

CAREER POINT
FACULTY SELECTION TEST
BIOLOGY

[Time : 1 Hr.]

[Max. Marks : 200]

INSTRUCTIONS :

1. Attempt all questions.
2. Indicate your answer on the question paper itself.
3. Each question has four options. Out of these only one is the correct answer.
4. Each correct answer carries +4 marks. for each wrong answer 1 marks will be deducted.

- Q.1** Select the number of **incorrect** statements
- (a) If variety of algal genus is high, the water body is less polluted
(b) Now 197 countries are following norms of Montreal protocol.
(c) Berlin mendate was the out come of COP-1 while Ministerial declaration of COP-2
(d) National forest policy suggested 33% forest on hills
(e) Temperate area face major forest loss in comparision to tropical countries
(f) CNG is green fuel while unleaded petrol is clean fuel
(g) Euro-IV will be operated in delhi + 11 cities from 2015
(h) Todays concentration of CO₂ in atmosphere is 392 PPM
(I) Kyoto protocol is extended upto 2015
- (1) 6 (2) 7 (3) 8 (4) 5
- Q.2** How many of the following statements are correct
- (A) India share 8.1% percent in global biodiversity
(B) Species diversity increase as we move away from equator towards poles
(C) Equator has 10 times more species of vascular plants than Midwest of USA
(D) Amazonian forest are consider as lungs of earth
- (1) 2 (2) 3 (3) 4 (4) 1
- Q.3** Tulip, Petunia, Potato, Tobacco, Chillli, Onion, Pea, bean, orchid, sunflower. How many of the following are having endospermic seed -
- (1) Six (2) Seven (3) Three (4) Five
- Q.4** How many of the following have multicellular sporophyte and gametophyte in their life cycle?
Spirogyra, Ficus, Ulothrix, Pinus, Cycas, Selaginella, Salvinia
- (1) Two (2) Four (3) Five (4) Seven
- Q.5** How many of the following have male and female reproductive organ in same plant ?
Sweet potato, Chara, Marchantia, Cycas, Pinus, Pea, Onion.
- (1) Six (2) Five (3) Seven (4) Four
- Q.6** Cells are the basic unit of life of all living organism is evidenced by -
- A. Most of cells are totipotent
B. Omnis cellula e cellula
C. Subcellular component can regenerate whole cell
D. Anything less than a complete cell ensure independent existance
- (1) A & B (2) A, B & D (3) A, B, C & D (4) A, B & C

Q.7 24 chromosome are present in a root tip cell. How many chromosome & DNA are present in dividing root tip cell after S-phase respectively -
 (1) 24 & 24 (2) 24 & 48 (3) 48 & 48 (4) 48 & 24

Q.8 A. Eukaryotes
 B. Polysaccharide cell wall present
 C. Sexual reproduction present
 D. Multicellular
 E. Phototrophs
 F. Heterotrophs
 How many of them are commonly present in plantae and fungi both -
 (1) Three (2) Four (3) Two (4) Five

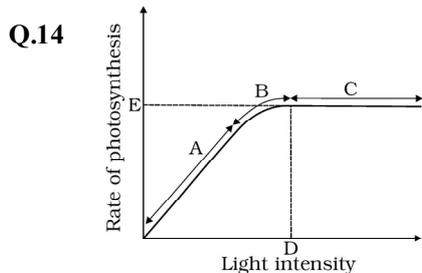
Q.9 The percentage of crossing over between
 ab – 20%, ac – 8%, bc – 28%
 The sequence of genes is -
 (1) a, b, c (2) b, a, c (3) a, c, b (4) b, c, a

Q.10 Significance of 'heat shock' method in bacterial transformation is to facilitate: -
 (1) Binding of DNA to the cell wall
 (2) Uptake of DNA through membrane transport proteins
 (3) Uptake of DNA through transient pores in the bacterial cell wall
 (4) Expression of antibiotic resistance gene

Q.11 How many of the following is present in monocot leaf?
 A. Water containing cavity
 B. Parenchymatous bundle sheath
 C. Reticulate venation
 D. Palisade tissue
 (1) Three (2) Two (3) One (4) Four

Q.12 Choose the incorrect statements –
 (1) N-bases (A, G, C, T, U) have heterocyclic rings
 (2) In cellular organisms DNA is genetic material
 (3) Adenylic acid is nucleoside
 (4) Cytidine is a nucleoside

Q.13 Select correct statements about mechanism of enzymes action
 I. Lowering the activation energy
 II. Competitive inhibitions are irreversible
 III. Isoenzymes acts on different substrates
 IV. Enzyme with high km value posses high rate of reaction
 V. Product may inhibits enzyme action reversibly
 (1) I and V (2) I and III (3) II, III, IV (4) III and IV



In given graph the light is limiting factor for the process of photosynthesis at point -
 (1) A (2) B (3) C (4) A and B

- Q.15** Select the correct statement :
- (1) Real image by convex mirror is always invert
 - (2) plane mirror always forms erect image
 - (3) concave mirror can forms real & virtual both types of image
 - (4) plane mirror forms diminished image
- Q.16** The zooflagellate which occurs as a symbiont in the intestine of wood cockroaches is
- (1) *Trichonympha campanula*
 - (2) *Trichomonas buccalis*
 - (3) *Lophomonas blattarum*
 - (4) *Zoochlorellae*
- Q.17** Read the following statements
- (i) Digestive system lacks a stomach
 - (ii) Intestine with a fold called typhlosole
 - (iii) Heart is two chambered, single median olfactory sac
 - (iv) Notochord persists throughout the life
- The above mentioned characters are of class
- (1) Cephalocordata
 - (2) Ostracodermi
 - (3) Cyclostomata
 - (4) Palaeognathe
- Q.18** Which of the following character is not associated with yellow bone marrow ?
- (1) Inactive vascular tissue in the long bones
 - (2) It has more fat cells
 - (3) Produces blood corpuscles in emergency
 - (4) During foetal life, it is distributed throughout the skeleton
- Q.19** If the cardiac impulse fails to be transmitted to the ventricle, leading to independent contraction of atria and ventricle it is called
- (1) Dysbarism
 - (2) Emphysema
 - (3) Adam's-Stoke syndrome
 - (4) Tay-Sachs disease
- Q.20** In man both secretin and cholecystokinin are secreted by intestinal mucous membrane for stimulation of
- (1) Stomach and liver
 - (2) Liver and duodenum
 - (3) Pancreas and gall bladder
 - (4) Pancreas and stomach
- Q.21** When air is drawn into lungs by lowering pressure around them as in most vertebrates, the mode of breathing is
- (1) Positive pressure breathing
 - (2) Negative pressure breathing
 - (3) Respiratory quotient
 - (4) Muscle pump
- Q.22** Troponin-tropomyosin complex prevents muscle contraction by preventing the formation of actomyosin complexes as it inhibits
- (1) Creating phosphate
 - (2) ATPase enzyme
 - (3) Titin protein
 - (4) Myosin binding site of actin protein
- Q.23** _____ is a narrow channel through which fluid in vestibular canal is continuous with that of tympanic canal of cochlea
- (1) Canal of schlemm
 - (2) Helicotrema
 - (3) Aqueduct of sylvius
 - (4) Tapetum lucidium
- Q.24** The power house of the sperm is called as _____
- (1) Nebenkern
 - (2) Manchette
 - (3) Myometrium
 - (4) Clinical perineum
- Q.25** Protonema of bryophytes resemble multicellular algae. It is evidence of
- (1) Anatomical evidences
 - (2) Paleontological evidence
 - (3) Inheritance of vestigeal structure
 - (4) Embryological evidence

Q.26 Match the following :

Column I	Column II
a. Pashmina	(i) Rabbit
b. Shahtoosh	(ii) Kashmiri goat
c. Hisardale	(iii) Cross breeding
d. Angora	(iv) Tibetan antelope
(1) a(i), b(ii), c(iii), d(iv)	(2) a(ii), b(iii), c(iv), d(i)
(3) a(iii), b(iv), c(i), d(ii)	(4) a(ii), b(iv), c(iii), d(i)

Q.27 Which of the following will be included under second generation vaccine ?

- (1) Diphtheria vaccine (2) DPT
(3) OPV (4) Hepatitis - B virus vaccine

Q.28 Transmission of HIV infection generally occurs by all **except**

- (1) Unprotected sexual contact with infected person
(2) Transfusion of contaminated blood from blood bank
(3) Sharing clothes, coughing and sneezing
(4) Sharing infected needles

Q.29 Inbreeding is necessary if we want to evolve a pure line in any animal. Inbreeding

- (1) Increases homozygosity
(2) Exposes harmful recessive genes that are eliminated by selection
(3) helps in accumulation of superior genes and elimination of less desirable genes
(4) All of these

Q.30 Penile urethra passes through

- (1) Between two corpora cavernosa
(2) Corpus spongiosum
(3) Between Corpora cavernosa and Corpus spongiosum
(4) Corpora cavernosa

Q.31 Choose the correct order of concentration of green house gases in atmosphere.

- (1) $\text{CO}_2 > \text{CFC} > \text{CH}_4 > \text{N}_2\text{O}$ (2) $\text{CH}_4 > \text{CFC} > \text{CO}_2 > \text{N}_2\text{O}$
(3) $\text{N}_2\text{O} < \text{CFC} < \text{CH}_4 < \text{CO}_2$ (4) $\text{N}_2\text{O} < \text{CH}_4 < \text{CFC} < \text{CO}_2$

Q.32 Which of the following is not a object of Rio convention held in 1992

- (1) Biodiversity conservation (2) Sustainable utilization of benefits of biodiversity
(3) Reduce emission of green house gases (4) Reduce ozone depleting substances

Q.33 Which of the following is true regarding flower

- A. Accessory whorl of flower are not helpful in reproduction
B. Bract are present at the base of pedicel
C. Monocarpellary unilocular ovary is present in coconut and mango
D. Epiphyllous stamen are present in tulip and petunia
(1) A, B, C & D (2) A, C (3) A & B (4) B & C

Q.34 Heterospory, autotrophic gametophyte, stem, leaf, seed, archegonia, antheridia, pollen grain, endosperm, strobilli
How many of the above mentioned character are present in Selaginella and cycas both -

- (1) Four (2) Five (3) Six (4) Seven

Q.35 Which of the following condition will only favour xenogamy ?

- (1) Monoecious (2) Monocliny (3) Dioecious (4) Cleistogamy

- Q.46** Mark the **incorrect** statement
- (1) Barbiturates bind to GABA receptors of nervous system and keep the chloride channels open for longer period
 - (2) Psychological dependence is present in case of stimulants
 - (3) Sedative lowers the physiological / functional activity
 - (4) Pethidine, Methadone are considered as natural opiates.
- Q.47** Complement system is of two types i.e. classic and alternative. Alternative pathway (Properdin system) functions in innate immunity. It is activated directly by the
- (1) Presence of bacterial endotoxins
 - (2) Microbial polysaccharide
 - (3) Microbe cell wall
 - (4) All of these
- Q.48** Female who cannot produce ova but can provide suitable environment for fertilization and further development should opt which of the following ART ?
- (1) IUDs
 - (2) GIFT
 - (3) ICSI
 - (4) IUI
- Q.49** Earlier DDT was very much effective in controlling the mosquito but later on it was ineffective against mosquitoes. According to Darwin's theory of evolution it is because of
- (1) DDT, induce the mutation and DDT resistant variety was produced
 - (2) Mosquito become resistant to DDT in accordance to time
 - (3) DDT resistant mosquito (already present in population) increased in population as these got advantage over DDT sensitive mosquito after the large scale use of DDT
 - (4) Quality of DDT was deteriorated in according to time
- Q.50** A species having two or more varieties or sub species is called
- (1) Sibling species
 - (2) Polytypic species
 - (3) Bio species
 - (4) Evolutionary species