Conversion of white phosphorus to red phosphorus

- (d) none
23. Which of the following is not correct in terms of discovery?
(a) Electron: J.J. Thompson (b) Neutron: James Chadwick
(c) Proton: E. Goldstein (d) All are correct
24. The molecular formula of aluminium nitride is.....
(a) $\text{Al}(\text{NO}_3)_3$ (b) AlNO_3 (c) AlN (d) $\text{Al}_2(\text{NO}_3)_3$
25. When two elements combine to form a compound, energy is.....
(a) absorbed (b) depends upon type of compound formed
(c) released (d) no change in energy occurs
26. The bond formed by the transfer of electrons from electropositive atoms to electronegative atoms isbond.
(a) covalent (b) electrovalent (c) dative (d) none
27. Simply, the addition of H_2 or removal of O_2 is process.
(a) reduction (b) oxidation (c) redox (d) none
28. Salt formed by the complete neutralization of strong acid and weak base is....
(a) acidic salt (b) acid salt (c) basic salt (d) base salt
29. Which of the following is a reversible reaction?
(a) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ (b) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
(c) $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ (d) $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
30. During electrolysis, when a current is passed through an electrolyte containing ions...
(a) ions move to oppositely charged plates. (b) ions do not move.
(c) all ions move to similarly charged plates. (d) none.
31. In period, elements are arranged in strict sequence of.....
(a) decreasing charge in the nucleus.
(b) increasing charge in the nucleus.
(c) constant charge in the nucleus.
(d) equal charge in the nucleus.
32. What is the basis of modern periodic law?
(a) Atomic number (b) Atomic size
(c) Atomic volume (d) Atomic mass
33. Which one is most reactive?
(a) Ordinary hydrogen (b) Heavy hydrogen
(c) Nascent hydrogen (d) Radioactive hydrogen
34. Oxygen is obtained by heating....

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- (a) ammonium dichromate (b) Sodium bicarbonate
(c) potassium permanganate (d) sodium peroxide
35. Boiling of water can remove it's
- (a) temporary hardness (b) permanent hardness (c) both (d) none
36. Which of the following does not form stable diatomic molecule?
- (a) Iodine (b) Phosphorous (c) Nitrogen (d) Oxygen
37. Chlorine is used in water for
- (a) killing germs (b) prevention of pollution
(c) cleansing (d) removing dirt
38. An example of major air pollutant is.....
- (a) O₂ (b) CO₂ (c) CO (d) He
39. LPG, a common kitchen fuel contains mainly
- (a) methane + ethane (b) ethane + propane
(c) butane + isobutene (d) methane + butane
40. Argentite is an ore of
- (a) copper (b) gold (c) silver (d) Argentina
41. Which one comes under the phylum coelenterata?
- a) Jelly fish b) Silver fish c) Cuttle fish d) Rohu fish
42. Find out the correct scientific name of human.
- a) Homo Sapiens b) Homo sapiens
(c) homo Sapiens (d) homosapiens
43.has nucleated RBC in class mammalian.
- (a) Man (b) Buffalo (c) Whale (d) Camel
44. Body posture and muscular movement is controlled by this part of brain
- (a) Cerebrum (b) Optic lobe
(c) Cerebellum (d) Medulla oblongata
45. Arthropoda hastype of coelom (Body Cavity).
- (a) True coelom (b) Haemocoelom
(c) Psendocoelom (d) None
46. On maturity an ovule forms a
- (a) Seed (b) Fruit (c) Endosperm (d) Embryo sac
47. The sharp spines in cactus are modified
- (a) Leaflets (b) Leaves (c) Branches (d) Thorns
48. Prothallus of fern is

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- (a) Sporophyte (b) Sporophyll
(c) Gametophyte (d) Saprophyte
49. Naked seeded plants are grouped in
(a) Angiosperm (b) Spermatophyte
(c) Tracheophyte (d) Gymnosperm
50. Centromere divides into two during
a) Prophase b) Metaphase c) Anaphase d) Telophase
51. Radial symmetry is found in....
(a) cockroach (b) roundworm (c) earthworm (d) starfish
52. Water in sponges is expelled through an aperture called.....
(a) ostium (b) osculum (c) excretory pore (d) mouth
53. Which of the following is a true fish?
(a) Silver fish (b) Cray fish (c) Star fish (d) None
54. Hind wings of mosquito are called as
(a) halteres (b) elytra (c) tegmina (d) coxa
55. SARS (Severe Acute Respiratory Syndrome) is due to....
(a) virus (b) bacteria (c) protozoa (d) helminthes
56. The theory of inheritance of acquired characters was disapproved by.....
(a) A. Weismann (b) J.B. Lamarck
(c) Charles Darwin (d) Hugo D. Vries
57. All of the following organic compounds are carbohydrates except....
(a) lactose (b) glucose (c) glycerol (d) galactose
58. In grafting, small branch which is inserted into the stem of rooted plant is known as...
(a) Stock (b) Scion (c) rhizome (d) bud
59. Cells which help in the coagulation of flow of the blood are.....
(a) erythrocytes (b) leucocytes (c) thrombocyte (d) fibrinogen
60. The total no. of bones present in the face of a human is....
(a) 12 (b) 13 (c) 11 (d) 14
61. A shopkeeper marked the price of a radio at Rs .2400. He sold it at a discount of 5% and still made a profit of 20%. At what price in Rs., should he sell the radio to make a profit of 25%.
(a) 2375 (b) 1900 (c) 2280 (d) 2460
62. The largest no. of boys among whom 126 pens and 210 pens can be equally divided is.....
(a) 120 (b) 24 (c) 42 (d) 84

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63. A post has $\frac{1}{3}$ of its length in mud, $\frac{1}{4}$ of its length in water and 15 meters above water. What is the total length of the pole in meters?
(a) 42 (b) 36 (c) 34 (d) 30
64. The circumference of the great circle of a sphere is 44cm. Its surface area is cm^2 .
(a) 166 (b) 661 (c) 642 (d) 616
65. The sum of the series $3 + 7 + 11 + \dots + 71$ is:
(a) 666 (b) 616 (c) 642 (d) 646
66. The three circles each of diameter 2m are drawn so that each circle is tangent to the other two circles. Calculate the area of the portion (in sq. meters) intercepted between these three circles. ($\pi = 3.1416$)
(a) 0.1612 (b) 0.6448 (c) 0.3224 (d) none
67. The base of an isosceles triangle, whose area is 60 sq. cm. and length of one equal sides is 13 cm, is:
(a) 10cm. (b) 5cm. (c) 12cm. (d) 15cm.
68. In a T-20 Cricket match the highest score in an innings was $\frac{3}{19}$ of the total and the next highest was $\frac{3}{19}$ of the remainder. The two scores differ by 9. The total score was:
(a) 371 (b) 361 (c) 271 (d) none
69. $(1 + \frac{6095}{14641})^{1/4} = ?$
(a) 16/9 (b) 12/11 (c) 14/11 (d) 16/11
70. The annual increase in the population of a town is 10% and the present population is 13310. What was the population three years ago?
(a) 10000 (b) 11200 (c) 11000 (d) 9700
71. A sum of money placed at compound interest doubles itself in 4 years & amount to 8 times itself in:
(a) 12 years (b) 11 years (c) 9 years (d) 13 years
72. Angles between the pair of lines represented by $x^2 - 2xy + 12y^2 = 0$ is $\tan^{-1} \dots$:
(a) $\pm(1/\sqrt{3})$ (b) $\pm(\sqrt{3})$ (c) $\pm(1/13)$ (d) $\pm(13)$
73. If $\theta = 50^\circ$ and $\alpha = 5^\circ$, value of $\frac{\tan \theta - \tan \alpha}{1 + \tan \theta \cdot \tan \alpha}$ is...
(a) 1 (b) $2/\sqrt{3}$ (c) $\sqrt{3}/2$ (d) 1/2
74. Line passes through the intersection of lines $x=y+7$ and $x+y=0$.
(a) $19x-2y-35=0$ (b) $29x-19y+35=0$
(c) $5x-2y+7=0$ (d) $3x+33y-105=0$

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75. A line makes the x-intercept double of y-intercept and passes through (3, -2), the equation of the line is
(a) $x+2y+1=0$ (b) $2x+y-1=0$
(c) $x/3-y/2=0$ (d) $2x+3y=1$
76. The equation of the sides of a triangle are $5x-3y=0$; $x+y-16=0$ and $7x-y=0$. Find the area of the triangle?
(a) 20 (b) 40 (c) 200 (d) 208
77. If $f(x) = (x-3)^2$ and $g(x) = x-9$, then $\text{gof}(6) = ?$
(a) 9 (b) 3 (c) 1 (d) 0
78. $\sqrt{\left[\sqrt{5} + \sqrt{\left\{ 5 + 8\sqrt{9 - 4\sqrt{5}} \right\}} \right]} = ?$
(a) $\sqrt{5}$ (b) $\sqrt{4}$ (c) $4\sqrt{5}$ (d) $5\sqrt{4}$
79. $(x\sin\theta - y\cos\theta)^2 + (x\cos\theta + y\sin\theta)^2 = ?$
(a) 1 (b) 0 (c) $x^2 + y^2$ (d) $x^2 - y^2$
80. If $\sin\alpha - \cos\alpha = 0$, then value of $\sec\alpha$ is:
(a) $\sqrt{2}$ (b) $1/\sqrt{2}$ (c) $-\sqrt{2}$ (d) both 'a' & 'c'
81. After the First World War, the author Anais Nin became interested in the art movement known as Surrealism and in psychoanalysis, both..... her novels and short stories.
(a) in which the influence (b) of which influenced
(c) to have influence (d) its influence in
82. Muskrats generally.....close to the edge of a bog, where their favorite plant foods grow plentifully.
(a) staying (b) they are staying (c) stay (d) to stay there
83. Oliver Ellsworth,.....of the United States Supreme Court, was the author of the bill that established the federal court system.
(a) he was the third chief justice (b) the third chief justice was
(c) who the third chief justice (d) the third chief justice
84.Colonial period the great majority of Connecticut's settlers came from England.
(a) Since (b) The time (c) During the (d) It was
85. A politician can make a legislative proposal more.....by giving specific examples of what its effect will be.
(a) to understanding (b) understandably
(c) understandable (d) when understood
86. Playing the trumpet with dazzling originality,.....dominated jazz for 20 years.

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- (a) Louis Armstrong (b) the influence of Louis Armstrong
(c) the music of Louis Armstrong (d) Louis Armstrong's talent
87. Before every presidential election in the United States, the statisticians try to guess the proportion of the population thatfor each candidate.
(a) are voted (b) voting
(c) to be voted (d) will vote
88. at a river ford on the Donner Pass route to California, the city of Reno grew as bridges and railroads were built.
(a) Settle (b) To settle
(c) It was settle (d) Having been settled
89. The air inside a house/office building has higher concentrations of contaminants.....heavily polluted outside air.
(a) than does (b) more (c) as some that are (d) like of
90. The decimal numeral system is one of theways of expressing numbers.
(a) useful most world's (b) world's most useful
(c) useful world's most (d) most world's useful
91. Sijan Mam's garden was a place great inspiration for her poems.
(a) that she drew (b) by drawing her
(c) from which she drew (d) drawn from which
92. The mountains surrounding Los Angeles effectively shield the city from the hot, dry winds of the Mojave Desert,.....the circulation of air.
(a) but they also prevent (b) also prevented by them
(c) and also to prevent (d) and also preventing
93. Not only.....to determine the depth of the ocean floor, but it is also used to locate oil.
(a) to use seismology (b) is seismology used
(c) seismology is used (d) using seismology
94. Nebraska has floods in some years,.....
(a) in others drought (b) droughts are others
(c) while other droughts (d) others in drought
95. The psychologist set up experiment to test the rat's; he wished to see how well the rat adjusted to the changing conditions it had to face.
(a) reflexes (b) communicability (c) stamina (d) adaptability

96. We need both ornament and implement in our society; we need the artist and the
- (a) writer (b) politician (c) artisan (d) model
97. His olfactory sense was so highly developed that he was often called in to judge.....
- (a) productivity (b) colors (c) perfume (d) acoustics
98. Believing that all children possesses a certain natural intelligence, the headmaster exhorted the teachers to discover andeach student's talents.
- (a) suppress....unrecognized (b) develop..... intrinsic
(c) redirect..... secret (d) cultivate.....dormant
99. As ecologists recently in studying the effects of naturally induced forest fires, some phenomena that appear on the surface to be destructive often have a hidden ...effect often on balance.
- (a) disproved..... beneficial (b) discovered..... positive
(c) disclosed..... unecological (d) determined..... disastrous
100. 100 people in a group shake hands with each other without repetition. How many handshakes were there altogether?
- (a) 4950 (b) 5050 (c) 3950 (d) 5950
101. Circle is related to circumference as square is related to
- (a) area (b) volume (c) diagonal (d) perimeter
102. Which Nepalese artist designed the logo of SAARC?
- (a) Sailendra Maharjan (b) Sailendra Singh
(c) Sailendra Simkhada (d) Sailendra Hirachan
103. Fifty after zero five after e, what is the relationship between U and ME?
- (a) Pear (b) Fear (c) Hate (d) Love
104. Which of the following comes last in the dictionary?
- (a) Knock (b) Kinetic (c) Kiwi (d) Koop
105. Name the scientist who used to forget his name?
- (a) Thomas Alba Addison (b) Alfred Bernard Nobel
(c)Pythagoras (d) Albert Einstein
106. According to Mahabharata, who was the father of Abhimanyu?
- (a) Arjun (b) Krishna (c) Yudhisthir (d) Bhim
107. The scientific name of mango is.....
- (a) *Rhodendron arboreum* (b) *Ficus religiosa*
(c) *Cinnamomum tamala* (d) *Magnifera indica*

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Best of Luck