

Sl.No. 1400079

056(E)

(MARCH, 2020)
SCIENCE STREAM
(CLASS - XII)
(New Course)

પ્રશ્ન પેપરનો સેટ નંબર જેની
સામેનું ચતુર્થ OMR શીટમાં
ઘટ્ટ કરવાનું રહે છે.
Set No. of Question Paper,
circle against which is to be
darken in OMR sheet.

14

Part - A : Time : 1 Hour / Marks : 50

Part - B : Time : 2 Hours / Marks : 50

(Part - A)

Time : 1 Hour]

[Maximum Marks : 50

Instructions :

- 1) There are 50 objective type (M.C.Q.) questions in Part - A and all questions are compulsory.
- 2) The questions are serially numbered from 1 to 50 and each carries 1 mark.
- 3) Read each question carefully, select proper alternative and answer in the O.M.R. sheet.
- 4) The OMR sheet is given for answering the questions. The answer of each question is represented by (A) O, (B) O, (C) O, (D) O. Darken the circle ● of the correct answer with ball-pen.
- 5) Rough work is to be done in the space provided for this purpose in the Test Booklet only.
- 6) Set No. of Question Paper printed on the upper-most right side of the Question Paper is to be written in the column provided in the OMR sheet.

1) Match the following and choose the correct option.

	Column - I		Column - II
i)	Salmonella typhi	p)	Malaria
ii)	Plasmodium	q)	Typhoid
iii)	Entamoeba histolytica	r)	Ringworm
iv)	Epidermophyton	s)	Amoebiasis

(A) (i - r), (ii - q), (iii - p), (iv - s)

✓(B) (i - q), (ii - p), (iii - s), (iv - r)

(C) (i - q), (ii - r), (iii - s), (iv - p)

(D) (i - p), (ii - q), (iii - r), (iv - s)

Rough Work

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- 2) The early embryo (upto 8 blastomeres) can be transferred into the fallopian tube is known as
- (A) IUT
 - ✓(B) ZIFT
 - (C) IUI
 - (D) ICSI
- 3) Lactational amenorrhea means :
- (A) Begins of menstruation
 - ✓(B) Absence of menstruation during intense Lactation
 - (C) Corpus luteum degenerates
 - (D) Absence of Lactation
- 4) Diseases like chlamydiosis, trichomoniasis and syphilis are known as
- (A) MTP
 - ✓(B) STI
 - (C) IUI
 - (D) Non infectious diseases
- 5) Expression of only one of the parental characters in the F_1 and expression of both in the F_2 , can be explained by
- (A) Punnett square
 - (B) Law of segregation
 - ✓(C) Law of Dominance
 - (D) Multiple alleles
- 6) _____ is mendelian disorder
- ✓(A) Cystic fibrosis
 - (B) Turner's syndrome
 - (C) Klinefelter's syndrome
 - (D) Down's syndrome

- 7) α Thalassemia and β Thalassemia linked genes are located on which chromosomes respectively
- (A) on 11 and 16
 - ☒ (B) on 16 and 11
 - (C) on 18 and 11
 - (D) on 12 and 18
- 8) N - Glycosidic linkage contains
- (A) Dipeptide
 - (B) Disaccharide
 - (C) Triglyceride
 - ☒ (D) Nucleoside
- 9) 5 - Methyl uracil means
- (A) Uracil
 - ☒ (B) Thymine
 - (C) Guanine
 - (D) Cytosine
- 10) The Genome containing all the coding and non coding sequence with the function is termed as
- ☒ (A) Sequence Annotation
 - (B) Expressed sequence Tags
 - (C) Bacterial artificial chromosomes
 - (D) Yeast artificial chromosomes
- 11) The bones of forelimbs have similar anatomical structure is _____
- ☒ (A) Divergent evolution
 - (B) Convergent evolution
 - (C) Peripheral evolution
 - (D) Radial evolution

- 12) Diagrammatic representation of the operation of natural selection two peaks are formed. This condition shows _____ effect of
- (A) Directional
 - (B) Stabilising
 - ☒ (C) Disruptive
 - (D) Destructive
- 13) The brain capacities of homoerectus was ____.
- (A) 1400 CC
 - ☒ (B) 900 CC
 - (C) 650-800 CC
 - (D) 1200 CC
- 14) During evolution _____ evolved into first amphibians.
- (A) Cartilagenous fish
 - (B) Bony fish
 - (C) Reptiles
 - ☒ (D) Lobe fins
- 15) Montreal Protocol _____ is for.
- (A) Air pollution
 - (B) Water pollution
 - (C) Soil pollution
 - ☒ (D) Ozone depletion
- 16) Interferons are considered as _____ type of barrier.
- (A) Physiological
 - (B) Physical
 - (C) Cellular
 - ☒ (D) Cytokine

- 17) Colostrum has abundant antibodies ____.
- (A) Ig G
 - ☒ (B) Ig A
 - (C) Ig M
 - (D) Ig E
- 18) The cancer patients are given substances called biological response modifiers such as
- (A) β - Interferon
 - ☒ (B) α - Interferon
 - (C) γ - Interferon
 - (D) Δ - Interferon
- 19) Rice variety containing over five times iron made possible due to ____.
- (A) Single cell protein
 - ☒ (B) Biofortification
 - (C) Tissue culture
 - (D) Mutation
- 20) The capacity to generate a whole plant from any cell/explant is called
- (A) Micropropagation
 - ☒ (B) Totipotency
 - (C) Somaclones
 - (D) Meristem
- 21) Superior males of one breed are mated with superior females of another breed is known as.
- ☒ (A) Cross-breeding
 - (B) Out - breeding
 - (C) Interspecific hybridization
 - (D) MOET

22) 'Toddy' a traditional drink is made by fermenting sap from.

- (A) Soyabean
- (B) Tomato
- ✓(C) Palms
- (D) Bamboo shoots

23) Bottled fruit juices brought from market are clearer as compared to those made at home because the bottled juices are clarified by the use of _____

- (A) Proteases
- (B) Pectinases
- ✓(C) Pectinases and Proteases
- (D) Streptokinase

24) Many members of the genus _____ form mycorrhiza.

- (A) Saccharomyces
- (B) Trichoderma
- ✓(C) Glomus
- (D) Monascus

25) Flocs means _____

- (A) Anaerobic sludge
- (B) Activated sludge
- ✓(C) Masses of bacteria associated with fungal filaments to form mesh like structure
- (D) Primary sludge

- 26) The Lady bird and Dragonflies are useful to get rid of
☒ (A) Aphids and mosquitoes
(B) Aphids and rotifers
(C) Housefly and Mosquitoes
(D) Cockroach and Locust
- 27) Fragments of DNA can be separated by a technique known as
(A) Microinjection
(B) Selectable marker
(C) Biolistics
☒ (D) Gel electrophoresis
- 28) _____ have the ability to transform normal cells into cancerous cells.
☒ (A) Retrovirus
(B) Rhinovirus
(C) Bacteriophage
(D) T.M.V.
- 29) Which enzymes are responsible for breaking the wall of bacterial cell, plant cell and fungus cell respectively?
(A) Cellulase, Chitinase, Lysozyme
☒ (B) Lysozyme, Cellulase, Chitinase
(C) Chitinase, Cellulase, Lysozyme
(D) Lysozyme, Chitinase, Cellulase
- 30) The formula of population density is
☒ (A) $N_{t+1} = N_t + [(B + I) - (D + E)]$
(B) $N_{t+1} = N_t + [(D + E) - (B + I)]$
(C) $N_{t+1} = N_t + [(B - I) - (D + E)]$
(D) $N_{t+1} = N_t + [(B + I) - (D - E)]$

31) Eurythermal means _____.

- (A) Some organisms are restricted to a narrow range of salinities
- (B) Some organisms are tolerant of a wide range of salinities
- ☒ (C) Some organisms can tolerate and thrive in a wide range of temperatures
- (D) Some organisms can tolerate and thrive in a narrow range of temperatures

32) Cry I Ac and Cry I Ab encoded proteins _____ and _____ control respectively.

- (A) Corn borer - Cotton boll worms
- ☒ (B) Cotton boll worms - corn borer
- (C) Lepidoptera - Coleoptera
- (D) Coleoptera - Lepidoptera

33) Insulin chain A and Chain B are linked together by _____.

- ☒ (A) Disulfide bond
- (B) Peptide bond
- (C) Sulphur bond
- (D) Hydrogen bond

34) Rosie is the

- (A) Transgenic Vaccine
- (B) Transgenic Plant
- ☒ (C) Transgenic Cow
- (D) Transgenic disease controller

35) Organisms breed only once in their lifetime.

- (A) Desert lizard
- (B) Oysters
- ☒ (C) Bamboo
- (D) Kangaroo rat

36) Select the statement which explains best parasitism.

- (A) Both the organisms are benefited
- (B) Both the organisms are affected
- (C) One organism is benefited, other is not affected
- ☒ (D) One organism is benefited, other is affected

37) The annual net primary productivity of the whole biosphere is approximately _____ (dry weight) of organic matter.

- (A) 150 billion tons
- ☒ (B) 170 billion tons
- (C) 190 billion tons
- (D) 210 billion tons

38) The pyramid of biomass in sea is generally.

- ☒ (A) Inverted
- (B) Upright
- (C) Linear
- (D) Cyclic

39) $\log S = \log C + Z \log A$ equation indicate

- (A) Biodiversity
- ✓(B) Species area relationships
- (C) Loss of biodiversity
- (D) Latitudinal gradient

40) The most important cause driving animals and plants to extinction is.

- (A) Over - exploitation
- ✓(B) Habitat loss and fragmentation
- (C) Alien species invasions
- (D) Co-extinctions

41) In India now ____ National parks and ____ wild life sanctuaries.

- ✓(A) 90 - 448
- (B) 75 - 348
- (C) 110 - 548
- (D) 90 - 248

42) _____ particulate size particles are responsible for causing the greatest harm to human health.

- (A) PM5
- (B) PM 10
- ✓(C) PM 2.5
- (D) PM 7

43) A sexual reproductive structure like gemmules are observed in _____.

- (A) Hydra
- (B) Penicillium
- ✓ (C) Sponges
- (D) Zoospora

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44) In Honeybees the female gamete undergoes development to form new organisms without fertilization is known as

- (A) Sexual reproduction
- ✓ (B) Parthenogenesis
- (C) Polyembryony
- (D) Parthenocarpy

45) In primate mammals cyclical changes occur during reproduction are called

- ✓ (A) Menstrual cycles
- (B) Menopause
- (C) Seasonal breeders
- (D) Continuous breeders

46) Pollen grains are well preserved as fossils because of the presence of _____

- (A) Pectin
- (B) Cellulose
- (C) Lignin
- ✓ (D) Sporopollenin

- 47) A typical angiosperm embryo sac, at maturity, though _____ is _____
- (A) 7 nucleate - 8 celled
 - ✓ (B) 8 nucleate - 7 celled
 - (C) 6 nucleate - 7 celled
 - (D) 7 nucleate - 6 celled
- 48) Some seeds such as black pepper and beet, remnants of nucellus persist is known as :
- (A) Non albuminous
 - ✓ (B) Perisperm
 - (C) Albuminous
 - (D) Pericarp
- 49) Testicular hormones like androgens are synthesized by
- ✓ (A) Leydig cells
 - (B) Sertoli cells
 - (C) Spermatogonia
 - (D) Spermatozoa
- 50) Which hormone is involved in induction of parturition?
- (A) Relaxin
 - ✓ (B) Oxytocin
 - (C) Progesterone
 - (D) Estrogen

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(Part - B)**Time : 2 Hours]****[Maximum Marks : 50****Instructions :**

- 1) Write in a clear legible handwriting.
- 2) There are three sections in Part - B of the question paper and total 1 to 18 questions are there.
- 3) All the questions are compulsory. Internal options are given.
- 4) The numbers at right side represent the marks of the question.
- 5) Start new section on new page.
- 6) Maintain sequence.

SECTION - A

■ Answer question No. 1 to 8 as directed. Each question carry 2 marks. [16]

- 1) Explain cell division during gamete formation.
- 2) Explain the structure of pollen grain.
OR
- 3) Explain the types of natural birth control method.
- 3) Explain vaccination and immunisation.
- 4) Explain co-dominance in human with example.
- 5) Write the Biochemical characterisation of Transforming principle in human.
- 6) Explain population growth.
- 7) Write Carbon Cycle.

8) Explain the three important levels of biodiversity.
OR

Noise pollution and its control.

SECTION - B

■ Answer question No. 9 to 14 as directed. Each question carry 3 marks. [18]

9) Give the important features of genetic code.

10) Explain Hardy-weinberg principle.

11) Explain innate immunity.

OR

Explain Plant breeding for improved food quality.

12) Explain Antibiotics.

13) Write the uses of G.M.O.

OR

Describe productivity as a unit of Ecosystem.

14) Describe any three causes of Biodiversity losses.

SECTION - C

■ Answer question No. 15 to 18 in detail. Each question carry 4 marks. [16]

15) Describe pregnancy and embryonic development.

16) What is point mutation? Describe it with example.

OR

Explain packaging of DNA Helix.

17) Describe Tissue culture.

18) Explain Restriction enzymes in detail. (Fig. is not necessary)

