

# **IOF HETAUDA (2075-2079) PRESENTS**

## **AFU AG MODEL EXAM**

**FM=80**

**PM=40**

**Name:**

**Roll No:**

**English**

**1. If you heat water, it..... hot.**

- a) will get    b) get    c) gets    d) will be getting

**2. Acrophobia means**

- a) fear of crowd    b) fear of high places    c) fear of light    d) fear of food

**3. He got new books.....**

- a) buy    b) to buy    c) bought    d) buying

**4. Sagar is as tall as.....**

- a) I    b) me    c) myself    d) Mine

**5. She must work hard,.....?**

- a) mustn't she    b) must she    c) needn't she    d) need she

**6..... English is difficult.**

- a) a    b) an    c) the    d) none

**7. One who is neither intelligent not dull?**

- a) commoner    b) mediocre    c) tolerable    d) dilligent

**8. "Between the devil and the deep sea" means**

- a) to be in a great difficulty    b) to be in a dilemma  
c) to be sailing in a boat    d) to be frightened

**9. He enquired .....my health.**

- a) of    b) for    c) into    d) after

**10. A large majority of students .....absent from the college yesterday.**

- a) were    b) was    c) has been    d) had been

**11..... were present in the kitchen room.**

- a) I, my, wife and you    b) you, my wife and i  
c) my wife, i and you    d) my wife, you and i

**12.....he left the office, it has not ceased raining.**

- a) When    b) ever since    c) until    d) ever before

**Chemistry**

**13. 500 gm toothpaste sample has 0.2 gm fluoride concentration. Then the concentration of the fluoride in ppm is;**

- a) 200    b) 400    c) 300    d) 500

**14. Which of the following is amphoteric oxide?**

- a)  $\text{Al}_2\text{O}_3$     b)  $\text{CO}_2$     c)  $\text{Na}_2\text{O}$     d)  $\text{K}_2\text{O}$

**15. The simplest formula if a compound containing 50% of elements X (Atomic weight 10) and 50% of element Y (Atomic weight 20) is:**

- a) XY    b)  $\text{X}_2\text{Y}$     c)  $\text{XY}_2$     d)  $\text{X}_2\text{Y}_3$

**16. Oxidation no of nickel in  $\text{Ni}(\text{CO})_4$  is:**

- a) -2    b) +2    c) 0    d) +4

**17. The total number of structural isomers present in  $\text{C}_7\text{H}_8\text{O}$  is**

- a) 5    b) 4    c) 7    d) 8

**18. Ethylene and acetylene can be separated by:**

- a) Alkaline  $\text{KMnO}_4$     b) Tollen's Reagent  
c) Ammonical  $\text{AgNO}_3$     d) Fehling's soln.

**19. Spiegeleisen consists of:**

- a)  $\text{Fe}+\text{Mg}+\text{C}$     b)  $\text{Fe}+\text{Mg}+\text{Cr}$     c)  $\text{Fe}+\text{Mn}+\text{C}$     d)  $\text{Fe}+\text{Ni}+\text{Cr}$

**20. Purification of Al is done by:**

- a) Baeyer's process    b) Serpeck's Process  
c) Hoop's Process    d) Both a&b

**21. Ether in presence of ozone forms:**

- a) Oxonium salt    b) super oxide  
c) Peroxide    d) phenoxide

**22. Leaching of ores is the process of;**

- a) Concentration    b) Refining    c) Reduction    d) Calcination

**23. Barbituric acid and its derivatives are well known as:**

- a) Tranquilizers    b) Antiseptics    c) Analgesic    d) Antipyretic

**24. Nylon-66 is a:**

- a) Polyamide    b) Polyester    c) Polystyrene    d) Polyethene

**Physics:**

**25. Which of the relations is correct from dimensional point of view?**

- a)  $v^2 = u^2 + 2as$     b)  $v^2 = u^2 + 2as^2$     c)  $v^2 = u^2 + 2a^2s$     d) None

**26. The half life period of radioactive nuclide is 3 hours. In 9 hours, its activity will be reduced by a factor of:**

- a) 1/9    b) 1/27    c) 1/6    d) 1/8

**27. A simple harmonic oscillator has an acceleration  $2 \text{ m/s}^2$ , when its displacement from mean position is 0.02 m. The angular frequency of the oscillator is equal to:**

- a) 0.2 rad/sec    b) 1 rad/sec    c) 10 rad/sec    d) 100 rad/sec

**28. Kirchhoff's junction law is based on the principle of conservation of:**

- a) charge      b) energy      c) momentum      d) mass

**29. The energy supplied by a battery in charging a capacitor of capacitance C to  $\text{pdV}$  is:**

- a)  $CV^2$       b)  $CV^2/2$   
c)  $C^2V/2$       d)  $C^2V^2/2$

**30. What should be the angular velocity of the earth so that a body on its equator is weightless?**

- a)  $1/8000 \text{ rad/sec}$       b)  $1/8 \text{ rad/sec}$       c)  $1/800 \text{ rad/sec}$       d)  $1/80 \text{ rad/sec}$

**31. During Adiabatic expansion, internal energy decreases by 20 J. The work done during this process is:**

- a) 20 J      b) -20 J      c) 0      d) -10 J

**32. The radius of gyration of a spherical shell about its diameter is;**

- a)  $\sqrt{5/3}R$       b)  $\sqrt{3/5}R$       c)  $\sqrt{2/5}R$       d)  $\sqrt{2/3}R$

**33. What makes water drop spherical?**

- a) Cohesion      b) Adhesion  
c) Gravity      d) Atmospheric pressure

**34. If the energy of a photon corresponding to a wavelength of  $6000 \text{ \AA}$  is  $3.32 \times 10^{-19} \text{ J}$ , the photon energy for a wavelength of  $4000 \text{ \AA}$  will be:**

- a)  $4.98 \times 10^{-19} \text{ J}$       b)  $4.44 \times 10^{-19} \text{ J}$       c)  $2.22 \times 10^{-19} \text{ J}$       d)  $1.11 \times 10^{-19} \text{ J}$

**35. For every  $1^\circ \text{F}$  rise in temperature, the speed of sound in air increases by**

- a)  $0.61 \text{ m/s}$       b)  $1.19 \text{ m/s}$       c)  $1.22 \text{ m/s}$       d)  $0.34 \text{ m/s}$

**36. A flux of 100 Lumen falls on a study table  $0.5\text{m} \times 1\text{m}$ . The illumination on the table is:**

- a) 200 lux      b) 100 lux      c) 50 lux      d) 25 lux

### **Botany**

**37. The study of human beauty is known as:**

- a) Kinesiology      b) karyology      c) kalology      d) Melanology

**38. Which of the following is  $C_4$  plant?**

- a) Papaya      b) Pea      c) Maize      d) Potato

**39. Universal organelle is:**

- a) Glyoxisome      b) 70s ribosomes      c) Microtubules      d) All of the above

**40. First discovered virus was:**

- a) TMV      b) PMV      c) Caulimovirus      d) HIV

**41. Natural system of classification was given by:**

- a) Engler and Prant      b) Bentham and Hooker      c) Theoprastus      d) All of above

**42. Callous plug are found in:**

- a) Xylem      b) Phloem      c) Both      d) None of the above

**43. Late blight of potato is caused by:**

- a) *Phytophthora infestans*      b) *Fusarium solani*      c) *Synchytrium*      d) None

**44. Rate of transpiration is measured by:**

- a) Porometer      b) Oxanometer      c) Potometer      d) Manometer

**45. Premature leaf fall is due to deficiency of**

- a) K      b) P      c) N      d) Ca

**46. Source of the antibiotic Lysergic acid Diethylamide (LSD) is:**

- a) *Aspergillus niger*      b) *Claviceps purpurea*  
c) *Agaricus campestris*      d) *Gliocladium virens*

**47. Cyanobacteria is:**

- a) Schizomycetes      b) Mycoplasma  
c) Myxomycetes      d) Myxophyceae

**48. Axile placentation is seen in:**

- a) Solanaceae      b) Malvaceae      c) Liliaceae      d) All of the above

### **Zoology**

**49. Numbers of heart in earthworm is:**

- a) 1 pairs      b) 2 pairs      c) 3 pairs      d) 4 pairs

**50. Golden age of Dinosaurs was during:**

- a) Palaeozoic      b) Cenozoic  
c) Mesozoic      d) Archeozoic

**51. Porifera has \_\_\_\_\_ grade of organization.**

- a) Cellular      b) Tissue      c) organ      d) System

**52. The pylangium and syngangium in frogs heart is marked by:**

- a) First row of semi lunar valves      b) Second row of semi lunar valves  
c) Spiral valves      d) Sinus artial valves

**53. Which of the following belongs to Mollusca?**

- a) Sea hare      b) Sea stick      c) Sea lily      d) Sea pancy

**54. Human hand, wings of bat and flippers of whale represent**

- a) Analogous organs      b) Vestigial organs  
c) Homologous organs      d) Evolutionary organs

**55. Number of incisors in rabbit is:**

- a) 6      b) 8      c) 4      d) 3

**56. Monocytes present in spleen are**

- a) Kupffer's cell      b) Messengial cell      c) Dust cell      d) Sinusoidal cell

**57. Diabetes incipidus is caused by:**

- a) Hyper secretion of Vasopressin      b) Hypo secretion of Vasopressin  
c) Hyper secretion of Pituitary      d) Hypo secretion of Pituitary

**58. Visual area is located in:**

- a) Temporal lobe      b) Parietal lobe      c) Occipital lobe      d) Frontal lobe

**59. Blood group A has:**

- a) Agglutininogen in serum      b) agglutininogen on RBC  
c) Agglutininogen in plasma      d) agglutininogen in haemoglobin

**60. In human beings the number of lobes in right and left lungs is:**

- a) 2 and 3    b) 2 and 2    c) 3 and 2    d) 4 and 2

**Mathematics**

**61. Bowley's coefficient of skewness lies between**

- a) -3 to 3    b) -2 to 2    c) -1 to +1    d) 0 to 1

**62. If  $\cos^2\alpha + \cos^2\beta + \cos^2\gamma = 1$ , Then  $\cos 2\alpha + \cos 2\beta + \cos 2\gamma =$**

- a) 1    b) 2    c) -1    d) -2

**63.  $\lim_{x \rightarrow 0} \frac{x}{!x!} =$**

- a) -1    b) 0    c) 1    d) does not exist

**64. The period of  $\sqrt{\tan x}$  is**

- a)  $\frac{\pi}{2}$     b)  $\pi$     c) 2    d)  $\sqrt{2}$

**65. If the eccentricity of the conic is  $e = \infty$ , then the conic is**

- a) Hyperbola    b) Rectangular hyperbola  
c) Circle    d) Pair of the straight line

**66. The sum of the series of the multiple of 5 from 5 to 100 both inclusive is:**

- a) 2010    b) 1000    c) 1052    d) 1050

**1    4    9**

**67. If  $A = \begin{bmatrix} 0 & 6 & 7 \\ 3 & -2 & 5 \end{bmatrix}$  then the trace of matrix a is**

- a) 2    b) 11    c) 12    d) 17

**68. The centre of circle  $x^2 + y^2 + 2x - 3 = 0$  is**

- a) (0, 0)    b) (-1, 0)    c) (1, 1)    d) (2, -3)

**69. Four coins are tossed simultaneously. What is the probability of getting 2H and 2T?**

- a)  $\frac{1}{8}$     b)  $\frac{1}{4}$     c)  $\frac{3}{8}$     d)  $\frac{1}{16}$

**70. The derivative of cosec x is :**

- a) Cot x    b) -cosec x    c) -cosec x.cotx    d) sin x

**71. In how many ways can distinct objects be arranged in a row taking none at a time?**

- a) 0    b) 1    c) infinite    d) None of the above

**72. If the set contain 'n' elements then the number of not empty subsets is**

- a) 1    b)  $2^{n-1}$     c)  $2^{n-2}$     d)  $2^n - 2$

**G.K.**

**73. Which of the following plant nutrients are immobile?**

- a) Mg    b) Cl    c) B    d) Both a and b

**74. White revolution in agriculture indicates:**

- a) Egg production    b) Milk production    c) Wool production    d) none

**75. The height of tallest statue is:**

- a) 182 m    b) 162 m    c) 152 m    d) 142 m

**76. Who is crowned with Miss Nepal 2019?**

- a) Shrinkhala Khatiwoda    b) Asmi Shrestha  
c) Anushka Shrestha    d) Manita Devkota

**77. "MANCHHEBHITRAKA YODDHAHARU" was written by:**

- a) Bishnu Kumari Waiba    b) Jhamak Ghimire  
c) Siddhicharan Shrestha    d) Madhav Prasad Ghimire

**78. Who is the present agriculture minister of Nepal?**

- a) Gokarna Bista    b) Upendra Yadav  
c) Chakrapani Khanal    d) Gagan Thapa

**79. General cropping sequence practised in Nepal is**

- a) Rice-Wheat-Maize    b) Rice-Maize-Wheat  
c) Wheat-Rice-Maize    d) Maize-Wheat-Rice

**80. Shrijana is the variety of:**

- a) Maize    b) Tomato    c) Cucumber    d) Apple

**ALL THE BEST!!!**

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