DR ACADEMY

DO RIGHT FOR GENUINE EDUCATION

FINAL KCET EXAMINATION BIOLOGY – 2019

HELD ON 29-04-2019 (TIME : 10.30 AM TO 11.50 AM)

1. Which of the following amino acids is coded by Single Codon?
   1) Phenylalanine 2) Valine
   3) Tryptophan 4) Tyrosine

ANS : 3

2. In prokaryotes, the transcription of DNA is initiated with the help of
   1) Elongation factor
   2) Rho factor
   3) Termination factor
   4) Sigma factor

ANS : 4

3. According to Human Genome project (HGP), the total number of genes inhuman genome is estimated at 30,000, the number of genes present on Y-chromosome are
   1) 242 genes 2) 2968 genes
   3) 2898 genes 4) 231 genes

ANS : 4

4. In a crime investigation, the investigating officer collects different biological samples from the crime spot for DNA finger-Printing Analysis.
   Which of the following samples is not helpful in this analysis?
   1) Erythrocytes 2) Skin Shreds
   3) Hair Follicle 4) Semen sample

ANS : 1

5. A mature mRNA consists of 900 bases without any stop codon in between. Calculate the number of amino acids coded by this mRNA during transition.
   1) 299 2) 900 3) 450 4) 300

ANS : 1

6. Which one of the following ecosystem has the highest annual net primary productivity?
   1) Tropical deciduous forest
   2) Desert
   3) Temperature evergreen forest
   4) Tropical rain forest

ANS : 4

7. Of the total incident solar radiation the percentage photo synthetically Active Radiation (PAR) captured by the plants
   1) 2-10% if PAR only
   2) 10-20% if PAR only
   3) 30-40% if PAR only
   4) 0-10% if PAR only

ANS : 1

8. The historic convention related to conservation of biological diversity is also known as
   1) Kyoto Protocol 2) Earth Summit
   3) Montreal Protocol 4) World Summit

ANS : 2

9. Which one of the following human activity has contributed to deforestation in north-esteem states of India?
   1) Industrialisation 2) Urbanisation
   3) Jhum cultivation 4) Mono cropping

ANS : 3

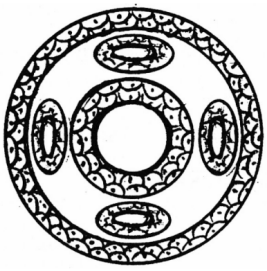
10. In an area where DDT has been used extensively, the population of birds declined significantly because
    1) Birds stopped laying eggs
    2) Birds became vulnerable to predators.
    3) Earthworms in the area got eradicated.
    4) Many of the eggs laid by birds showed pre-matured breaking

ANS : 4

DR ACADEMY

11. Which of the following protozoan parasites causes sleeping sickness?
1) Entamoeba 2) Plasmodium
3) Trypanosoma 4) Leishmania
ANS : 3

12. Which of the following phyla posses body cavity as shown in the diagram below?

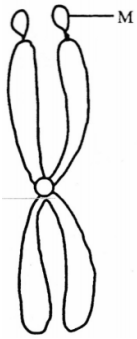


1) Porifera 2) Annelida
3) Coelenterata 4) Aschelminthes
ANS : 4

13. Testa and Tegmen of the seed coat represent
1) Dried Sepals
2) Dried Integuments
3) Dried Petals
4) Dried Tepals
ANS : 2

14. The trees growing in temperature regions shows clear demarcation between spring wood and autumn wood. This is because
1) The water stress is more
2) The climatic conditions are uniform throughout the year
3) The climatic conditions are not uniform throughout the year
4) The temperature is high.
ANS : 2

15. Identify the part labelled as 'M' in the diagram given below



1) Kinetochore 2) Chromatid
3) Satellite 4) Centromere
ANS : 3

16. Which of these is not an advantages in Genetically modified crops?
1) Reduces the reliance on chemical pesticides
2) Increases efficiency of mineral usage in plants
3) Increases the post harvest losses
4) Enhances the nutritional values of food
ANS : 3

17. Some multinational companies has exploited the traditional knowledge of the indigenous people to produce commercially important bio products, without their consent. This is an example for
1) Bioprospecting 2) Bio patent
3) Bioremediation 4) Biopiracy
ANS : 4

18. In Amphibians and reptiles, the body temperature changes corresponding to external temperature. The organisms which show this kind of response is termed as
1) Regulators 2) Partial Regulators
3) Conformers 4) Thermophiles
ANS : 3

19. Assertion (A): The Monarch butterfly feeds on poisonous weeds during its Caterpillars stage
Reason (R):It helps butterfly to becomes distasteful to its predator.
1) A is true and R is correct explanation
2) A is true, R is false
3) Both A and R are true, but R is not the correct explanation of A
4) Both A and R false
ANS : 4

20. From the given options, identify the correct combination of population interactions that corresponds to the symbols give here
++ -- +O
1) Predation Competition Commensalism
2) Parasitism Competition Mutualism
3) Mutualism Parasitism Amensalism
4) Mutualism Competition Commensalism
ANS : 4

DR ACADEMY

21. Identify the incorrect statement with reference of biocontrol agents
1) They help to increase the use of synthetic pesticides
2) They do not shown any negative impact on crop plants.
3) They do not affect non-target pests
4) They are significant in treating ecologically sensitive area.

ANS : 1

22. A Farmer has applied chemical fertilisers in his crop field for many successive seasons. In the next season, the crop growth was poor as soil lost its fertility. Suggest the suitable microorganism that replenishes the fertility of soil in his field.
1) Nostoc 2) Spirulina
3) Spirogyra 4) Chlorelln

ANS : 1

23. In cloning vectors, antibiotic resistant genes are helpful for
1) Selection of recombinants
2) Transfer of foreign genes to the host
3) Cleaving of vector by REN
4) Making the host cells competent

ANS : 1

24. A student while extracting DNA from aspergillus fungus requires ____ enzyme to break open the cell wall.
1) Lysozyme 2) Cellulase
3) Chitinase 4) Peetinase

ANS : 3

25. Identify the DNA sequence which can be cut using EcoRI.
1) 5'ACGAATTCAT3' / 3'TGCTTAAGTA65'
2) 5'TGCTTAAGTA3' / 3'ACGAATTCAT 5'
3) 3'ACGAATTCAT5' / 5'TCTTAAGTA3'
4) 5'TACTTAAGCA3' / 3'ATGAATTCGT5'

ANS : 1

26. The brain capacity of Homo habits
1) Between 650 cc-800 cc
2) 1800 cc 3) 1400 cc 4) 900 cc

ANS : 1

27. In Bougainvillea and Cucurbita, the axillary bud is modified into thorn and tendril respectively. This is an example of
1) Divergent Evolution
2) Co-evolution
3) Convergent Evolution
4) Micro Evolution

ANS : 1

28. Identify the incorrect statement
1) Pneumonia is a bacterial disease
2) HIV is transmitted by mosquito bite
3) Ringworm is a fungal disease
4) Cancer is a non-infectious disease

ANS : 2

29. A person shows symptoms like Sneezing, Water eyes, running nose and difficulty in breathing, on exposure to certain substances in air. Which type of antibody is produced during such condition?
1) 1gE 2)1gG 3) 1gA 4) 1gM

ANS : 1

30. A man was suffering from mental illness like depression and insomnia. Identify the drug which is normally used as medicine such cases.
1) Lysergic Acid Diethylamides (LSD)
2) Morphine
3) Heroin
4) Nicotine

ANS : 1

31. What is the function of Protein GLUT-4?
1) Enables glucose transport into cells
2) Acts as an enzyme
3) Functions as intercellular ground substance.
4) Fights infectious agents

ANS : 1

32. Cells in the quiescent stage (G_0)
1) Show indefinite proliferation
2) Always become cancerous
3) Remain metabolically active
4) Remain metabolically inactive

ANS : 3

DR ACADEMY

33. Consider the following statements i, ii and iii regarding criteria for essentiality of the nutrients in plants:
i) The presence of elements is must for plants to complete their life cycle
ii) The role of the element can be replaced by another element.
iii) The element must be directly involved in the metabolism of the plant
1) i and ii 2) i and iii
3) ii and iii 4) iii only

ANS : 2

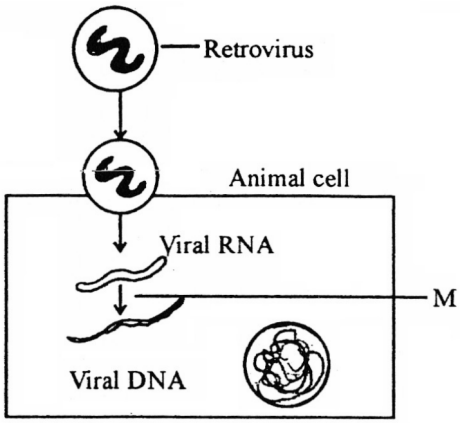
34. During ehemiosmotic synthesis of ATP in photosynthesis
1) The proton gradient is not required
2) The protons accumulate in the intermembrane space of chloroplast.
3) The protons accumulate within the lumen of the thylakoids
4) The protons accumulate in the intermembrane space of mitochondrion

ANS : 3

35. When tripalmitin is used as respirator substance in aerobic respiration, the process consumes 145 molecules of Oxygen and releases 102 molecules of CO_2, then RQ value would be
1) 0.7 2) 0.5 3) 1.0 4) 1.4

ANS : 1

36. Identify the enzyme that catalyses the step labelled as 'M' in the given Schematic representation of Replication of retrovirus



1) RNA polymerase
2) DNA ligase
3) Reverse transcriptase
4) Recombinase

ANS : 3

37. In animal breeding, the maximum genetic variations can be achieved through
1) Outcrossing
2) Crossbreeding
3) Inbreeding
4) Interspecific hybridization

ANS : 2

38. The oil content and quality of a groundnut variety was improved by plant breeding technique. This is an example of
1) Biomagnification
2) Biofortification
3) Bioremediation
4) Biodegradation

ANS : 2

39. Microbes like Spirulina can be good alternate to the conventional sources of proteins for human nutrition, because.....
1) They give more biomass in less time
2) They are produced using synthetic fertilisers
3) Their proteins are different from plant proteins
4) They have high fibres content

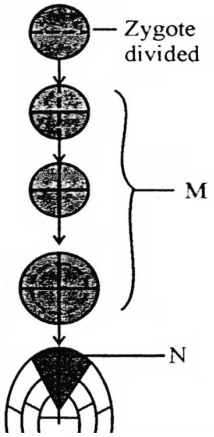
ANS : 1

40. Consider the following morphological, biochemical or physiological characteristics of plants
i. Presence of hairy leaves
ii. Production of more nectar in flower
iii. High sugar content in plant parts
iv. Presence of higher aspartic acid concentration
Choose the correct combination of statements which give natural resistance to plants against insect pests :
1) i and ii 2) ii and iii
3) iii and iv 4) i and iv

ANS : 4

DR ACADEMY

41. In the following diagrammatic representation showing stages of embryonic development, identify the type of growth phase labelled as M and N



1) Both M and N are arithmetic phases
2) Both M and N are geometric phases
3) M is geometric phase and N is arithmetic phase
4) M is arithmetic phase and N is geometric phase

ANS : 3

42. Indigestion of fats in humans may be an indication of
1) Under-secretion of saliva
2) Under-secretion of amylopsin
3) Intestinal ulcers
4) Inflammation of liver

ANS : 4

43. Choose the correct statement from the following
1) Histamine, Serotonin and Heparin are secreted by basophils
2) Person with blood group AB can donate blood to person with blood group A.
3) Erythroblastosis foetalis may result when foetus is Rh^{-ve} and mother is Rh^{+ve}
4) Atherosclerosis is often referred as anginapectoris

ANS : 1

44. In blind spot of the human eye
1) Only cones are absent
2) Only rods are absent
3) Both cones and rods are absent
4) Both cones and rods are present

ANS : 3

45. A boy after attaining sexual maturity shows muscular growth, growth of facial and axillary hair, aggressiveness and low pitch of voice. These changes are attributed to ____ hormone
1) Testosterone 2) Glucagon
3) Estrogen 4) Secretin

ANS : 1

46. Identify the odd one among the following disorders
1) Sickle-cell Anaemia 2) Haemophilia
3) Thalassemia 4) Phenyl ketonuria

ANS : 2

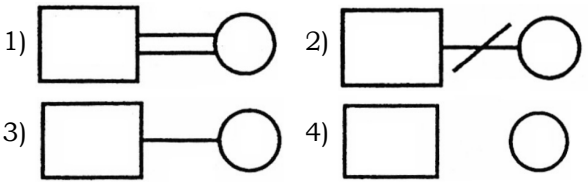
47. From the Chromosomal Complements given below, identify the one which shows female heterogamety
1) XX-XY 2) XX-XO 3) ZZ-ZW 4) XX-XXY

ANS : 3

48. In Morgan's experiment with Drosophila, when yellow bodied white eyed female was crossed with brown bodies red eyed male and their F_1 progeny were intercrossed. What was the percentage of recombinants in F_2 generation ?
1) 98.7% 2) 62.8% 3) 37.2% 4) 1.3%

ANS : 4

49. In the following symbols, used in human pedigree Analysis, identify the symbol that denotes consanguineous mating



ANS : 1

50. Which of the following Nitrogen bases is found only in DNA ?
1) Adenine 2) Cytosine
3) Guanine 4) Thymine

ANS : 4

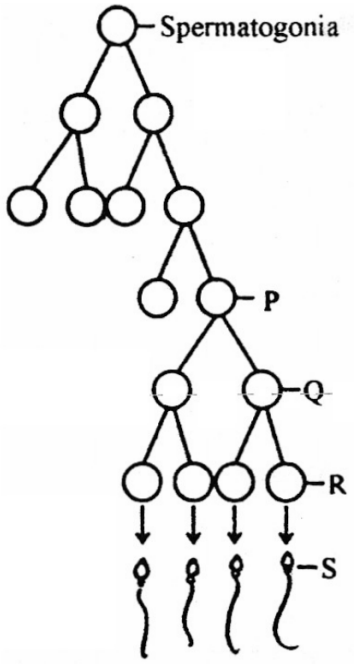
51. The nourishing cells in the Seminiferous tubules are
1) Leydig cells 2) Follicular cells
3) Spermatogonial cells
4) Sertoli cells

ANS : 4

DR ACADEMY

52. If in a normal Menstruating woman, menses occur on 5th April, what will be the expected date of Ovulation ?
1) 18th April 2) 10th April
3) 14th April 4) 29th April
ANS : 1

53. Identify the cells represents as P, Q, R and S in the given schematic representation of spermatogenesis



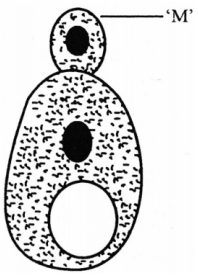
1) P-Primary Spermatocyte, Q-Secondary Spermatocyte, R-Spermatids, S-Spermatozoa
2) P-Spermatozoa, Q-Spermatids, R-Secondary Spermatocyte, S-Primary Spermatocyte
3) P-Secondary Spermatocyte, Q-Primary Spermatocyte, R-Spermatozoa, S-Spermatids
4) P-Secondary Spermatocyte, Q-Spermatids, R-Spermatozoa, S-Primary Spermatocyte
ANS : 1

54. The method of natural contraception which requires correct knowledge of Menstrual cycle is
1) Lactational Amenorrhoea
2) Periodic Abstinence
3) Coitus interrupts
4) IUDs – Intrauterine Devices
ANS : 2

55. A childless couple visit Assisted Reproductive Technologies (ARTs) centre to get assistance to have a child. On diagnosis, it was noticed that there was low sperm count in the male partner. Which of the following strategy of ART is most suitable in this case ?
1) Artificial Insemination (AI)
2) Gamete Intra-Fallopian Transfer (GIFT)
3) In vitro Fertilisation (IVF)
4) Zygote Intra – Fallopian Transfer (ZIFT)
ANS : 1

56. Plants like Marchantia and Funaria produce gametes by mitosis, because
1) Plant body is haploid
2) They are gametophytes
3) Gametophyte is diploid
4) They are dioecious
ANS : 1

57. Identify the asexual reproductive diagram



1) Bud 2) Zoospore
3) Conidium 4) Gemmule
ANS : 1

58. In some plants, stigma and anther mature at different times because
1) it facilitates self pollination
2) it attracts pollinators
3) it facilitates cross pollination
4) it prevents cross pollination
ANS : 3

59. Now-a-days agricultural practice is expensive to the farmers as they need to purchase hybrid seeds every year. Which of the following strategies can be employed to overcome this problem ?
1) Production of Apomictic seeds
2) Synthetic seeds
3) Parthenocarpy
4) Conventional plant breeding
ANS : 1

DR ACADEMY

60. Identify the correct order of steps involved in Artificial hybridization in plants
1) Rebagging→Artificial pollination→Bagging →Emasculation
2) Artificial pollination→Emasculation→ Rebagging→Bagging
3) Bagging→Artificial pollination→Rebagging →Emasculation
4) Emasculation→Bagging→Artificial pollination→Rebagging

ANS : 4

DR ACADEMY