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SARDAR PATEL UNIVERSITY

B.Sc. (III SEMESTER) (CBCS) EXAMINATION-2011

MONDAY, 14TH NOVEMBER

10.30a.m. - 12.30p.m.

US03EZO001 : INVERTIBRATE,PHYSIOLOGY,BIOTECHNOLOGY & PARASITOLOGY

TOTAL MARKS: 70

Q. 1 Choose the correct answer and write it in the answer sheet. (All Questions are compulsory) (10)

- 1) Sexually mature worm is called
a) HeteroNereis b) Nereis c) Trochopore larva d) Both
- 2) Which organs use for locomotion by Neries
a) Podia b) Setae c) Parapodia d) All the above
- 3) Primary host of Liver fluke
a) Man b) Pig c) Sheep d) Dog
- 4) Which blood vessels carry blood from the tissue to the heart
a) Artery b) Vein c) Both d) None of them
- 5) Which type of circulating medium found in Artopoda
a) Hydrolymph b) Lymph c) Haemolymph d) All of above
- 6) Which one of the following is Anticoagulants
a) Heparin b) Heamoglobin c) Heamolymph d) All of above
- 7) Which hormone is soluble in Lipid?
a) Aimine hormone b) Steroid hormone c) Peptide hormone d) Gycoprotein hormone
- 8) Which hormone produced from Thyroid?
a) Thyroxin b) Vasopressin c) Growth hormone d) All
- 9) A chemically define culture medium contain
a) Glucose b) Blood plasma c) Blood serum d) Yeast extracts
- 10) Which following disease is STD?
a) Malaria b) Typhoid c) Jaundice d) AIDS

1 of 2

Q.2 Answer the following (any ten)

(20)

- 13) Define any two sense organ in Neries
- 14) Explain any two function of parapodia
- 15) Write a brief note on Flame cell
- 16) Define any two culture medium
- 17) Explain in brief note on Rh factor
- 18) Write a brief note on Heparin
- 19) Write a brief note on Water soluble hormone
- 20) Write a brief note on action of lipid hormone
- 21) Name of hormone secretion from Adrenal gland?
- 22) Which types of laboratory facilities are requiring for animal tissue culture?
- 23) Define any four equipment use for tissue culture
- 24) Define STD and how many types of dieses found in STD

Q.3 Writes short notes on

- a) HeteroNeries
- b) Parasitic adaptations of Liver fluke

(05)

(05)

OR

Q.3 a) Describe reproductive system of Liver fluke

(05)

- b) Draw labeled diagraeme of external character of neries and explain any three sense organ of neries

(05)

Q.4 Answer the following

- a) ABO Blood group
- b) Anticoagulation

(05)

(05)

OR

Q.4 a) Write difference between Artery and Vein

(05)

- b) Describe types of heart

(05)

Q.5 Write detail note on Pituitary gland

(10)

OR

Q.5 Explain in detail note on Thyroid gland

(10)

Q.6 Write notes on

- a) Culture media
- b) what is Trangenic animals? Write any four animals

(05)

(05)

OR

Q.6 Answer the following

- a) Genetic counselling
- b) AIDS

(05)

(05)

Zof 2

X=X=X

(2)

SARDAR PATEL UNIVERSITY
S. Y. BSc. (THIRD SEMESTER) EXAMINATION
TUESDAY, 15TH NOVEMBER, 2011
Time: 10.30 a.m. to 1.30 p.m.
US03CZOO02 (ZOOLOGY)
(ANIMAL PHYSIOLOGY AND ADAPTATION)

- Note:**
1. Answers of all the questions (including multiple choice questions) should be written in the provided answer book only
 2. Figures to the right indicate the full marks of sub question
 3. Draw neat and labelled diagrams wherever necessary

Maximum Marks: 70

- Q. 1. Multiple choice questions (10)**
1. Which of the following has the thickest walls?
 - a. Right ventricle b. Left ventricle c. Right atrium d. Left atrium
 2. Right atrium of human heart receives blood from
 - a. Sinus venosus b. Pulmonary veins
 - c. Superior venacava d. Superior and inferior vena cava
 3. Exchange of gases between blood and and alveolar air in lungs occurs by _____.
 - a. Active transport b. Simple diffusion c. Osmosis d. All of these
 4. All are the respiratory diseases except _____
 - a. Asthma b. Bronchitis c. Encephalitis d. Pneumonia
 5. The instrument by which BP is determined _____.
 - a. Ultrasound b. Sphygmomanometer c. Stethoscope d. CT scan
 6. _____ cells are present in electric organs.
 - a. Neurosecretory b. Electroplaques c. Epithelial d. None of these
 7. Fossorial means animals are adapted for _____.
 - a. Burrowing b. Tree living c. Fast running d. All of these
 8. Draco is adapted for _____.
 - a. Active flight b. Passive flight c. Both a & b d. None of these
 9. Pinworm is zoologically known as _____.
 - a. *Taenia solium* b. *Enterobius vermicularis*
 - c. *Ascaris lumbricoides* d. *Wauchereria bancrofti*
 10. The infective stage of *Entamoeba histolytica* is _____.
 - a. Binucleate form b. Tetranucleate form c. Minuta form d. Sporozoite form

Q. 2. Answer the following questions in short (Any Six) (12)

1. What is hemopoiesis? Where does it take place?
2. What is bronchial tree?
3. Name the layers of heart with their characteristics.
4. What is Systolic B.P.? What is Diastolic B.P.?
5. Define adaptation and enlist different types of adaptation with examples.
6. Write main characteristic features of animals adapted for burrowing life.
7. What are blood flukes? Which disease is caused by them?
8. Which animal causes sleeping sickness? Which is the intermediate host?

Q. 3. Describe process of blood coagulation (08)

OR

Q. 3. a. Write a note on: ECG (05)

b. Give details about types of heart (03)

Q. 4. Write in detail about structure of lungs (08)

OR

Q. 4. a. Write about transport of Oxygen (05)

b. Describe pharynx (03)

Q. 5. Write in detail about disorders of Liver and Pancreas (08)

OR

Q. 5. a. Write a note on Asthma (04)

b. Write a note on STD (04)

Q. 6. Discuss the desert adaptation in animals in detail with examples. (08)

OR

Q. 6. Write a note on

a. Adaptation for passive flight (04)

b. Cursorial adaptations (04)

Q. 7. Discuss the primary aquatic adaptations in animals with examples (08)

OR

Q. 7. Write notes on

a. Battacian mimicry (04)

b. Echolocation (04)

Q. 8. a. Write a note on disease caused by Entamoeba (04)

b. Describe about infection of Trichinella (04)

OR

Q. 8. a. Write a note on disease caused by Ancylostoma (04)

b. Write a note on: Infection by Dracunculus (04)

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X=X=X

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SARDAR PATEL UNIVERSITY

B.SC.(3rd semester)

BOTANY

US03BOT01

DATE-16/11/11

TIME-10.30a.m.-1.30p.m.

WEDNESDAY

MARKS-70

Q-1 Multiple choice questions.

(10)

- (1) The pigment gleocapsin is present in-----
(a)Nostoc (b)Gleocapsa (c)Microcystis (d)Chlorella
- (2) Female reproductive organ carpogonia is present in ---
(a) Polysiphonia (b)Fucus (c)Cladophora (d)Sargassum
- (3) Motile haploid spores are also known as ----
(a) conidia (b)aplanospore (c)zygospore (d)zoospore
- (4) Fruiting body of Peziza is _____
(a) apothecium (b)perithecium (c)basidiocarp (d)cleistothecium
- (5) Chlorophyll containing parts being yellowing means---
(a)chlorosis (b)hydrolysis (c)wilting (d)bloching
- (6) Uredospores are produced by----
(a)Alternaria (b)Cercospora (c)Phytophthora (d)Puccinia
- (7) The antibiotic Chlorellin is obtained from -----
(a)Cladophora (b)Polysiphonia (c)Chlorella (d) Fucus
- (8) Conidia are beaked and muriform in-----
(a)Puccinia recondita (b) Albugo candida (c)Alternaria solani(d)All of the above
- (9) Diplantism phenomenon is formed in -----
(a)Albugo (b)Phythium (c)Saprolegnia (d)Pernospora
- (10)Causal organism of citrus canker disease is -----

(a) *Albugo candida* (b) *Xanthomonas citri* (c) *Puccinia recondite* (d) None of these

Q-2 Attempt any six.

(12)

- (i) Explain thallus structure of *Vaucheria*.
- (ii) Mention any four algae used as food.
- (iii) Write vegetative structure of *Phythium*.
- (iv) Differentiate micro and macroconidia of *Fusarium*.
- (v) Write symptoms of tikka disease of groundnut.
- (vi) Define-canker symptom.
- (vii) What is heterocyst?
- (viii) What is isomorphic alternation of generation?

Q-3 Describe following:

- (a) Thallus structure and reproduction in *Spirulina*. (04)
- (b) Algae used as food. (04)

OR

- Q-3(a) Give classification of : (i) *Scytonema* (ii) *Gloeocapsa* (05)
- (b) Algae used as medicine. (03)

Q-4 Describe following:

- (a) Sexual reproduction in *Cladophora*. (04)
- (b) Post-fertilization changes in *Polysiphonia*. (04)

OR

Q-4 Write notes on:

- (a) External characters of *Sargassum*. (04)
- (b) Asexual reproduction in *Vaucheria*. (04)

- Q-5(a) Describe the structure and asexual reproduction in *Saprolegnia*. (05)
- (b) Write the vegetative structure of *Albugo*. (03)

OR

- Q-5(a) Give a brief account on-mycorrhizae. (05)

(b) Write about fungi as antibiotics. (03)

Q-6 Write note on: (a) Asexual reproduction in *Aspergillus*. (04)

(b) Apothecium in *Peziza*. (04)

OR

Q-6 Describe vegetative structure and reproduction in

(a) *Alternaria* & (b) *Fusarium*. (08)

Q-7 (i) Write classification based on nature of causal organism. (05)

(ii) Define: Spot and Stripes. (03)

OR

Q-7 Explain: (i) Penetration process (05)

(ii) Mildews (03)

Q-8 Describe the causal organism, symptoms and disease cycle of

Late blight of potato. (08)

OR

Q-8 Describe the causal organism, symptoms and disease cycle of

White rust of crucifers. (08)

$\sqrt{2} \times 2 = X$

0.1 0.01 0.001 ✓
1/10 1/100 1/1000
(66) 1/1000, 0001

(38)

No. of Printed Pages: 3

SARDAR PATEL UNIVERSITY
B Sc (III SEMESTER) EXAMINATION

Thursday, 17th November 2011

10.30 am - 1.30 pm

US03CBOT02 - BOTANY(Plant Physiology, Anatomy & Taxonomy)

Total Marks: 70

Q.1 Find the correct answer and write in the answersheet. [10]

- (1) There is a group of cell having intercellular space, then it should be
(a) Parenchyma ✓ (b) Meristametic tissue
(c) Both (a) & (b) (d) None
- (2) Which one of the following family is rich in protein and known to be nitrogen fixer.
(a) Fabaceae ✓ (b) Mimosaceae
(c) Cucurbitaceae (d) None
- (3) Gynobasic style is present in
(a) Oscimum sanctum ✓ (b) Ixora
(c) Cucurbitaceae (d) None
- (4) Botanical name of jute plant is
(a) Gossypium arboreum (b) Corchorus capsularis ✓
(c) Cannabis sativa (d) Musa textilis
- (5) The cotton fibre from cotton plant is obtained from
(a) Roots (b) Stems
(c) Leaves (d) Seed coat ✓
- (6) An A° (Angstrom) is equal to
(a) 0.001 μm ✓ (b) 0.01 μm
(c) 0.0001 μm ✓ (d) 0.0001 μm ✓
- (7) Which process is related to the loss of water as vapour by aerial organs ?
(a) Transpiration ✓ (b) Evaporation
(c) Excretion (d) Respiration
- (8) What does the term 'Chlorosis' mean ?
(a) Yellowing of leaves ✓ (b) Stunting of growth
(c) Increased production of chlorophyll
(d) Defective production of chlorophyll
- (9) Rupturing of hard seed coat is called
(a) Decalcification (b) Scarification ✓
(c) Both (a)&(b) (d) None
- 10) Seeds whose germination is affected by light is called as
(a) Photoblastic ✓ (b) Thermoblastic
(c) Negative geoblastic (d) None

Part B

Q.2 Answer the following (Any Six)

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- (1) Differentiate between tracheids and vessels.
- (2) State and explain in brief types of Parenchyma.
- (3) Describe Calyx and Carolla of family Brassiacaceae.
- (4) Give botanical and vernicular (common) name of (a) Gram
(b) Green Gram.
- (5) What is resolution power and on what factors does it depend ?
- (6) Give the source, role and defficiency symptoms of mineral element Nitrogen.
- (7) Explain in brief : factors affecting photosynthesis.
- (8) List the methods of breaking dormancy of seeds.

- Q.3 (a) Describe structure of Tracheids and Vessels. [04]
(b) Explain types of Meristem basis of their position. [04]

OR

- Q.3 Explain [04]
(a) Types of Sclerenchyma [04]
(b) Structure and function of sieve elements [04]

- Q.4 Describe [04]
(a) Floral character of Papilionaceae [04]
(b) Economic importance of Euphorbiaceae [04]

OR

- Q.4 (a) Explain floral characters of Meliaceae [04]
(b) Define : (a) Capitulum inflorescence [04]
(b) Monadelphos stamen
(c) Actinomorphic
(d) Axile placentation

- Q.5 (a) Give the Biological source, cultivation and uses of cotton. [04]
(b) Explain Family, geographical distribution, cultivation and uses of Mustard oil. [04]

OR

- Q.5 (a) Describe Botanical name, family, source & uses of (i) Wheat [04]
(ii) Rice.
(b) Explain the Botanical name, cultivation and uses of Jute. [04]

- Q.6 Explain the principles and working of light microscope. [08]

OR

- Q.6 Explain principles, working and application of TEM and SEM. [08]

- Q.7 (a) Define transpiration and guttation. Give the difference between transpiration and guttation. [04]
(b) What is macro and micro nutrients ? Describe role and defficiency symptoms of K and Fe. [04]

OR

- Q.7 (a) Describe the mechanism of Hatch and Slack pathway in C_4 plants. [04]
(b) Describe None-cyclic photophosphorylation. [04]
- Q.8 (a) What is seed dormancy and What causes it ? [04]
(b) What is photoperiodism ? Describe its significance. [04]
- OR**
- Q.8 (a) Explain germination of seeds. [04]
(b) Write notes on long day and short day plants. [04]

SARDAR PATEL UNIVERSITY

S.Y.B.Sc., Examination, Third Semester

Wednesday- 16-11-2011

Time 10.30 am to 12.30 pm

Subject /Course code: US03EBOT01

Subject/Course Title: Phytodiversity, Microscopy and Techniques

Total Marks:70.

Q1. Answer all questions 1x 10=10

- i) *Gleocapsa* shows _____ form of thallus.
a) filamentous b) unicellular c) colonial d) siphonaceous
- ii) The basal heterocyst is followed by akinete in _____.
a) *Rivularia* b) *Gleotrichia* c) *Scytonema* d) *Anabaena*
- iii) *Albugo* causes the _____ disease
a) Black rust b) White rust c) Yellow rust d) none of these
- iv) The black colour of the fungi due to _____.
a) Spores b) Oogonium c) antheridium d) Mycellium
- v) Damping off disease is caused by the fungus _____.
a) *Pythium* b) *Peronospora* c) *Saprolegnia* d) *Albugo*
- vi) The body tube length of compound microscope is _____.
a) 160mm b) 175mm c) 180mm d) 200 mm
- vii) A stage micrometer has a scale of _____.
a) 0.1mm b) 1 cm c) 1mm d) 0.01 mm
- viii) The chromatographic group of basic stain is _____ in nature.
a) cation b) anion c) reactive d) none of these
- ix) The process passing fixed tissues through the series of increasing concentration of alcohol is known as _____.
a) clearing b) dehydration c) fixation d) maceration
- x) _____ is commonly employed as used as embedding medium.
a) Glycerin b) resin c) eosin d) methylene blue

Q2. Answer any ten 2x10=20

- i) Write a brief note on *Spirulina*
- ii) Explain the morphology of *Rivularia* filament
- iii) What is false branching?
- iv) Give two uses of fungi.
- v) Describe the morphology of *Albugo*
- vi) Write function of condenser in a compound microscope
- vii) What is the basic principle of a fluorescent microscope?
- viii) Write the significance of immersion oil when used with 100x objective

(P.T.O)

- ix) Define the term resolving power of a microscope.
- x) Explain the term histology
- xi) What is meant by vital stain ?
- xii) What is the significance of embedding in material processing for microtomy

Q3	Write an account on the economic importance of Algae	10
	OR	
Q3	a) Explain the types of branching in <i>Scytonema</i>	04
	b) Write about the thallus structure of <i>Gloeotrichia</i> with a labeled diagram	06
Q4	Explain in detail the economic importance of fungi	10
	OR	
Q4	Write notes on	
	a) Sexual reproduction of <i>Albugo</i>	06
	b) A sexual reproduction in <i>Pythium</i>	04
Q5	Explain the types of objectives and oculars used in bright field microscopy	10
	OR	
Q5	Explain the instrumentation and application of scanning electron microscope	10
Q6	Differentiate the various types of microtomes used in microtechniques with a note on their application	10
	OR	
Q6	a) Explain the process of fixation and dehydration in histochemistry	06
	b) Explain in brief the maceration technique	04

X = X = X

(2)