TEST YOUR KNOWLEDGE

1. Total number of compartments in the stomach of ruminants (cattle, buffalo, etc.) is
a. 2     b. 3     c. 4     d. 5

2. Major microbial fermentation site in ruminants is
a. Reticulo-rumen   b. Duodenum   c. Caecum   d. All

3. Glandular part of complex stomach in ruminants is
a. Rumen   b. Reticulum   c. Omasum   d. Abomasum

4. Buffaloes are superior to cattle in their digestive efficiency of
a. Protein   b. Plant fibre   c. Grain mixture   d. All

5. In addition to bacteria and protozoa, reticulo-rumen also harbours
a. Fungi   b. Archae   c. Bacteriophages   d. All

6. Rumen microbial consortium synthesizes
a. Essential amino acids   b. B-vitamins   c. Both a and b   d. Trace minerals

7. Following bacteria is known as rumen weed
a. Streptococcus bovis   b. Ruminococcus albus   c. Prevotella ruminicola   d. E. coli

8. Feeding behaviour of goats is

9. Green house gas other than CO2 emitted from ruminant stomach is
a. CFCs   b. CH₄   c. SO₂   d. All

10. Ruminants are unique in utilizing the following as nitrogen source
a. Forages   b. Urea   c. Grains   d. None

11. Principal end products of carbohydrate fermentation in the rumen is

12. Normal blood glucose (mg %) level in cattle is
a. 20-40   b. 40-60   c. 90-120   d. 140-180

13. Ruminants can’t convert glucose to fat due to the absence of enzyme(s) namely
a. Acetyl-Co A carboxylase   b. ATP citrate lyase   c. NADP malate dehydrogenase   d. Both b and c

14. Dietary fats in the rumen undergo
a. Biohydrogenation   b. Complete digestion   c. No change   d. Both a and b

15. Following is a very rare event in cattle

16. Natural anti-carcinogenic fatty acid found in cow milk is
a. Linoleic acid   b. Conjugated linoleic acid   c. Linolenic acid   d. Arachidonic acid

17. Following disease is common in cows after calving
a. Milk fever   b. Viral fever   c. Endemic fever   d. Both a and b

18. Principal purine derivative excreted in the urine of cattle is
a. Xanthine   b. Hypoxanthine   c. Uric acid   d. Allantoin

19. A phosphorus deficient calf is generally
a. Weak   b. Eats soil   c. Very active   d. None

20. Following B-vitamin is also known as cow manure factor
a. Folic acid   b. Pantothenic acid   c. Biotin   d. Cyanocobalamin

21. Dairy calves reared on milk alone for long periods develop hypomagnesemic condition known as

22. Excessive feeding of grains in ruminants within a short period of time leads to

23. Excessive consumption of leafy legume forages leads to

Answers:
1. c  2. a  3. d  4. b  5. d  6. c  7. a
22. a  23. c

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**The Great Indian Scientists**

**BIBHUPRASAD MOHAPATRA**

1. Physician from Kolkata, who created the world’s second and India’s first child using in-vitro fertilisation, Durga, who was born 67 days after the first IVF baby in United Kingdom.
   a. Subhash Mukhopadhyay  
   b. Bidhan Chandra Roy 
   c. Patrick Steptoe  
   d. Robert Edwards

2. Nuclear scientist and a metallurgical engineer, involved in the 1974 Indian atomic test and the 1998 Indian nuclear testing, appointed as the first Chancellor of the Central University of Kashmir.
   a. Anil Kakodkar  
   b. Srikumar Banerjee 
   c. G. Madhavan Nair  
   d. Swapan Chattopadhyay

3. Physicist born in ernakulam, who was known for his work that led to his creation of the Ramachandran plot for understanding peptide structure.
   a. K. Radhakrishnan  
   b. T.R. Anantharaman 
   c. Ravi B. Grover  
   d. Gopalasamudram Narayana Iyer

4. Geneticist and first World Food Prize winner, known as father of the Green Revolution in India.
   a. M.S. Swaminathan  
   b. Verghese Kurien 
   c. C.N.R. Rao  
   d. Padmanabhan Balaram

5. Space scientist based in Bangalore, who headed the ISRO for more than nine years, was a Member in the Upper House of the Indian Parliament.
   a. Vikram Sarabhai  
   b. Anil Kakodkar 
   c. S.K. Shivakumar  
   d. K. N. Shankara

6. Applied statistician founded ISI Kolkata, made pioneering studies in anthropometry in India.
   a. P. C. Mahalanobish  
   b. Radha Laha 
   c. C.N.R. Rao  
   d. Padmanabhan Balaram

7. Indian Bengali astrophysicist best known for his development of the equation used to describe chemical and physical conditions in stars.
   a. S. Chandrasekhar  
   b. Somak Raychaudhury 
   c. Rajesh Kothrappali  
   d. Meghnad Saha

8. Founder Director of the Council of Scientific & Industrial Research (CSIR), also known as ‘The Father of Research Laboratories’.
   a. S.S. Bhatnagar  
   b. Samir K. Brahmachari 
   c. R. A. Mashelkar  
   d. M. K. Bhan

9. Eminent Bengali chemist, academician and entrepreneur and the father of Chemistry in modern India.
   a. Kankan Bhattacharyya  
   b. Prafulla Chandra Ray 
   c. Prashant V. Kamat  
   d. Sourav Pal

10. Born into a privileged family in Ahmedabad, considered “Father of the Indian space program.”
    a. Radhakrishnan Narasimha  
    b. Vikram Ambalal Sarabhai 
    c. Udupi Ramachandra Rao  
    d. Satish Dhawan

11. Humanist philosopher, who was one of the greatest original thinkers of the Brahmo Samaj and did work in comparative religion and on the philosophy of science.
    a. Brajendra Nath Seal  
    b. Manabendra Nath Roy 
    c. Fakir Lalon Shah  
    d. Sibnarayan Ray

12. With William A. Fowler, won the Nobel Prize for Physics for key discoveries that led to the currently accepted theory on the later evolutionary stages of massive stars.
    a. Venki Ramakrishnan  
    b. S. Chandrasekhar 
    c. C.V. Raman  
    d. None of these

13. Founder of palaeobotanical research in India, who studied the fossils of the Indian subcontinent.
    a. K.C. Mehta  
    b. A. K. Sharma 
    c. Shiva Ayyadurai  
    d. Birbal Sahni

14. Born in Punjab in 1882, who discovered some new genera and many new species of Bryophyta, is called Father of Indian Bryology.
    a. R.P. Roy  
    b. A. K. Sharma 
    c. J. B. S. Haldane  
    d. Kamla Kant Pandey

15. As a high school student in 1978, developed a full-scale emulation of the interoffice mail system, which he called “EMAIL” and copyrighted in 1982.
    a. Shiva Ayyadurai  
    b. Manindra Agrawal 
    c. Narendra Karmarkar  
    d. Vinod Vasudevan

16. Indian writer and science popularizer, who was the first Indian to receive UNESCO’S Kalinga Prize.
    a. Narender K. Sehgal  
    b. Jagjit Singh 
    c. Gokulananda Mohapatra  
    d. Dorairajan Balasubramanian

17. Polymath, physicist, biologist, botanist, archaeologist, as well as an early writer of science fiction, who was pioneer of radio and microwave optics and inventor of the crescograph.
    a. Meghnad Saha  
    b. Jagadish Chandra Bose 
    c. Homi Jehangir Bhabha  
    d. Sir Ashutosh Mukherjee

**ANSWER**

1. a  
2. b  
3. d  
4. a  
5. b  
6. a  
7. d  
8. a  
9. b  
10. b  
11. b  
12. b  
13. b  
14. b

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