M.Sc. (Bio) Entrance Exam, June 24-25, 2014

NOTE: Attempt all questions. Each question carries equal mark (two). There will not be any negative marking. Cell phones, calculators and electronic gadgets are not allowed inside the exam hall.

Time: 60 minutes

Q1. Which of the following is a measure of relative dispersion?
a) Range
b) Mean deviation
c) Standard deviation
d) Coefficient of variation

Q2. Which of the following can be used to study the concentration of wealth or income in relation to certain segments of the population?
a) Pie diagram
b) Bar diagram
c) Lorenz curve
d) None of the above

Q3. If n units are selected in a sample from N population units, the sampling fraction is given by:
a) N/n
b) 1/N
c) 1/n
d) n/N

Q4. Which of the following theoretical distributions have the same mean and variance?
a) Binomial
b) Poisson
c) Normal
d) All of the above

Q5. Power of a test is related to

 a) Type I error

 b) Type II error

 c) Types I and II errors

 d) None of the above

Q6. Epidemiology refers to

 a. Study of distribution if diseases
 b. Study of disease causing agents and their prevention
 c. Study of health services
 d. All of above

Q7. "Incidence is defined as

 a. Number of new cases occurring in a defined population
 b. Total cases (New + Old) occurring in a defined population
 c. Number of exposed persons developing a disease in a defined population
 d. None of above

Q8. In a village having population of 1000, we found patients with certain disease. The results of a new diagnostic test on that disease are as follows- (for result table)

Test result	Disease	
	Present	Absent
Positive	180	400
negative	20	400

What is the percent prevalence of disease?

 a. 0.2
 b. 2
 c. 18
 d. 20

Q9. 'Endemic Disease' means that a disease-

 a. Occurs clearly in excess of normal expectancy
 b. Is constantly present in a given population group
 c. Exhibits seasonal pattern
 d. Disease is present among animals

Q10. Following is true about prevalence and incidence

a. Both are rates
b. Prevalence is rate but incidence is not
c. Incidence is rate but prevalence is not
d. Both are not rates

Q11. Which of the following is male gonad?

a. Ovary
b. Penis
c. Testis
d. Uterus

Q12. Acid secreted in stomach which helps in digestion is

a. Hydrochloric acid (HCL)
b. Sulphuric acid (H_2SO_4)
c. Nitric acid (HNO_3)
d. Carbolic acid (C_6H_5OH)

Q13. Fertilization of ova in human takes place in

a. Ovary
b. Vagina
c. Fallopian tubes
d. Uterus

Q14. Menarche is

a. Initiation of menstrual cycle
b. Development of moustaches
c. Stoppage of menstrual cycle
d. Rapid increase in height

Q15. Which of the following characteristics is NOT a defining feature of humans?

a. well-developed opposable thumbs
b. sexual reproduction
c. bipedalism

d. capacity for complex language

16. I need not offer any explanation regarding this incident - my behaviour---------------------.

a) is speaking itself
b) speaks for itself
c) speaks about itself
d) is speaking itself

17. I have got some tea, but I do not have **------** sugar.
   a) some
   b) more
   c) a
   d) any

18. Find the correct spelling out of four given below.
   a) Efficient
   b) Treatmeant
   c) Beterment
   d) Employd

19. Find antonym of AWARE

   a) Uncertain
   b) Ignorant
   c) Sure
   d) Doubtful

20. During Diwali the shops are ----------- of people

   a) busy
   b) full
   c) crowded
   d) bubbling

21. We ran as ---------- as we could.
   a) quickly
   b) most quickly
   c) more quickly
   d) the most quickly

22. I saw ----------- of my friends.
   a) nobody
   b) no
   c) no one
   d) none

23. My mother is reading ---------- newspaper.
   a) a today's
   b) today's
   c) the today's
   d) this day's

24. Find antonym of EXTRICATE
   a) Manifest
   b) Palpable
   c) Release
   d) Entangle

25. To have an axe to grind. **Choose the correct meaning**

    a) private end to serve
    b) To fail to arouse interest
    c) To have no result
    d) To work for both sides

Section: Quantitative Aptitude

Q26. Ten years ago, P was half of Q in age. If the ratio of their present ages is 3:4, what will be the total of their present ages?

    a) 45
    b) 40
    c) 35
    d) 30

Q27. A towel, when bleached, lost 20% of its length and 10% of its breadth. What is the percentage of decrease in area?

    a) 30%
    b) 28%
    c) 32%
    d) 26%

Q28. In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

    a) 6.25
    b) 5.5
    c) 7.4
    d) 5

Q29. A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?

    a) 4800
    b) 4991
    c) 5004
    d) 5000

Q30. If we reduce 75% of a number from the number, we get 75; what is the number?

    a) 150

    b) 75

    c) 225

    d) 300

Q31. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?

    a) 154º

    b) 180º

    c) 170º

    d) 160º

Q32. In a dairy farm, 40 cows eat 40 bags of husk in 40 days. In how many days one cow will eat one bag of husk?

    a) 1

    b) 40

    c) 20

    d) 26

Q33. 7212 + 15.231 - ? = 6879

    a) 359.022

    b) 362.02

    c) 328.221

    d) 348.231

Q34. How much is 30 percent of 5 hours 40 minutes?

    a) 1 hr 2 minutes

    b) 1 hr 7 minutes

    c) 1 hr 42 minutes

    d) 2 hr 42 minutes

Q35. The angle of elevation of the sun, when the length of the shadow of a tree is equal to the height of the tree, is:

a) 60°

b) 45°

c) 30°

d) None of the above

| 36. Population of world is more than

(A) 6 billion
(B) 7 billion
(C) 8 billion
(D) 9 billion |
|---|
| 37. is the logo of (for Logo refer to sheet provided)

(A) IIPS
(B) UN
(C) WHO
(D) UNFPA |
| 38. Which one the following is not a communicable disease

(A) Yellow fever
(B) TB
(C) Diabetes
(D) SARS |
| 39. Which is the main source of vital rates in India?

(A) Census of India
(B) Sample Registration System (SRS)
(C) National Sample Survey Organisation (NSSO)
(D) None of the above |
| 40. As per census of India 2011, the average number of persons live in 1 sq km of land is

(A) 324
(B) 325
(C) 372
(D) 382 |

Q.41: In August 2013 who wins International Children's Peace Prize?
(A) APJ Abdul Kalam
(B) Silvio Berlusconi
(C) Malala Yousafzai
(D) Angela Merkel

Q.42: When is 'Hindi Diwas' celebrated?
(A) October 12
(B) September 14
(C) October 19
(D) September 7

Q.43: 'Jugnu', the nano satellite launched in 2011 from Sriharikota, was built in:
(A) IIT-Delhi
(B) IIT-Kanpur
(C) IIT-Madras
(D) IIT-Kharagpur

Q.44: Which day is celebrated as the World Press Freedom Day across the world with a theme safe to speak?

(A) 3 June
(B) 3 May 2013
(C). 5 April,
(D). 5 May

Q.45: A landmark judgement/verdict by the Supreme Court of India on 15 April, 2014 relates to:

(A) Child labour
(B) Education quota
(C) Trangender as third sex
(D) Juvenile protection

Q.46: In the recent Lok Sabha elections, what was the total number of seats?

(A) 543
(B) 534
(C) 524
(D) 553

Q.47: The Supreme Court recently bans 'jallikattu'. What does it refers to:

(A) Betting in IPL
(B) Bull fighting and bullock cart racing
(C) Horse racing in Pune
(D) Use of drugs in sports

Q.48: Who is the new Chief Justice of India who sworn in on 27 April, 2014?

(A) Justice Mr. Rajendra M. Lodha
(B) Justice Ms. Savitri Devi Verma
(C) Justice Ms. Gorla Rohini
(D) None of the above.

Q.49: Recently Lyricist Mr. Gulzar was awarded:

(A). Oscar for Indian music
(B) Best song writer of the year
(C) Lifetime achievement in film industry
(D) Dada Saheb Phalke Award

Q.50: Who is the author of the book "Job for Millions"?

(A) V.V. Giri
(B) Amartya Sen
(C) Amitav Ghosh
(D) Jaswant Sinha