

Guess Paper – 2011
Class – XII
Subject - Biology (Theory)

Time allowed: 3 hours

Mm:70

Instructions .

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|--|----|-----|-------|---|-------|----|
| 1 | Q- | 1-8 | CARRY | 1 | MARKS | EA |
| 2 Q- 9-18 CARRY 2 MARKS EACH | | | | | | |
| 3 Q 19-27 CARRY 3 MARKS EACH | | | | | | |
| 4 Q-28-30 CARRY 5 MARKS EACH | | | | | | |
| 5 Always draw neat and labelled digram whetther asked or not | | | | | | |
| 6 Give answer according to marks in order to save time.. | | | | | | |

SECTION – A

1. HOW THE SENSITIVITY OF THE TECHNIQUE "DNA FINGERPRINTING" CAN BE INCREASED ? 1
2. WHY THE PYRAMID OF BIOMASS IN SEA IS GENERALLY INVERTED?1
3. NAME THE FOLLOWING
 - A. IMMUNOGLOBIN ACTS AS MEDIATOR IN ALLERGIC RESPONSES
 - B. BIOLOGICAL RESPONSE MODIFIER WHICH HELPS IN DESTROYING TUMOR H(1/2 + 1/2)
4. DO EUKARYOTIC CELLS HAVE RESTRICTION ENDONUCLEASES?.JUSTIFY (1/2 +1/2)
5. NAME THE IMPROVED VARIETY OF RAPESEED MUSTARD THAT IS RESISTANT TO APHIDS. 1
6. STATE GAUSE'S COMPETITION EXCLUSION PRINCIPLE. 1
7. NAME ONE KEY CONCEPT OF DARWINIAN THEORY OF EVOLUTION OTHER THAN NATURAL SELECTION. 1
8. WHAT ARE SOMACLONES?.1

SECTION -B

- 9.GIVE THE SEQUENCES OF EVENTS IN"MULTIPLE OVULATION EMBRYO TRANSFER TECHNOLOGY PROGRAMME" FOR INCREASING THE HERD SIZE IN CATTLE(1/2 * 4 =2)
10. A. WHICH GROWTH MODEL IS CONSIDERED A MORE REALISTIC AND WHY?(1/2 +1/2)
 - B. NAME THE FOLLOWING
 1. SMALLER BARNACLES IS RESTRICTED BY SUPERIOR BARANACLE.....1/2
 2. WARBLERS LIVING ON SAME TREE CO-EXIST AND DO NOT COMPETE.....1/2
- 11 A. WHERE DOES REPLICATION OF EUKARYOTES TAKES PLACE IN CELL CYCLE WHAT WILL BE CONSEQUENCES IF THERE IS FAILURE OF CELL DIVISION AFTER DNA REPLICATION 1/2 + 1/2
 - B. GIVE ANY ONE REASON WHY BOTH THE STRANDS ARE NOT COPIED DURING TRANSCRIPTION 1
12. DEFINE TOTIPOTENCY . WRITE ANY TWO STEPS IN BREEDING A NEW GENETIC VARIETY.1/2 +1/2

OR

 - A. EXPAND MALT .1/2
 - B. WHAT IS SIGNIFICANCE OF MALT.1/2
 - C. NAME THE DIAGNOSTIC TEST FOR AIDS.1/2
 - D. WHAT IS THE PRINCIPLE OF IMMUNISATION 1/2
- 13 A.EXPAND PAR 1/2
 - B. NAME THE PIONEER SPECIES ORGANISMS ON BARE ROCK. IN WHICH ENVIRONMENT DO THEY GROW IN REFERENCE TO POLLUTION (1/2)
 - C.WHAT IS ROLE OF CFC'S IN OZONE DEPLETION .1
- 14 A. NAME ANY TWO PARASITIC SPECIES OF FRUIT WHICH CONTAIN LARGE NUMBER OF SEEDS.1
 - B. HOW POLLEN GRAINS CAN BE STORED FOR YEARS. (1/2)
 - C. WHY TAPETUM CELLS HAVE DENSE CYTOPLASMS(1/2)
- 15.HOW AND WHY IS BACTERIUM THERMUS AQUATICUS EMPLOYED IN RECOMBINANT DNA TECHNOLOGY.EXPLAIN.(2)
- 16 . CITE CASE OF CO-EVOLUTION WITH THE HELP OF AN EXAMPLE. (2)
17. A. DRAW WELL LABELED DIGRAM OF IMMUNOGLOBIN (ANY TWO LABELLING) 1

- B. HOW IS CANCEROUS CELL DIFFERENT FROM NORMAL CELLS.1
 18. A. WHY DISTANCE BETWEEN TWO POLYPEPTIDE CHAINS IN DNA REMAINS ALMOST CONSTANT. 1
 B REPRESENT CENTRAL DOGMA AND WHO PROPOSED IT.(1/2 +1/2)

SECTION-C

19. STUDY THE FOLLOWING FLOW CHART. NAME THE HORMONES INVOLVED AT EACH STAGE .EXPLAIN THEIR FUNCTIONS
 HYPOTHALMUS -----PITUITARY-----TESTES-----SPERM 3
20. A. DRAW STRUCTURE OF BACTERIOPHAGE WITH ATLEAST 2 LABELINGS.1
 B. WHAT ARE ACTIVATED SLUDGE. 1
 C. WHAT ARE BACULOVIRUSES . THEY ARE USED AS BIOLOGICAL AGENT IN THE GENUS..... (1/2 +1/2)
21. A. NAME THE CASE IN WHICH GENOTYPIC AND PHENOTYPIC RATIOS ARE SAME .DEMONSTRATE THE CROSS ?.WRITE THE SCIENTIFIC NAME OF FLOWER .(1/2 + 1 + 1/2)
 B.A DIPLOID ORGANISM IS HETEROZYGOUS FOR 4 LOCI , HOW MANY TYPES OF GAMETES CAN BE PRODUCED?. 1
22. IN WHAT REFERENCE FOLLOWING TERMS ARE USE.
 A. LUNGS OF PLANET 1
 B. THE EVIL QUARTET 1
 C. BIOPROSPECTING 1
- 23.A. WHY IT IS DIFFICULT TO PASS THROUGH CELL MEMBRANES?. HOW BACTERIAL CELL MADE ' COMPETENT' TO TAKE UP DNA(PLASMID).2
 B. EXPLAIN ANY OTHER METHOD BY WHICH AN ALIEN DNA CAN GAIN ENTRY INTO HOST CELL TO FORM RECOMBINANT DNA .1
- 24.EXPLAIN IN DETAILS
 A . SICKLE CELL ANAEMIA 2
 B. KLINEFELTER'S SYNDROME 1
- 25.A. GIVE THE SCIENTIFIC NAME OF PATHOGEN CAUSING MALIGNANT MALARIA IN HUMANS 1
 B NAME THE KIND OF CELLS THE HIV ATTACKS FIRST 1
 C. HOW DOES SPLEEN SERVES AS AN ORGAN OF IMMUNITY 1
26. A DRAW THE AGE PYRAMIDS FOR HUMAN POPULATION 1
 B . DEFINE CARRYING CAPACITY. 1
 C. WHAT IS 'r' in the equation $\frac{dn}{dt}=rn$ AND GIVE ITS SIGNIFICANCE..(1/2 +1/2).
27. A EXPAND UTR . AND GIVE ITS ROLE .1/2 + 1/2
 B. what is frameshift mutation alongwith example. 1
 c. how tailing and capping is done 1

SECTION -D

28. A. SHOW DIGRAMATICALLY THE STAGES OF EMBRYONIC DEVELOPMENT FROM ZYGOTE UTO IMPLANTATION IN HUMANS.3
 B. GIVE THE SCHEMATIC REPRESENTATION OF OOGENESIS 2
 OR
 A DRAW A 7-CELLED,8- NUCLEATE NATURE OF FEMALE GAMETOPHYTE. 2
 B. ZYGOTE IS DORMANT FOR SOMETIMES IN A FERTILISED OVULE . COMMENT 1
 C. CAN CROSS POLLINATION OCCUR IN CLEISTOGAMOUS FLOWERS JUSTIFY 1
- 29 HOW IS BT. COTTON PLANT PRODUCED?.EXPLAIN MECHANISM BY WHICH PLANT IS ABLE TO RESIST TO INFESTATION BY COTTON BALLWORMS . 5
 OR
 NAME ANY TWO CLONING VECTORS. DESCRIBE THE FEATURES REQUIRED TO FACILITATE CLONING INTO VECTOR. 5
- 30 .GIVE THE EXPERIMENTAL PROOF GIVEN BY MESELSON AND STAHL .IF ECOLI ALLOWED TO GROW FOR 80 MINUTES THEN WHAT WOULD BE THE PROPORTIONS OF LIGHT AND HEAVY DENSITIES DNA MOLECULE?..5
 OR
 EXPLAIN THE SWITCHING 'ON' AND 'OFF' OF LAC OPERON . WHAT IS MEANT BY NEGATIVE REGULATION...5

BEST OF LUCK FOR YOUR BOARD EXAMS.....

1) for solution please refer latest ncert book of biology class xii