



CFE-6801

Seat No. \_\_\_\_\_

B. Sc. (Sem. I) Examination

November - 2019

Foundation Compulsory English

(Fantasy : A Collection of Short Stories)

Time : 2.00 Hours]

[Total Marks : 35

1 (a) Narrate the story "The Thief" of Ruskin Bond in your own words. 8

OR

(a) Discuss how Schatz's father looked after the sick boy and removed his fear of death. 8

(b) Answer in brief any five of the following : 10  
(1) Where was Joe working ? What did he tell his wife ?  
(2) Why did Joe and Delia try to hide their secrets from each other ?  
(3) What did Arun ask the boy to do ?  
(4) Why was Sher Singh called 'Bahadur' ?  
(5) Why did Sher Singh think his brother was dying ?  
(6) How old was Vera ? What kind of a young lady was she ?  
(7) What did Framton try to do ?  
(8) What picture of doctor do you get from manner in which he talks to Schatz's father ?

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1

[ Contd...

2 Fill in the blanks from the options given below : 10

(any ten)

(1) Wood \_\_\_\_\_ on water.

(floating / is floating / floats)

(2) When the boys \_\_\_\_\_ the match, it suddenly started raining.

(were playing / played / have played)

(3) We \_\_\_\_\_ again next week.

(met, shall meet, have met)

(4) Sonu \_\_\_\_\_ already \_\_\_\_\_ part in the 'Navaratri Festival' organized by Government

of Gujarat.

(will take / has taken / had taken)

(5) Aditya \_\_\_\_\_ a song at present.

(sings / is singing / sang)

(6) Riya \_\_\_\_\_ a picture since 3 p.m.

(painted / has been painting / had painted)

(7) \_\_\_\_\_ Samyak ever been to Switzerland.

(Have / Has / Had)

(8) Abhigna \_\_\_\_\_ not play cricket everyday.

(do / is / does)

(9) \_\_\_\_\_ come for the wedding.

(Have / Has / Do)

(10) Please, give me \_\_\_\_\_ glass of water.

(a / an / the)

(11) Read \_\_\_\_\_ first line of the letter.

(a / an / the)

(12) Virat Kohli is \_\_\_\_\_ excellent player.

(a / an / the)

3 Read the following passage carefully and answer 7 the questions that follow:

In Kerala, Onam is a very popular festival. It comes in the month of August. The people of Kerala celebrate it with great joy. They remember their dear King Mahabali on that day. King Mahabali was a very just king. He was also very kind. He was a very popular king. The people loved and worshipped him like a God. The Gods did not like this. They took away his kingdom and turned him out of his kingdom. But the king said "Please, allow me to see my people." The gods granted his wish so he visits his people once a year. The people celebrate his visit as Onam. They decorate their houses with a special decoration called Kolam. Kolam is rangoli of flowers. There is a special items for the feast it is called payasam. In the evening at some places, there are mock-fighting and boat-races in the rivers. All have a happy time.

**Questions :**

- (1) What is Onam ? Where and how is it celebrated ?
- (2) Whom did people remember on this day ? Why ?
- (3) Why did the Gods take away king Mahabali's kingdom ?
- (4) What was king Mahabali's wish ? Did the gods grant it ?
- (5) What sport do people have on the day of Onam ?



CFE-6803

Seat No.

B. Sc. (Sem. I) Examination

November - 2019

Chemistry : CC CH - 101

(New Course)

Time : 2 1/2 Hours

Total Marks : 70

સરનામી : પ્રશ્ન ૧ અને ૩ માં ૧૮, ૧૮ ગુણ અને પ્રશ્ન ૨ અને ૪ માં ૧૭, ૧૭ ગુણ છે. કુલ ગુણ ૭૦ છે.

1 ગણ તે ભાગે જવાબ આપો :

18

(1) V.S.E.P.R. સિદ્ધાંતના આધારે  $H_2O$  અણુનું બંધારણ ચર્ચો.

(2) તકતવ લખો : બંધકારક અને પ્રતિબંધકારક આણ્વીય કક્ષક.

(3) લેન્ડનાઈડ સંક્રમણ અને તેની અસરો સમજાવો.

2 ગણ તે ભાગે જવાબ આપો :

17

(1) ઈલેક્ટ્રોન અનુરણાણ સંદર્ભે સ્વયંચાલિત પ્રક્રિયાઓની શ્રેણી લખો.

(2) નાઈટ્રોલોહિડ્રોજનમાં જોવા મળતા વિવિધ સંસ્કરણ સૂચો દોરો.

(3) અનુનાદક સિદ્ધાંતની મહત્વની ધારણાઓ આપો તથા ઈલેક્ટ્રોનિક્સ સંદર્ભે સમજાવો.

3 ગણ તે ભાગે જવાબ આપો :

18

(1) સમાજીય વિસ્તરણ દર્શાવવાનું આદર્શ વાક્ય લખી કહેવા કર્યું માટેની સમીકરણો ઉપજાવો.

(2)  $\Delta G^\circ = -RT \ln K$  સૂચો તારવો.

(3) ઉચ્ચાણીય શાશ્વતતાના ભીજા નિયમનું વિવિધ ધોરણે નિરૂપણ કરો.

4 ગણ તે ભાગે જવાબ આપો :

17

(1) ટિટ્રેશન સમયે ઈન્ડિકેટરની પસંદગી કરવાની શરતો લખો.

(2) સામાન્ય શરતોમાં આયોનિક સંતુલનના સંબંધે સમીકરણો લખો.

(3) આયોનિક સંતુલનના સંબંધે સમજાવો.

[૦૩]

1

[Contd...]

(૧) આયોનિક સંતુલનના સંબંધે સમજાવો.

(૨) સામાન્ય શરતોમાં આયોનિક સંતુલનના સંબંધે સમજાવો.

(૩) ટિટ્રેશન સમયે ઈન્ડિકેટરની પસંદગી કરવાની શરતો લખો.

ENGLISH VERSION

Instruction : Q No. 1 and 3 each carries 18 marks and Q No. 2 and 4 each carries 17 marks. Total 70 marks.

1 Write any two :

- (1) Discuss the structure of  $H_2O$  molecule according to V.S.E.P.R. theory.
- (2) Give difference : Bonding and Anti-bonding orbitals.
- (3) Explain the lanthanide contraction and its effects.

2 Write any two :

- (1) Explain the Mechanism of Electrophilic Aromatic Substitution reactions.
- (2) Draw the reasoning structures for Nitrobenzene.
- (3) Give the important points of resonance theory and give resonance structure of phenoxide ion.

3 Write any two :

- (1) Calculation of work done of ideal gases under adiabatic condition.
- (2) Derive the formula  $\Delta G^\circ = -RT \ln K$ .
- (3) Represent the second law of thermodynamics by various ways.

4 Write any two :

- (1) What is error ? Explain its types.
- (2) Discuss advantage and limitations of Chemical and Instrumental methods.
- (3) Explain : Accuracy and precision.



CFE-6812

Seat No. \_\_\_\_\_

B. Sc. (Sem. I) Examination

November - 2019

SE - CH - 101 : Agricultural Chemistry

(Elective - A)

Time : 2 Hours]

[Total Marks : 35

1 (अ) नीचे दी गई प्रश्नों का उत्तर दीजिए।

(1) डिटर्जेंट साबुन में क्या भूमिका है?

(2) डिटर्जेंट साबुन में क्या भूमिका है?

(ब) नीचे दी गई प्रश्नों का उत्तर दीजिए।

(1) डिटर्जेंट साबुन में क्या भूमिका है?

(2) डिटर्जेंट साबुन में क्या भूमिका है?

(3) डिटर्जेंट साबुन में क्या भूमिका है?

2 (अ) नीचे दी गई प्रश्नों का उत्तर दीजिए।

(1) BHC क्या है?

(2) DDT क्या है?

(ब) नीचे दी गई प्रश्नों का उत्तर दीजिए।

(1) डिटर्जेंट साबुन में क्या भूमिका है?

(2) डिटर्जेंट साबुन में क्या भूमिका है?

(3) डिटर्जेंट साबुन में क्या भूमिका है?

3 (अ) नीचे दी गई प्रश्नों का उत्तर दीजिए।

(1) डिटर्जेंट साबुन में क्या भूमिका है?

असुर क्या है?

(2) नीचे दी गई प्रश्नों का उत्तर दीजिए।

नमकीन क्या है?

Mo, P, Ca, B, N, S, K, Fe

(3) डिटर्जेंट साबुन में क्या भूमिका है?

प्रश्न।

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1

[ Contd...

- (4) નકાશન અને નોટશનકારકની આણ્વીય વજનો આપો.
- (5) ક્લોરોફોર્મ અને કાર્બોફોસ્ફેટ ઝેરનાશકોની એક એક નામ આપો.
- (ખ) નીચેનામાંથી બે બે ધાતુના જવાબ આપો : 5
- (1) કૃત્રિમ રંગ દર્શાવતી આણ્વીય સૂત્ર છે.
- (A)  $Ca_3(PO_4)_2$  (B)  $CaPO_4$  (C)  $Ca(PO_4)_2$  (D)  $Ca_2(PO_4)_3$
- (2) IFPCO ગ્રાહકમાં \_\_\_\_\_ માટે આવે છે.
- (A) અમરબાર (B) સુરત (C) ભાવનગર (D) કલોલ
- (3) એ જળવાયુ સૂત્ર છે.
- (A)  $CO + H_2$  (B)  $NO + H_2$  (C)  $CH_4 + H_2$  (D)  $NO + H_2O$
- (4) હાલ રાષ્ટ્રીય આયોજનમાં સંલેખણમાં \_\_\_\_\_ અથવા \_\_\_\_\_ ધાતુ વપરાય છે.
- (A) Fe, Mo (B) Pt, Rh (C) Cu, Co (D) Ni, Zn
- (5) ઉપરોક્ત છે.
- (A) બે-બેલક એલિસ (B) એલિસ એલિસ (C) બેલક એલિસ (D) નોન-બેલક એલિસ
- (6)  $\gamma$ -HCH છે.
- (A) હીમ (B) લેડન (C) રૂકન (D) ફોસ્ફોન
- (7) નીચેનામાંથી કયા પ્રકારક મૂલ્યો આપના સંલેખણમાં વપરાય છે ?
- (A) બેલક એલિસ (B) બે-બેલક એલિસ (C) ક્લોરોબેન્ઝન (D) ગાઈપ્રોલ મૂલક
- (8) એ મુખ્ય ધાતુ તરીકે આરબ દેશમાં આયોજનમાં આપવામાં આવે છે.
- (A) Fe (B) Pt (C) Cu (D) Mo

ENGLISH VERSION

1 (A) Attempt any **one** out of two : 6

- (1) Write a note on Phosphate fertilizers.
- (2) Give the comparison of natural and synthetic fertilizers.

(B) Attempt any **two** out of three : 6

- (1) Explain : Fertilizers from Naphtha.
- (2) Describe : Urea fertilizer.
- (3) Describe in short : Mixed Fertilizers. ?

2 (A) Attempt any **one** out of two : 6

- (1) Write a note on BHC.
- (2) Write a note on DDT.

(B) Attempt any **two** out of three : 6

- (1) Write a short note on Inorganic insecticides.
- (2) Write a short note on External Insecticides and Fumigants.
- (3) Explain : Malathion.

3 (A) Attempt any **three** out of five : 6

- (1) Impacts on plants due to the deficiency of Nitrogen and Potassium.
- (2) Classify the following elements according to primary, secondary and micro-nutrients.

Mo, P, Ca, B, N, S, K, Fe

- (3) Write the chemical reaction for Calcium Cyanamide synthesis.
- (4) Give the molecular structures of Nicotine and Nicototine.
- (5) Give a single name of chlorinated and organophosphate insecticide.



- (B) Attempt any five out of eight :
- (1) Molecular formula of Calcium metaphosphate is
    - (A)  $Ca_3(PO_4)_2$
    - (B)  $CaPO_4$
    - (C)  $Ca(PO_4)_2$
    - (D)  $Ca_2(PO_4)_3$
  - (2) IFFCO is located at \_\_\_\_\_ in Gujarat.
    - (A) Ahmedabad
    - (B) Surat
    - (C) Bhavnagar
    - (D) Kaloj
  - (3) \_\_\_\_\_ is a formula of water gas.
    - (A)  $CO + H_2$
    - (B)  $NO + H_2$
    - (C)  $CH_4 + H_2$
    - (D)  $NO + H_2O$
  - (4) \_\_\_\_\_ or \_\_\_\_\_ metal is used for ammonia synthesis in the Haber process.
    - (A) Fe, Mo
    - (B) Pt, Rh
    - (C) Cu, Co
    - (D) Ni, Zn
  - (5) \_\_\_\_\_ is used for internal poison for Cockroaches.
    - (A) Benzoic acid
    - (B) Acetic acid
    - (C) Boric acid
    - (D) Nitric acid
  - (6) \_\_\_\_\_ is a 99%  $\gamma$ -Hexachlorocyclohexane ( $\gamma$ -HCH).
    - (A) Ethane
    - (B) Lindane
    - (C) Decane
    - (D) Phosphine
  - (7) Which is the following reactant is used in the synthesis of Malathion?
    - (A) Phthalic acid
    - (B) Benzene
    - (C) Chlorobenzene
    - (D) Diethyl maleate
  - (8) \_\_\_\_\_ metal is mainly used in Ostwald process for the oxidation of Ammonia.
    - (A) Fe
    - (B) Pt
    - (C) Cu
    - (D) Mo



- (4) મહત્તમ ઊંચ સંક્રમણ માટે R \_\_\_\_\_ લેવા. RL
- (3) 1 kΩ ની અવરોધ તથા 0.1 H ની ઈન્ડક્ટર ભેટની સાથે જોડતા 100 mA પ્રવાહ મળે છે તો ભેટની પ્રવાહ \_\_\_\_\_ થાય.
- (2) L-R પરિપથમાં ચાર્જિંગ અને ડિચાર્જિંગ દરમિયાન કુલ પરિપથમાં પ્રવાહ \_\_\_\_\_ લેવા.
- (1) R-C પરિપથમાં કેપેસિટર સંપૂર્ણ ચાર્જ થઈ જાય ત્યારે નીચેનામાંથી કયું તે સંક્રમણ જવાબ લખો :  
 ઈન્ડક્ટરની ક્રમત શોધો.
- (2) R-C પરિપથની સમય અચળાંક 0.003 sec છે જે 80Ω ની અવરોધ શ્રેણીમાં જોડવામાં આવે ત્યારે સમય અચળાંક થતી 0.005 sec થાય છે તો અવરોધ અને R-C પરિપથમાં કેપેસિટર કેટલા સમય લાગે ?
- (1) R-C પરિપથમાં  $\frac{C_0}{\sqrt{2}}$  જેટલા વિદ્યુતભાર કેપેસિટર પર જમા થવા માટે કેટલા સમય લાગે ?
- (2) આટલા L-C વીજ પરિપથ પર કેટલા સમય લખો. સમજાવો.
- (1) શરૂઆત પ્રથમ લખો અને યોગ્ય ઉદાહરણ આપો.
- (અ) નીચેનામાંથી કયું તે સંક્રમણ જવાબ લખો :  
 2
- (3) આક્રમણ યોગ્ય ઉદાહરણ આપો અને સમજાવો. જવાબો શોધો.
- (2)  $\vec{F} = (x + y)\hat{i} + (y - x)\hat{j} - 2z\hat{k}$  ની Curl માટે વિદ્યુતભાર શોધો.
- (1) એક વિદ્યુતભારમાં વિદ્યુતભારિતતાનું  $V(x, y, z) = -5x^3 + 3y$  જણાવો.
- (3) નીચેનામાંથી કયું તે સંક્રમણ જવાબ લખો :  
 4



ENGLISH VERSION

- 7 (A) Write answer of any one :  
 (1) State and prove Gauss divergence theorem.  
 (2) Explain cyclic property in scalar triple product.
- 4 (B) Write answer of any one :  
 (1)  $\vec{F} = (3x + 4y)\hat{i} + (6y - z)\hat{j} + (x - z)\hat{k}$  calculate  $\text{div } \vec{F}$   
 (2) Prove that  $\nabla(\nabla \times A) = -\nabla^2 A \times \nabla(\nabla \cdot A)$
- 3 (C) Write answers of any three :  
 (1) If linear velocity  $\vec{v}$  and linear momentum  $\vec{p}$  of a particle then  $\vec{v} \times \vec{p}$  \_\_\_\_\_  
 (2) Two simple harmonic motions acting upon a particle simultaneously at right angles to each other's phase is  $\alpha$  write the motion path if  $\sin \alpha = 0$  and  $\cos \alpha = 1$ .  
 (3) Dot product of three unit vector is \_\_\_\_\_
- 4 (D) Write answers of any two :  
 (1) If an electric field have potential  $V(x, y, z) = -5x^3 + 3y$  find the electric field.  
 (2)  $\vec{F} = (x + y)\hat{i} + (y - x)\hat{j} - 2z\hat{k}$  find the Curl.  
 (3) Write four properties of dot product and cross product.

- 2 (A) Write answer of any one :
- (1) Write Thevenin's theorem with example
- (2) Write a short note on ideal L-C circuit.
- (B) Write answer of any one :
- (1) In an R-C circuit how much charge  $Q_0/\sqrt{2}$  deposits on the capacitor ?
- (2) The time constant of the R-C circuit is 0.003 sec. Now when the resistance of  $80\Omega$  is connected in series, the time constant is reduced to 0.005 sec. Find the value of the resistance and the inductor?
- (C) Write answers of any three :
- (1) When the capacitor is fully charged in the R-C circuit, the flow in the circuit is \_\_\_\_\_
- (2) The total flow during charging and discharging in the L-R circuit is \_\_\_\_\_
- (3) If  $1k\Omega$  of impedance and 100 mA current are connected to the inductor battery of 1.0 H then the battery voltage is \_\_\_\_\_
- (4) For maximum energy transfer RL R \_\_\_\_\_
- (D) Write answers of any two :
- (1) Write the limitation of the Thevenin theorem.
- (2) Write the statement of superposition theorem.
- (3) Define time constant.
- 3
- 4
- 6

- is 40 J.
- is 20 and the work done on the system
- refrigerator function if its efficiency factor
- Find the amount of heat absorbed by the
- (2) is melting at  $-3^{\circ}\text{C}$  ?
- (1) What is the required pressure if the ice
- 4 Write answer of any one : (D)
- performance coefficient is \_\_\_\_\_
- (4) The value of common refrigerator
- (3) Which gas is used in cooling of refrigerator ?
- refrigerator ?
- (2) How much is the value of  $\beta$  for
- entropy  $\times$  \_\_\_\_\_
- (1) Heat obtained or subtracted = change of
- 3 Write answers of any three : (C)
- vapour at  $100^{\circ}\text{C}$ .
- 3 gm of ice at  $-10^{\circ}\text{C}$  is changed in
- (2) Find the change in an entropy when
- power for a 100 watt ( $\beta = 3$ ).
- (1) If refrigerator efficiency factors 100% and 65% are working then calculate the
- 4 Write answer of any one : (B)
- scale of Temperature.
- (2) Write note on Kelvin Thermodynamic
- to temperature and volume.
- (1) Define the entropy and obtain the change
- 3 Write answer of any one : (A)
- 7

- 4 (A) Write answer of any one :  
 (1) Explain full wave rectifier and derive its formula.  
 (2) Draw the circuit diagram of common base transistor to get static characteristics of it; discuss its characteristics.
- 4 (B) Write answer of any one :  
 (1) If common base transistor has  $\alpha = 0.98$ ,  $I_E = 1.5 \text{ mA}$  and  $I_C = 2 \text{ mA}$ , find collector base leakage current.  
 (2) Explain the loadline.
- 3 (C) Write answers of any three :  
 (1) What is the value of TUF in full wave rectifier ?  
 (2) Explain transformer utility factor.  
 (3) For maximum load current filter is effective.
- 4 (D) Write answers of any two :  
 (1) Explain the peak inverse voltage for the half wave rectifier.  
 (2) Explain  $V_{dc}$  for a half wave rectifier.  
 (3) Explain the operating point for the transistor.





CFE-6807

Seat No. \_\_\_\_\_

B. Sc. (Microbiology) (Sem. I) Examination

November - 2019

MB-01 : Fundamentals of Microbiology

Time :  $2\frac{1}{2}$  Hours]

1 (A) Answer the following questions in brief : 14

(Any Two)  
(1) Enlist scientists involved in Biogenesis and Abiogenesis

(2) Golden era of Microbiology

(3) Applications of Microbiology in various fields

(4) Discovery of viruses

(B) Do as directed : (Any Four)

(1) Define : Microbiology

(2) \_\_\_\_\_ is the father of Microbiology?

(A) Anton van Leeuwenhoek

(B) Edward Jenner

(C) Robert Koch

(D) Louis Pasteur

(3) Give Contribution of Anton Van Leeuwenhoek

(4) Give Contribution of Alexander Flemming

(5) Give Contribution of Iwanowsky

(6) Spontaneous generation support

(A) Biogenesis

(B) Abiogenesis

(C) Neither of above

(D) Both (A) and (B)

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1

[ Contd..

- (1) Write details on Application of Dark field and Bright field microscopy
- (2) Fluorescence Microscopy
- (3) Explain simple staining
- (4) Give the difference between Scanning and Transmission Electron Microscopy

3 (A) Answer the following questions in brief : (Any Two) 14

- (1) Define : Sterilization
- (2) Mention time and temperature required for Autoclave
- (3) Give the use of incubator in Microbiology laboratory
- (4) Mode of action of UV Light
- (5) Do as directed : (Any Three)

3

- (1) Enlist methods used in physical sterilization
- (2) Explain Phenol coefficient
- (3) Explain role of any two chemicals from the following in the sterilization Alcohol, Aldehyde, Phenol, Halogen
- (4) Enlist radiation methods used in sterilization and explain any one of them
- (1) Write detailed note on Autoclave

2 (A) Answer the following questions in brief : (Any Two) 14



CFE-6818

Seat No. \_\_\_\_\_

First Year B. Sc. (Sem. I) Examination

November - 2019

Microbiology : MBEL

(Introduction to Cell Biology)

(Elective)

[Total Marks : 55 Time : 2 Hours]

1 (A) Answer the following : (Any One) 6

(1) Draw a labelled diagram of bacterial cell.

(2) Give differences between animal cell and plant cell.

6 (B) Answer the following in short : (Any Two) 6

(1) Define : Prokaryotes and give two names of the bacteria.

(2) Names of the two products obtained from Yeasts.

(3) Define : Mycology and Bacteriology.

2 (A) Answer the following : (Any One) 6

(1) Give the economic importance of Protozoa.

(2) Write a general characteristic of Algae.

CFE-6818 ]

1

[ Contd...

- (B) Answer the following in short : (Any Five) 5
- (1) Which microorganism is used for Bread making?
  - (2) Who discovered penicillin?
  - (3) All animal cells are Eukaryotic. (True/False)
  - (4) Which part of prokaryotic cell contains genetic information?
  - (5) What is the function of flagella?
  - (6) Which part of the plant cell is known as powerhouse of the cell?
  - (7) Give the name of solidifying agent.
  - (8) Define phycoerythrin.
- (A) Answer the following : (Any Three) 6
- (1) Draw a labelled diagram of plant cell.
  - (2) Give two general characteristics of virus.
  - (3) Give two examples of mold.
  - (4) Give two differences between prokaryotes and eukaryotes.
  - (5) Give two examples of Antibiotics.
- (B) Answer the following in short : (Any Two) 6
- (1) Define Virus.
  - (2) Give two examples of protozoa.
  - (3) Give two economic importance of algae.



CFE-6813

Seat No. \_\_\_\_\_

B. Sc. (Sem. I) Examination

ESBOT - 111 : Botany

(Plant Tissue Culture)

November - 2019

Time : 2 Hours

[Total Marks : 35

સૈવાળી :

- (૧) તમામ પ્રશ્નો કરીજવામાં છે.
- (૨) જમણી બાજુએ દર્શાવેલ એક માફસ દર્શાવેલ છે.
- (૩) પ્રશ્નોની જવાબમાં જરૂર જણાય ત્યાં આકૃતિ દોરવી.

(અ) નીચેના પ્રશ્નોની ઉત્તરો વર્ણવો : (૦૫ ને એક)

- (૧) વનસ્પતિ પેશીય સંવર્ધનમાં વ્યરોના વજન કારણેના વાજ્ય પ્રકારો વર્ણવો.
- (૨) વર્ણવો : લીંપનનાર એર કલો.

(બ) નીચેના પ્રશ્નોની ઉત્તરો આપો : (૦૫ ને એક)

- (૧) જ્યેષ્ઠક્રમ કસવાની પદ્ધતિ વર્ણવો.
- (૨) પેશીય સંવર્ધનની તકી જણાવો.

(અ) નીચેના પ્રશ્નોની ઉત્તરો વર્ણવો : (૦૫ ને એક)

- (૧) નીચેના પ્રશ્નોની ઉત્તરો આપો : (૦૫ ને એક)
- (૨) આપોડીક્ટનીબોલી પદ્ધતિઓની ઘણીયો ઘણીયો વનસ્પતિ સંવર્ધનમાં વર્ણવો.

(બ) નીચેના પ્રશ્નોની ઉત્તરો આપો : (૦૫ ને એક)

- (૧) સૈકમ સંવર્ધનની,, શૈન્ન પદ્ધતિ,, અને સંવર્ધનની,, સંવર્ધનની,,
- (૨) ક્રમસરની વર્ણવો

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[ Contd...

- Instructions :** (1) All questions are compulsory.  
 (2) Right side figures indicate marks.  
 (3) Draw labelled diagrams if necessary.
- I (A)** Answer the following questions : (Any One) 8
- (1) Describe the types of Balances used in Tissue Culture.
  - (2) Describe: Laminar Air Flow
- (B)** Answer the following questions : (Any One) 4
- (1) Explain: Methods of Sterilization.
  - (2) Write a note on: Scope of Plant Tissue Culture.

### ENGLISH VERSION

- 3
- (अ) निम्नलिखित प्रश्नों का उत्तर दीजिए : (कोई भी एक)
- (1) तissue culture में किस प्रकार के बलances का उपयोग किया जाता है।
  - (2) लैमिनार एयर फ्लो का वर्णन कीजिए।
  - (3) पौधों की संरक्षण के लिए किस प्रकार के बलances का उपयोग किया जाता है।
  - (4) तissue culture में किस प्रकार के बलances का उपयोग किया जाता है।
  - (5) लैमिनार एयर फ्लो का वर्णन कीजिए।
- 2
- (ब) निम्नलिखित प्रश्नों का उत्तर दीजिए : (कोई भी एक)
- (1) पौधों की संरक्षण के लिए किस प्रकार के बलances का उपयोग किया जाता है।
  - (2) लैमिनार एयर फ्लो का वर्णन कीजिए।
  - (3) पौधों की संरक्षण के लिए किस प्रकार के बलances का उपयोग किया जाता है।
  - (4) तissue culture में किस प्रकार के बलances का उपयोग किया जाता है।
  - (5) लैमिनार एयर फ्लो का वर्णन कीजिए।

2 (A) Answer the following questions : (Any One) 8

(1) Describe : Cell Suspension Culture

(2) Explain: Biotechnological Methods for

Plant Improvement.

(B) Answer the following questions : (Any One) 4

(1) Explain "Zero" stage and "Initiation of

Culture" stage in Micropropagation.

(2) Write a short note: Protoplast Fusion.

3 (A) Answer the following questions : (Any Three) 9

(1) Cleaning in Tissue Culture

(2) Write a note on culture room preparation

in Plant Tissue Culture.

(3) Write a short note: Mannal pH meter.

(4) Isolation of Protoplast.

(5) Shoot Multiplication.

(6) Describe the Types of Suspension

Culture.

(B) Do as directed : (Any Two) 2

(1) Give the formula of pH

(2) Define: Culture Rack

(3) Give the full form: IBA

(4) Give any two names of Antibiotic.



CFE-6805

Seat No. \_\_\_\_\_

B. Sc. (Sem. I) Examination

November - 2019

Botany : CC-BOT-111

(Cell Biology, Cryptogams, Plant Anatomy, Environmental Biology)

Time :  $2\frac{1}{2}$  Hours

Total Marks : 70

સૂચના :

- (૧) આ પ્રશ્નપત્રમાં કુલ ચાર પ્રશ્નો છે.
- (૨) બધા જ પ્રશ્નો કર્તવ્યપાત છે.
- (૩) જમણી બાજુ દર્શાવેલ એક ગણ દર્શાવે છે.
- (૪) પ્રશ્નના જવાબમાં જરૂર જણાય ત્યાં આકર્ષિત દોરવી.

૧

(અ) સંવિસ્તર વર્ણવો : (૦૫ ને એક)

- (૧) ટોચોટોની સૂચના સંરચના
- (૨) પ્રોકાર્યોટીક કોષ આકર્ષિતસર વર્ણવો.

(બ)

મીઠા પ્રમાણે કરો : (૦૫ ને એક)

- (૧) સમજાવો : લાઝમીડીઆટા
- (૨) વર્ણવો : કોષકેન્દ્રની કયા

૭

(ક)

મીઠા પ્રમાણે એક-બે વાક્યોમાં જવાબ આપો : (૦૫ ને એક)

- (૧) કોષરસ એટલે શું ?
- (૨) કોલોકરની કોષવાકમાં કળા જણાવો.
- (૩) સીધા મીઠા પ્રમાણે કોષ અને વનસ્પતિકોષનું ઉદાહરણ જણાવો.
- (૪) કયા વાઉસ ભૂકટીયોટીકોષ વાઉસ તરીકે ઓળખાય છે ?
- (૫) SAT - ટોચોટો એટલે શું ?

૩

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(અ) સંવિસ્તર વર્ણવો : (૦૫ ને એક)

- (૧) આયરોપ્લાસ્ટના લીલાશ પાટીય સંયુગ્મન
- (૨) આકરમાં લિંગી પ્રજનન

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[ Contd...



(4) ਅਭਿਆਸ ਕਰੋ ;  
 (2) ਪ੍ਰਾਇਮਰੀ ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (3) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (5) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
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 (2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (5) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (3) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (5) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

(2) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (6) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;  
 (4) ਸਿੱਖਿਆ ਦੇ ਖੇਤਰ ਵਿੱਚ ;

ENGLISH VERSION

Instructions :

- (1) There are total four questions in this paper.
- (2) All questions are compulsory.
- (3) Right side numbers indicate marks.
- (4) Draw a labelled diagram if necessary in answer.

1 (a) Describe in details : (any one) 8

- (1) Ultra structure of chromosome.
- (2) Describe prokaryotic cell with diagram.

(b) Do as directed : (any one) 7

- (1) Explain : Plasmodesmata
- (2) Describe : Function of nucleus.

(c) Give the answer as directed in one or two sentences : (any three) 3

- (1) What is Cytoplasm ?
- (2) Mention the role of Kolliker in cell theory.
- (3) Give the example of largest animal cell and plant cell.
- (4) Which virus is known as a bacteriophage virus ?
- (5) What is SAT-Chromosome ?

2 (a) Describe in details : (any one) 8

- (1) Indirect lateral conjugation in spirgyra algae.
- (2) Sexual reproduction in Mucor.

(b) Do as directed : (any one) 6

- (1) Economic importance of fungi
- (2) Cell structure of spirgyra.

(c) Give the answer as directed in one or two sentences : 3

- (1) What is Eucarpic thallus ?
- (2) What is phycology ?
- (3) Write the classification of spirgyra algae.
- (4) Kombu dish is made from which algae ?
- (5) Mention the species of Mucor that pollute the air.

- (1) Mention the first law of Shimper.
  - (2) What is Biotic Factors ?
  - (3) What is Transformers ?
  - (4) What is Ecological Backlashes ?
  - (5) What is Predation ?
- (c) Give the answer as directed in one or two sentence : 3

- (1) Explain : Micro Consumers.
  - (2) Significance of Ecology for human.
- (b) Do as directed : (any one) 6

- Ecosystem.
- (1) Effect of light in plant.
  - (2) What is Ecosystem ? Explain the types of Ecosystem.
- (a) Describe in details : (any one) 8

- (1) What is Meristematic Tissue ?
  - (2) Mention the position and function of sclereids.
  - (3) What is Logging ?
  - (4) Mention the function of periderm.
  - (5) What is Bulliform Cell ?
- (c) Give the answer as directed in one or two sentences : (any three) 3

- (1) Explain : Collenchyma tissue.
  - (2) Explain : Types of Stomata.
- (b) Do as directed : (any one) 7

- (1) Epidermal outgrowth
  - (2) Component of phloem tissue.
- (a) Describe in details : (any one) 8



CFE-6803

B. Sc. (Sem. I) Examination

November - 2019

Chemistry : CC CH - 101

(New Course)

Seat No. \_\_\_\_\_

[Total Marks : 70

Time :  $2\frac{1}{2}$  Hours]

સૂચના : પ્રશ્ન ૧ અને ૩ માં ૧૮, ૧૮ ગણ અને પ્રશ્ન ૨ અને ૪ માં ૧૭, ૧૭ ગણ છે. કુલ ગણ ૭૦ છે.

1 ગણ તે જવાબ આપો :

(1) V.S.E.P.R. સિદ્ધાંતની આધારે  $H_2O$  અણુનું બંધારણ ચર્ચા કરો.

(2) તકાવત લખો : બંધકારક અને પ્રતિબંધકારક આણ્વીય ક્ષેત્ર. લેન્ડનાઈડ સંક્રમણ અને તેની અસરો સમજાવો.

2 ગણ તે જવાબ આપો :

(1) ઇલેક્ટ્રોન અનુચલન અને સ્પેક્ટ્રલ વિસ્થાપન પ્રક્રિયાઓની ક્રિયાવિધિ સમજાવો.

(2) નાઈટ્રોહાલોજીનમાં જોવા મળતા વિવિધ સંસ્કરણ સૂચી દોરો.

(3) અનુચલન સિદ્ધાંતની મહત્વની ધારણાઓ આપો તથા ક્રિનોક્સાઈડ આયનની અનુચલન સાંદ્રતાઓ આપો.

3 ગણ તે જવાબ આપો :

(1) સમીચી વિસ્તરણ દરમિયાન આદરણીયતા કહેવા કયું માટીયું સમીકરણ ઉપજાવો.

(2)  $\Delta G^\circ = -RT \ln K$  સૂત્ર તારવો.

(3) ઉપચોલિતશાસ્ત્રમાં બીજા નિયમનું વિવિધ રીતે તેને નિરૂપણ કરો.

4 ગણ તે જવાબ આપો :

(1) ટિટ્રેશન આંક શું છે ? તેના પ્રકારો વર્ણવો.

(2) રાસાયણિક પ્રક્રિયાઓ અને ઉપકરણોનું વર્ણન કરાવો અને મર્યાદા વિશેની વિધિ લખો.

(3) ઓક્સાઈડ અને પુનઃનિષ્ક્રમણ સમજાવો.

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I

[Contd...

ENGLISH VERSION

Instruction : Q No. 1 and 3 each carries 18 marks and  
Q. No. 2 and 4 each carries 17 marks.  
Total 70 marks.

1 Write any two : 18

- (1) Discuss the structure of  $H_2O$  molecule according to V.S.E.P.R. theory.
- (2) Give difference : Bonding and Anti-bonding orbitals.
- (3) Explain the lanthanide contraction and its effects.

2 Write any two : 17

- (1) Explain the Mechanism of Electrophilic Aromatic Substitution reactions.
- (2) Draw the reasoning structures for Nitrobenzene.
- (3) Give the important points of resonance theory and give resonance structure of phenoxide ion.

3 Write any two : 18

- (1) Calculation of work done of ideal gases under adiabatic condition.
- (2) Derive the formula  $\Delta G^\circ = -RT \ln K$ .
- (3) Represent the second law of thermodynamics by various ways.

4 Write any two : 17

- (1) What is error ? Explain its types.
- (2) Discuss advantage and limitations of Chemical and Instrumental methods.
- (3) Explain : Accuracy and precision.



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Seat No. \_\_\_\_\_

B. Sc. (Sem. I) Examination

November - 2019

Mathematics : CC - MAT - 111

Time : 2 1/2 Hours]

[Total Marks : 70

Instructions: (1) All Questions are Compulsory.

(2) The figures to the right indicate marks of the corresponding question.

1 (a) State and Prove: Leibnitz's Theorem

OR

(a) State and prove Cauchy mean value theorem.

[8]

(b) Attempt any two.

[10]

(1) If  $y = e^{as \ln^{-1} x}$ ,  $x \in (-1, 1)$  then prove that

$$(1 - x^2)y_{n+2} - (2n + 1)xy_{n+1} - (n^2 + a^2)y_n = 0$$

(2) Expand  $\tan^{-1} x$  in ascending powers of  $x$ .

(3) Using Cauchy mean value theorem prove that  $b^a - a^b = c^c$  (log $b$ -log $a$ ) ( $0 < a < b$ )

2(a) Derive the reduction formula for  $\int \sin^m x \cos^n x dx$ ,  $m, n \in \mathbb{N}$  and hence deduce

reduction formula for  $\int_0^{\pi/2} \sin^m x \cos^n x dx$ .

OR

(a) Derive the formula for volume of solid generated by revolving the area between the continuous curve  $y=f(x)$ , lines  $x=a$ ,  $x=b$  and  $X$ -axis.

[7]

(b) Attempt any two.

[10]

(1) Evaluate:  $\int_1^2 x^4 (2 - x^2)^{3/2} dx$

(1) Evaluate:  $\lim_{n \rightarrow \infty} \left[ \left(1 + \frac{n^2}{2}\right) \left(1 + \frac{n^2}{2}\right) \left(1 + \frac{n^2}{2}\right) \dots \left(1 + \frac{n^2}{n}\right) \right]^{1/n^2}$

(2) Prove that the point  $\theta = \frac{\pi}{2n}$  divide arc of cycloid  $x = a(1 - \sin \theta)$ ,  $y = a(1 - \cos \theta)$  lies between  $\theta = 0$  to  $\theta = 2\pi$  in the ratio  $\frac{3}{1}$ .

[8]

3 (a)  $\vec{a}, \vec{b}, \vec{c}$  are co-planer  $\Leftrightarrow [\vec{a} \vec{b} \vec{c}] = 0$

OR

(a) For vectors  $\vec{a}, \vec{b}$  and  $\vec{c}$  prove that (1)  $\vec{a} \times (\vec{b} \times \vec{c}) = (\vec{a} \cdot \vec{c})\vec{b} - (\vec{a} \cdot \vec{b})\vec{c}$

[8]

(2)  $(\vec{a} \times \vec{b}) \times \vec{c} = (\vec{a} \cdot \vec{c})\vec{b} - (\vec{b} \cdot \vec{c})\vec{a}$

[10]

(a) Attempt any two.

(1) Find reciprocal vector set for the vector set  $\{(1, 1, -1), (1, -1, 1), (-1, 1, 1)\}$

(2) Transform the equation  $x^2 + y^2 = z^2$  into cylindrical and spherical co-ordinates.

[Contd...

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1

- (3) If  $\phi(x, y, z) = xyz - 2y^2z + x^2z^2$  then find  $\text{div}(\text{grad } \phi)$  at point  $(2, 4, 1)$ . [7]
- 4 (a) Derive the equation of a tangent plane of sphere  $x^2 + y^2 + z^2 = a^2$  at point  $(\alpha, \beta, \gamma)$ . [7]
- OR
- (a) Derive equation of right circular cylinder whose radius is  $r$  and axis  $\frac{l}{x-a} = \frac{m}{y-b} = \frac{n}{z-c}$ . [7]
- (b) Attempt any two.
- (1) Define Orthogonal Sphere. Prove that two sphere  $x^2 + y^2 + z^2 - 2x + 4y - 4 = 0$  and  $x^2 + y^2 + z^2 - 6y + 4z - 8 = 0$  are orthogonal. [10]
- (2) Find equation of right circular cone whose vertex is  $(0, 0, 0)$ , axis is the  $y$ -axis and making semivertical angle  $\pi/4$ .
- (3) Find the equation of right circular cylinder having guiding curve  $x + y + z = -3$ ,  $x^2 + y^2 + z^2 + 3x + 3y + 3z = 0$ .

- ૧ સમાધાનની ઉદાહરણ છે.  
 (અ) અખીબા  
 (ક) તાડામણદા  
 (બ) વ્યાજમોડિયમ  
 (ડ) વ્યાજમોડિયમ
- ૨ શરીર દીવાલ અને યોગનમીણ વચ્ચેના અવકાશને શું કહે છે ?  
 (અ) કુલકોષ  
 (ક) કુલકોષ  
 (બ) કુલકોષ  
 (ડ) વ્યાજમોડિયમ
- ૩ ડાકાયા કયા સમુદાયની લક્ષણ છે ?  
 (અ) સજીવ  
 (ક) સીધાદા  
 (બ) પુષ્ટિકેમી  
 (ડ) કાજાગી
- ૪ મહાપાના ડિબ સરૂપની નામ જણાવો.  
 (અ) ટાંગિટોકેમ  
 (ક) પ્લે-યુલા  
 (બ) ટુટેનકાયમીલા  
 (ડ) પ્રોસાઈડિયમ

બહુવિકલ્પક પ્રશ્નોની જવાબ આપો.

[શબ્દ-અ

Time : 2:30 Hours ] [ Total Marks : 70

**B. Sc. Programme (Sem. I) Examination**  
**November - 2019**  
**Zoology : CCZO-111**  
**(Core Compulsory)**

CFE-6806

Seat No. \_\_\_\_\_







- 30 ક્રી અને ઉછેર (વર્ષિકલ્પ) ની લેવે શું છે ?
- 28 મધની સુવર્ણીય ઉપયોગ શરૂાવી.
- 27 મનુષ્યની આયુષ્યની મર્યાદા માટે વાર્ષિકાત્મક જીવનશૈલીમાં ફેરફાર કરવો ?
- 26 કારણોસર કમનિર્ણયનપદ્ધતિ આક્રમણ કરી.
- 25 નિર્ણયનમાં લાભ અને હાનિ શરૂાવી.
- 24 કારણોસર (કમન આક્રમણ) શરૂાવી
- 22 ક્રીમાં વર્ણવેલ : જીવનશૈલીમાં ફેરફાર
- 23 કારણોસર નિર્ણયનમાં આસરે કમનિર્ણયન પદ્ધતિ આક્રમણ કરી.
- 22 કારણોસર નિર્ણયનમાં નફા અને હાનિ શરૂાવી.
- 21 નિર્ણયનમાં કારણોસર શરૂાવી
- 20 ક્રીમાં જીવનશૈલીમાં ફેરફાર : (2) આસરે

જવાબ - 5

- 20 જીવનશૈલીમાં ફેરફાર નિર્ણયનમાં લાભ અને હાનિ
- 21 મધની ઉછેર અને લેવે શું છે ?
- 22 સમજાવવામાં આવી શકે છે ?
- 23 કારણોસર નિર્ણયનમાં લાભ અને હાનિ શરૂાવી.
- 24 જીવનશૈલીમાં ફેરફાર શરૂાવી.

- ୧୧ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୧୦ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୯ କ୍ରମିକ ଅନୁସାରେ ସମ୍ପର୍କ ପଢନ୍ତୁ ।
- ୮ ପଢନ୍ତୁ: ସମସ୍ୟା ଉପର ସମ୍ପର୍କ କିଛି ନାହିଁ ।
- ୭ କ୍ରମିକ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।

ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ (୩) (୩)

୫ - ଉତ୍ତର

- ୬ ପଢନ୍ତୁ: ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୫ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୪ କ୍ରମିକ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୩ କ୍ରମିକ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୨ କ୍ରମିକ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।
- ୧ କ୍ରମିକ ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ ।

ସମସ୍ୟା ଉପର ସମ୍ପର୍କ ନାହିଁ ବୋଲି କୁହନ୍ତୁ (୪) (୪)

୬ - ଉତ୍ତର

ENGLISH VERSION

PART - A

10

MCQs

- 1 The example of Asymmetry is \_\_\_\_\_.  
(A) Amoeba (B) Leucosolenia  
(C) Starfish (D) Plasmodium
- 2 The cavity between the body wall and gut is called \_\_\_\_\_.  
(A) Acoelom (B) Pseudocoelom  
(C) Eucoelom (D) Segmentation
- 3 Stinging cells are the characteristics of which phylum?  
(A) Porifera (B) Platyhelminthes  
(C) Arthropoda (D) Coelenterata
- 4 Malaria is caused by \_\_\_\_\_  
(A) Ascaris (B) Cockroach  
(C) Mosquito (D) Plasmodium
- 5 Mention the name of larval form of Ascaris.  
(A) Rhabditiform (B) Paranchymla  
(C) Planula (D) Miracidium
- 6 In which animal chemical substance Hipnotoxin is found?  
(A) Leucosolenia (B) Hydra  
(C) Plasmodium (D) Earthworm
- 7 Who is the father of genetics?  
(A) Lemark (B) Linnus  
(C) Mendel (D) Fleming

[ Contd...

5

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- 20 Write the scientific name of Silkworm.
- 19 What is apiculture ?
- 18 Who discover mitosis ?
- 17 Mention the two functions of nucleus.
- 16 Mention the role of Ronald Ross.
- 15 Write the scientific name of Ascaris.
- 14 Give the example of Bilateral symmetry.
- 13 Mention the function of canal system of *Lucosolenia*.
- 12 The flame cell is the character of which phylum ?
- 11 Name the three classes of Porifera.

Short answer type questions : 10

PART - B

- 10 The culture of silk Moth is known as :
  - (A) Apiculture
  - (B) Sericulture
  - (C) Aquaculture
  - (D) Prawn culture
- 9 In which therapy honey bee venom is use ?
  - (A) Ulcer
  - (B) Cuff
  - (C) Arthritis and snake bite
  - (D) Jaundice
- 8 Who discover Nucleus ?
  - (A) Schwann
  - (B) Leeuwenhoek
  - (C) Robert Brown
  - (D) Fontana

- 36 Describe preservation and processing of Prawn.
- 35 Define mitosis and explain its importance.
- 34 A monohybrid cross between genetically pure black pig and genetically pure white pig find out F1 generation and genotype of phenotype of F2 generation.
- 33 Describe the asexual reproduction in Hydra with figure.
- 32 Classify with reasons upto class (a) Euglena (b) Aurelia
- 31 Describe the characters of phylum Platyhelminthes.
- 16 Give the answer in medium length (any four)

**PART - D**

- 30 What is the aim of Warmiculture ?
- 29 Mention the medicinal use of honey.
- 28 Why Mendel select Pea plant for the experiment ?
- 27 Draw only labelled diagram of Animal cell.
- 26 Mention the symptoms of Malaria.
- 25 Mention the sexual dimorphism in Ascaris (Draw only diagram)
- 24 Describe in brief: Cnidoblasts of Hydra.
- 23 Draw only sketch labelled diagram: T.S. of Leucosolenia.
- 22 Mention three characters of phylum Coelenterata.
- 21 Give the classification with reasons of Paramoecium.
- 16 Give answer in short : (any eight)

**PART - C**

Long answer type question : (any three) 18

37 Write general characters of phylum coelenterata and give its outline of classification.

38 Describe: Dihybrid experiment with example.

39 Describe: Cell cycle and its significance.

40 Write short note on : Plasmodium.

41 Write descriptive note on : Apiculture