## ANM \& GNM QUESTION PAPER AND SOLUTION

Q1. Filariasis or Elephantiasis is caused by which one of the following organisms?
(a) Taenia solium
(b) Fasciola hepatica
(c) Wuchereria bancrofti
(d) Hirudinaria granulosa

Q2. Which one of the following is the complementary base of guanine in DNA?
(a) Adenine
(b) Thymined
(c) Cytosine
(d) Uracil

Q3. At which phase of meiosis are homologous chromosomes are separated?
(a) Prophase I
(b) Prophase II
(c) Anaphase I
(d) Anaphase II

Q4. Which one of the following is an example of tropic hormone?
(a) ACTH
(b) Gastrin
(c) Secretin
(d) CCK-PZ

Q5. The book 'Systema Naturae' was written by
(a) Charles Darwin
(b) Carolus Linnaeus
(c) Robert Harding Whittaker
(d) Jean Baptiste Lamarck

Q6. Which plant does exhibit hydrophily?
(a) Hydrilla sp.
(b) Pinus sp.
(c) Oryza sp.
(d) Nelumbo sp.

Q7. The wings of a bird and wings of an insect are
(a) Analogous structure
(b) Homologous structure
(c) Vestigial structure
(d) Phylogenetic structure

Q8. Which one of the following is not a steroid hormone?
(a) Testosterone
(b) Progesterone
(c) Insulin
(d) Estrogen

Q9. Which of the following is mainly associated with the maintenance of posture?
(a) Cerebellum
(b) Cerebrum
(c) Thalamus
(d) Pons

Q10. The complex molecule consisting of a DNA strand and a core of histone octamer is
(a) Centromere
(b) Neucleosome
(c) Nucleotide
(d) Chromosome

Q11. The most abundant lipid in a cell membrane is
(a) Cholesterol
(b) Glycolipid
(c) Phospholipid
(d) Steriod

Q12. Which of the following molecules move regularly from the nucleus to the cytoplasm?
(a) Glycogen
(b) RNA
(c) DNA
(d) Cholesterol


Q13. The main function of platelets is to
(a) destroy tumour cells
(b) produce antibodies
(c) stop bleeding from cut wounds
(d) kill bacteria by phagocytosis

Q14. Which one of the following is an example of vitamin?
(a) Aspartic acid
(b) Stearic acid
(c) Glutamic acid
(d) Ascorbic acid

Q15. The acrosome of sperm contains
(a) DNA
(b) Mitochondria
(c) Fructose
(d) Hydrolytic enzymes

Q16. Which Eukaryotic organisms, among the following do not contain mitochondria?
(a) Chara vulgaris
(b)Monocercomonoides exilis
(c) Monoblepharis laevis
(d) Marchantia polymorpha

Q17. In the stomach HCL is secreted by
(a) Zymogen cells
(b) Kupffer's cells
(c) Oxyntic cells
(d) Mucous cells

Q18. Which Chamber of the heart has the thickest muscular wall?
(a) Right atrium
(b) Left atrium
(c) Right ventricle
(d) Left ventricle

Q19. Energy is stored in the liver and muscles as
(a) Glycogen
(b) Cholesterol
(c) Starch
(d) Fat

Q20. Which one of the following parts is responsible for absorption of digested food in human being?
(a) Oesophagus
(b) Liver
(c) Pancreas
(d) Small Intestine

Q21. In BCG vaccine the full form of BCG is
(a) Bacillus Calmodulin Guanine
(b) Bacillus Calmette Guerin
(c) Bacillus Clostridium Gonococci
(d) Bordetella Clostridium Guerin

Q22. Which of the following plant hormones is responsible for bolting phenotype?
(a) Cytokinin
(b) Auxin
(c) Gibberellin
(d) IAA

Q23. Which of the following pigments is found in the skin of human body?
(a) Anthocyanin
(b) Cyanidin
(c) Melanin
(d) Opsin

Q24. What is the type of nucleic acid found in HIV?
(a) ss DNA
(b) ds DNA
(c) ss RNA
(d) ds RNA

Q25. Leaves of which of the following dicotyledonous plants show parallel venation?
(a) Magnifera indica
(b) Calotropis procera
(c) Calophyllum inophyllum
(d) Ixora sp.

Q26. If heterozygous offspring is crossed with homozygous recessive parent, then this phenomenon is called
(a) Back cross
(b) Test cross
(c) Reciprocal cross
(d) Epistasis

Q27. Which of the following molecules is glucose?
(a) C3H603
(b) C 3 H 5 OH
(c) C 6 H 12 O 6
(d) C6H10O5

Q28. To which part of the chromosome nucleolus is attached?
(a) Chromomere
(b) Telomere
(c) Primary constriction
(d) Secondary constriction

Q29. ABO blood group of human was discovered by
(a) Carl Woese
(b) Karl Landsteiner
(c) Karl Fischer
(d) Karl Pearson

Q30. Example of Ex-Situ conservation is
(a) National Park
(b) Reserve Forest
(c) Seed bank
(d) Sanctuary

Q31. Which of the following white blood cell or cells is/are known as agranulocytes?
(a) Basophil
(b) Monocyte
(c) Neutrophil
(d) Lymphocytes

Q32. Which of these are false fruits?
(a) Banana
(b) Tomato
(c) Apple
(d) Strawberry

Q33. Which of the following are not present in prokaryotic cell?
(a) Nucleus
(b) Nuclear Membrane
(c) Ribosome
(d) Nucleoid Material

YT Answer Key Session
Q34. Which of the following statements are not correct?
(a) ADH is a peptide hormone
(b) Thyroxin increases the BMR of the body
(c) Prolactin helps in digestion
(d) Somatotropic hormone helps in reproduction

Q35. Which of the following character(s) is/are present in Z- DNA?
(a) Left- handed helix
(b) Formed in high salinity
(c) 12 base pairs per turn
(d) Helix pitch $34 \AA$

Q36. Which among the following cell types in xylem tissue is/are dead?
(a) Tracheids
(b) Tracheae
(c) Xylem fibres
(d) Xylem Parenchyma

Q37. In human, deficiency of Calciferol leads to
(a) Night- blindness
(b) Beri Beri
(c) Rickets
(d) Osteomalacia

Q38. Which of the following is/are viral disease(s)?
(a) AIDS
(b) Tetanus
(c) Influenza
(d) Pneumonia

Q39. The salient features of phylum Chordata are
(a) Presence of Stomochord
(b) Presence of Notochord
(c) Presence of dorsal hollow tubular nerve cord
(d) Presence of Pharyngial gill slits

Q40. Which among the following is / are coenzymes?
(a) FADH
(b) Mg2+
(c) Mn2+
(d) Vitamin A

YT Answer Key Session
Q45.


As shown in the figure, a ray of light coming from air is incident on a parallel glass slab at an angle of $32^{\circ}$ and emerges from the other side at an angle of $\theta$. What is the value of $\theta$ if refracting index with respect of air is 1.5 ?
(a) $32^{\circ}$
(b) $48^{\circ}$
(c) $72^{\circ}$
(d) $49.5^{\circ}$

Q46. How much heat is required to melt 100 g of ice kept at $0^{\circ} \mathrm{C}$ into water and fully convert it into steam? (Latent heat of melting of ice, specific heat of water and latent heat of vaporization of water are respectively $80 \mathrm{cal} / \mathrm{g}^{\circ} \mathrm{C}$ and $540 \mathrm{cal} / \mathrm{g}$ )
(a) 72 kcal
(b) 10 kcal
(c) 18 kcal
(d) 64 kcal

Q47. A vessel is filled to the brim by a liquid. It is observed that the vessel always remains filled to the brim even if it is heated or cooled. What is the coefficient of real expansion of the liquid if the coefficient of linear expansion of the material of the vessel is ' $\alpha$ '?
(a) $\alpha$
(b) $\alpha / 2$
(c) $2 \alpha$
(d) $3 \alpha$

Q48. GPS Stands for
(a) Global Poles System
(b) Global Poly-Silicon Store
(c) Global Positioning System
(d) Global Position Structure

Q49. The principal constituent of the atmosphere of the Earth is
(a) Oxygen
(b) Carbon
(c) Hydrogen
(d) Nitrogen

Q50. Product of force and velocity is called
(a) Work
(b) Power
(c) Energy
(d) Momentum

Q51. 1 nanometer $=$ ?
(a) $10^{-3}$
(b) $10^{-6}$
(c) $10^{-9}$
(d) $10^{-12}$

Q52. Which one helps to define force?
(a) Newton's $3^{\text {rd }}$ law of motion
(b) The theory of relativity
(c) Newton's $1^{\text {st }}$ law of motion
(d) Archimedes' principle

Q53. 1 GB memory is approximately times larger than 1 MB memory.
(a) 10
(b) 1000
(c) 100
(d) 2

Q54. LPG used as domestic cooking gas is composed mainly of
(a) Propane and butane
(b) Methane
(c) Natural Gas
(d) Acetylene

Q55. Which of the following is the main component of baking powder?
(a) $\mathrm{NaHCO}_{3}$
(b) $\mathrm{NaCO}_{3}$
(c) Nacl
(d) Hcl

Q56. If a ball is released to ground from any height, (a) When it hits the ground, its potential energy is minimum and kinetic energy is maximum.
(b) At any point during its fall the total energy remains constant.
(c) At point of during its fall, it has both potential energy and kinetic energy.
(d) When it reaches the ground, its potential energy is maximum.
Q57.


If a cracker thrown vertically upwards bursts into two pieces; one piece flies to right with an angle $45^{\circ}$ to the vertical; the other piece flies to left with the same angle to the vertical as shown in the figure. This is primarily due to.
(a) Newton's $1^{\text {st }}$ law of motion.
(b) Conservation of momentum.
(c) Acceleration due to the gravity.
(d) Sound produced by the cracker.

Q58. Steam causes more severe burn injury than boiling water because,
(a) Steam attacks human body with more force.
(b) Steam contains more heat than boiling water of same mass.
(c) Steam is a vapour.
(d) Steam is hotter than boiling water.

Q59. Which of the following statements are true?
(a) Liquids and gases have fixed volume but no fixed shape.
(b) Solids have fixed volume and shape.
(c) Solids never diffuse in each other.
(d) Gases do not have any fixed shape.

Q60. When a balloon is blown with air and its mouth is tied,
(a) All air molecules inside become fixed in their positions.
(b) There will be empty spaces between those air molecules.
(c) Those air molecules keep moving randomly and often hit the balloon surface from inside.
(d) The air inside becomes solid.

Q61. Choose the word, which can most appropriately replace the italicized words in the sentence -
A person can be sentenced to death for killing another human being.
(a) patricide
(b) homicide
(c) genocide
(d) fratricide

Q62. Choose the most effective word to fill in the blank to make the sentence meaningfully complete. Some people $\qquad$ themselves into believing that they are indispensable to the organization they work for.
(a) force
(b) delude
(c) keep
(d) ask

Q63. Choose the most effective word to fill in the blank to make the sentence meaningfully complete. His $\qquad$ of the subject was so good that students had very few questions to raise.
(a) exposition
(b) clarity
(c) disposing
(d) exposure

Q64. Choose the most effective word to fill in the blank to make the sentence meaningfully complete. Those who have well $\qquad$ their transition from village life to city life have prospered.
(a) managed
(b) taken
(c) tried
(d) finalised

Q65. Choose the most effective word to fill in the blank to make the sentence meaningfully complete. This is the $\qquad$ chosen for the school to come up.
(a) site
(b) sight
(c) plot
(d) area

Q66. Choose the most appropriate pair of words from the options given below to fill in the blanks in the given sentence in the same order to make the sentence meaningfully complete.
The $\qquad$ imposed for non-payment was too
$\qquad$ for it to bring in any improvement.
(a) penalty, low
(b) toll, simple
(c) punishment, harsh
(d) fine, severe

Q67. Choose the most appropriate pair of words from the options given below to fill in the blanks in the given sentence in the same order to make the sentence meaningfully complete.
We are $\qquad$ to have him $\qquad$ here to make this function a great success.
(a) pleased, over
(b) happy, lie
(c) proud, leave
(d) sorry, over

Q68. Fill in the blank with the most appropriate word/group of words to make the sentence meaningfully complete.
We should not be indifferent $\qquad$ the sufferings of our fellow men.
(a) of
(b) to
(c) from
(d) at

Q69. Choose the word, which has nearly the same meaning as OBLIGATORY.
(a) Agreeable
(b) Required
(c) Stubborn
(d) Useful

Q70. Choose the word, which has nearly the same meaning as EXUDE.
(a) Drop
(b) Ooze
(c) Overflow
(d) Evaporate

YT Answer Key Session
Q76. A pump can fill water in a tank at 2100 liters per hour. Then how many hours does it take to fill a reservoir at length 7 m , breadth 5 m and height 30 decimeter?
(a) 5 hours
(b) 50 hours
(c) 60 hours
(d) 500 hours

Q77. A and B are two solid spheres. The total surface area of $B$ is 4 times of total surface area of $A$. Then the ratio of the volume of $A$ and $B$ is
(a) $1: 4$
(b) $4: 1$
(c) $1: 8$
(d) $8: 1$

Q78. The ratio of the height and transverse height of a cylindrical cone is $4: 5$, then the ratio of the transverse height and the radius of the base is
(a) $5: 3$
(b) $3: 5$
(c) $7: 5$
(d) $5: 7$

Q79. The square root of the product of two roots of the quadratic equation $x^{2}-6 x+4=0$ is
(a) 2
(b) 4
(c) 16
(d) $3+\sqrt{5}$


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Q80. If the difference between two roots of a quadratic equation is 3 and the constant term is 4 . Then the equation is:
(a) $x^{2}-5 x+4=0$
(b) $x^{2}-3 x+4=0$
(c) $x^{2}-5 x-4=0$
(d) $x^{2}-3 x-4=0$

Q81. The sides of a triangle are $3 \mathrm{~cm}, 4 \mathrm{~cm}$ and 5 cm . Then area of its circumcircle is
(a) $5 \mathrm{~cm}^{2}$
(b) $14 \mathrm{~cm}^{2}$
(c) $\frac{275}{14} \mathrm{~cm}^{2}$
(d) $\frac{175}{7} \mathrm{~cm}^{2}$

Q82. At what rate of simple interest an amount of money will double in 4 years?
(a) $16 \%$
(b) $25 \%$
(c) $50 \%$
(d) $64 \%$

Q83. Find simple interest on Rs. 3000 at $6 \%$ per annum from $1^{\text {st }}$ January to $26^{\text {th }}$ May, in 2005.
(a) Rs. 36
(b) Rs. 48
(c) Rs. 60
(d) Rs. 72

Q84. Ramesh Babu sold a clock at Rs. 300 and incurred a loss of $25 \%$. If he would have to make a profit of $16 \%$ then at how much higher price, he should have sold the clock?
(a) Rs. 164
(b) Rs. 173
(c) Rs. 185
(d) Rs. 187

Q85. Two cubes of edges 4 cm are placed side by side to form a rectangular cube. What is the length of the diagonal of this larger rectangular cube?
(a) $4 \sqrt{3} \mathrm{~cm}$
(b) $4 \sqrt{6} \mathrm{~cm}$
(c) 12 cm
(d) $12 \sqrt{3} \mathrm{~cm}$

YT Answer Key Session
Q86. Naval staff in a submarine can see objects at the face of water with a
(a) Stethoscope
(b) Periscope
(c) Kaleidoscope
(d) Telescope

Q87. Which of the following musical instruments is played by Amjad Ali
(a) Veena
(b) Tabla
(c) Sarod
(d) Sitar

Q88. The hottest planet in the solar system?
(a) Mercury
(b) Venus
(c) Mars
(d) Jupiter

Q89. Exposure to sunlight helps a person improve his health because
(a) resistance power increases.
(b) the infrared light kills bacteria in the body.
(c) the ultraviolet rays convert skin oil into Vitamin - D
(d) the pigment cells in the skin get stimulated and produce a healthy tan

Q90. Fire temple is the place of worship of which of the following religion?
(a) Buddhism.
(b) Shintoism
(c) Christianism.
(d) Zoroastrianism (Parsi Religion)

Q91. The United Nations Organization has its Headquarters at
(a) Delhi
(b) London
(c) New York
(d) Moscow

Q92. The 'Lady with the Lamp' was the name given to?
(a) Sister Nivedita
(b) Queen Elizabeth
(c) Florence Nightingale
(d) Princess Diana

## YT Answer Key Session

Q97. How is David's father's only daughter-inlaw's son's wife related to David?
(a) Daughter
(b) Daughter-in-law
(c) Niece
(d) Granddaughter

Q98. 36, 34, 30, 28, 24, ..... What number should come next?
(a) 20
(b) 22
(c) 23
(d) 26

Q99. Find the missing terms.

(a) 25
(b) 37
(c) 41
(d) 47

Q100. 6, 11, 21, 36, 56, ?
(a) 42
(b) 51
(c) 81
(d) 91


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