Assignment - (1)

Class - M.Sc - II

Field theory

Year - 2019 - 20

(1) Show that $x^3+3x+2 \in \mathbb{Z}/(7)[x]$ is irreducible over the Field $\mathbb{Z}/(7)$

(2) Show that $x^4+8 \in \mathbb{Q}[x]$ is irreducible over $\mathbb{Q}$.

(3) Show that $x^3-x-1 \in \mathbb{Q}[x]$ is irreducible over $\mathbb{Q}$.

(4) Show that $x^3+ax^2+bx+1 \in \mathbb{Z}[x]$ is reducible over $\mathbb{Z}$ if and only if either $a=b$ or $a+b=-2$

(5) Determine all (a) quadratic, (b) cubic, and (c) biquadratic irreducible polynomials over $\mathbb{Z}/(2)$.

(6) Determine which of the following polynomials are irreducible over $\mathbb{Q}$.

(a) $x^3-5x+10$

(b) x^4-3x^2+9

(c) $2x^5-5x^4+5$

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Rayat Shikshan Sansthas

Shree Sadguru Gangageer Maharaj Science , Gautam Arts and Sanjeevani Commerce College , Kopargaon.

Academic Year 2021-22

M. Com.I Sem I (2019 pattern)

Subject	& Teacher	Assignment / Tutorial 10 mark each
Management Accounting	Digwa S. S.	Assignment:- 1) What is Management Accounting.Explain the phases in the evolution of accounting. 2) What is Marginal Costing.Explain Advantages and Disadvantages of Marginal Costing. Tutorial:- 1) Explain in detail Master Budget. 2) What is Working Capital Management.Explain techniques and types of Working Capital Management.
Income Tax	Digwa S. S.	Assignment:- 1) What is Income Tax explain Advantages, Disadvantages and Features of Income Tax. 2) Explain in Detail the Allowances. Tutorial:- 1) Explain in detail Income from Other Sources. 2) Explain in detail Rebates, Rates of taxes and Deduction under Sec. 80?

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Metric Space (Assignment)

Name: Barhate Pratik
Surname:
Roll No. 81ST

Q.1. Show that in a discrete metric space X every subset is open.

→ Let (X, d) be discrete metric space

$$d(x,y) = \begin{cases} 0, & x = y \\ 1, & x \neq y \end{cases}$$

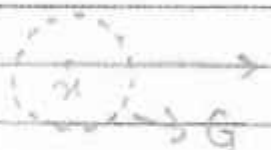
Let G be any subset of X.

Claim: G is open.

If $G = \phi \Rightarrow G$ is open

If $G \neq \phi$

It is possible to find $x \in G$



Consider,

$$B\left(x, \frac{1}{2}\right) = \left\{y \in x \mid d(x,y) < \frac{1}{2}\right\}$$

$$= \{y \in X \mid d(x,y) = 0\}$$

$$= \{y \in X \mid x = y\}$$

$$= \{x\} \subseteq G$$

$$\therefore B\left(x, \frac{1}{2}\right) \subseteq G$$

$\therefore$ G is open

But G is arbitary

$\therefore$ G is open.

$\Rightarrow$ Every subset of discrete metric space is open.

Q.2. Let G_i, $1 \leq i \leq n$ be a finite collection of open sets in metric space (X, d) Show that $\bigcap_{i=1}^{n} G_i$ is open in X.

$\therefore d(x,y) \leq d(x,z) + d(z,w) + d(y,w)$

$\therefore d(x,y) - d(z,w) \leq d(x,z) + d(y,w)$

Again,

$x, y, w \in X$.

$d(x,w) \leq d(x,y) + d(y,w)$ - (3)

Consider, $z, x, w \in X$

$d(z,w) \leq d(z,x) + d(x,w)$

put (3)

$d(z,w) \leq d(x,z) + d(x,y) + d(y,w)$

$d(z,w) - d(x,y) \leq d(x,z) + d(y,w)$

$\therefore -[d(x,y) - d(z,w)] \leq d(x,z) + d(y,w)$ - (4)

from (2) & (3) and using modulos properties.

$|d(x,y) - d(z,w)| \leq d(x,z) + d(y,w)$

Q.6. Does $d(x,y) = |x^4 - y^4|$ defines a metric on $\mathbb{R}$. ? Justify ?

Sol $\longrightarrow$ Let

$d(x,y) = |x^4 - y^4|$

$d(x,y) = 0$

$\Rightarrow x = y$

$\therefore x^4 - y^4 = 0$

$x^4 = y^4$

$x = \pm y$

$\therefore$ The $d(x,y)$ is not metric on $\mathbb{R}$.

15/12/2021

Assignment-1

Page No.
Date

Q.1 Concept of ecology.

1 Ecology :-

Ecology define as the study of interealat^{n} bet^{n} organism & environment.

The term ecology is derived from two greek words [oikas- Home / habitat^{n}] [logo's - study] Thus ecology is study of organism at home the first other of term ecology is uncertain however many biologist ground credit to the geoman zoologist ground credit earnest heaked who used the term in 1866 to veffered to inter-relationship of living organism & their environmental earnest heaked define ecology as body knowledge conserving the ecology of nat^{n}. The inves-tigat^{n} of the total relation animal to its organic & inorg-anic environment OR [I. Kresh (1972)]

Define ecology as the scientific study of interact^{n} that & deter-mine according to webster's dict-onary ecology is study of living things in relat^{n} to their environ-

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Page No.
Date

Autoecology :-

It is ecolog of single organism the biological relations betⁿ single species & its environment is known as autecology.

synecology :-

It is also known as community ecology. It deals with ecological studies of community are entire.

24/08/19

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Assignment

1) Write down the structure of soil according to their four process.

→ The arrangment and organization of primary and secondary particle in a soil mass is known as soil structure.

Basic process in the soil.

A) Addition - materials added to the soil. such as decomposing vegetation and organisms (organic matter) or neo mineral materials deposited by wind or water

B) Losses - Through the movement of wind or water or uptake by plants. Soil particles (sand, silt, clay & OM) or chemical compounds can be eroded, leached or harvested from the soil, altering the chemical & physical makeup of the soil.

C) Transformation -

The chemical weathering of sand and formation of clay minerals. Transformation of coarse OM into decay resistant organic compound (Humus).

D) Translocation -

movement of soil constituents (organic or mineral) with the profile and / or bet^n horizones over time this process is one of the more visibly noticeable as alternations in colour, texture & structure become apparent.

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Q.2 Describe the essential & non essential element related to the plant growth.

→ Essential element derived from soil are termed as mineral element
Essential element got from air & water as non mineral element

A) non mineral element -

1) The non mineral nutrient are Hydrogen, Oxygen & Carbon
2) These nutrient are found in Water, water and air.
3) they are building block of macromolecules that form the bulk of plant body.
4) In aquatic habitat as well as in soil soil, mineral element occur dissolved in water. Carbon is mostly got from air as CO_2. Hydrogen is obtain from water. oxygen is component of water.
5) It is also available from air, nitrogen is present abundance in the air as a non mineral element but plant usually obtain it from soil as nitrate or ammonium ion.
6) chloride is not as a mineral from soil but can also be obtain from the atmosphere where it is present as a pollutant in the gaseous state of Sulphur dioxide.

B) Mineral element

there are 18 mineral (essential) nutrient for plant growth : 3 Structural, 6 macronutrient & 9 micronutrient.

Nitrification-

oxidation of ammonia produced by ammonification to nitrates by nitrifying bacteria is called as nitrification. It takes place in two steps.

i) In the first step the ammonia is oxidised to nitrites by nitrifying bacteria called as nitrosomonas and nitrosococcus.

ii) In the next step the nitrites are further oxidised to nitrates by another group of nitrifying bacteria called as nitrobacter.

Dawang
4/1/2022

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PAGE NO:
DATE: / /

Assignment :- 01

1] Write a note on contribution of fungal study In india & world.

Around 1.5-5.1 million fungi are estimated so far one lakh fungal species have been identified in the world and 29000 fungi are identified in the world & described from India 32%. of thdian fungi have been discovered by subramanian [1971, 1992] and remaining 68% are described by others.

Fungi are known to be non chlorophyllous and true nucleated organism possessing cell wall of chitin and osmotrophic

All of these fungi belong to zoosporic group zygomycota, Ascomycota / Basidiomycota and anamorphic fungi, presently anamorphic fungi are morged with ascomycotina / Basidiomycotina as per one fungus - one name concept of Melbocm code and new classification This reviece present the bisterical perspective emphasizing on the contribution made by indian mycologist.

C.V subramanian:- A brief sarvey of the development of mycology in India is given with a view to given a generay picture of its present status the importance of further exploration of

antibiotics revolutionized health care world wide fungi are very specific to the insects they attack and do not infect animals or plants fungi are currently under investigation as potential microbial insecticides, with several already on the market for ex the fungus.

Beauveria bassiana:- is being tested as possible biological control agent.

The recent changes in classification driven by DNA sequence anahysis have led to a series of major changes to the traditional morphology based class° the organism studied by mycologists are now established as polyphyletic and have been reformed to at least three different Kingdoms namely Chromista [Hyphochytridiomycota] habyrinthulomycota and oomycota] protoza [Acrasiomycota myxomycota and plasmodiophoromycota] fungi [Ascomycota, Basidiomycota, Zygomycota] publication of a major new classification. has necessitated the documentation of fungi and their anologus reported from India.

About 14140U sp are recorded ~~for~~ from India approximately under 45 classes, 120 orders 3,45 families and 2660 gencra.

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Assignment

DATE 22 8 19 (1)

Q.1. Explaine in detail Pollen morphology?

⟹ The morphology of pollen graine is describe with reference to polarity symmetry, size & shape, aperture & exine stratification.

① Polarity -

pollen are generally formed in tetrad from their mother cell. polarity of pollen graine is always expressed with refecnce to its arrangement in the tetrad.

The end of pollen grain directed towards the center of the tetrad is called proximal pole while the end towards the outer side known as distal pole. The distal pole faces peripheral side. A hypothetical line is connecting these two poles is known as polar axis. A line that runs perpendicular to the polar axis is called as equatorial axis. The equatorial axis demarkeates two equal or unequal polar faces. if the two faces are similar the pollen grain is said to be isopolar & when the two faces to be is equal unequal it is called as heteropolar.

fig - Polarity of Pollen grain

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3) Bacwate - When excrescence are rod shaped.

4) Verrucate - When excrescence appear like wart (base is either constricted.

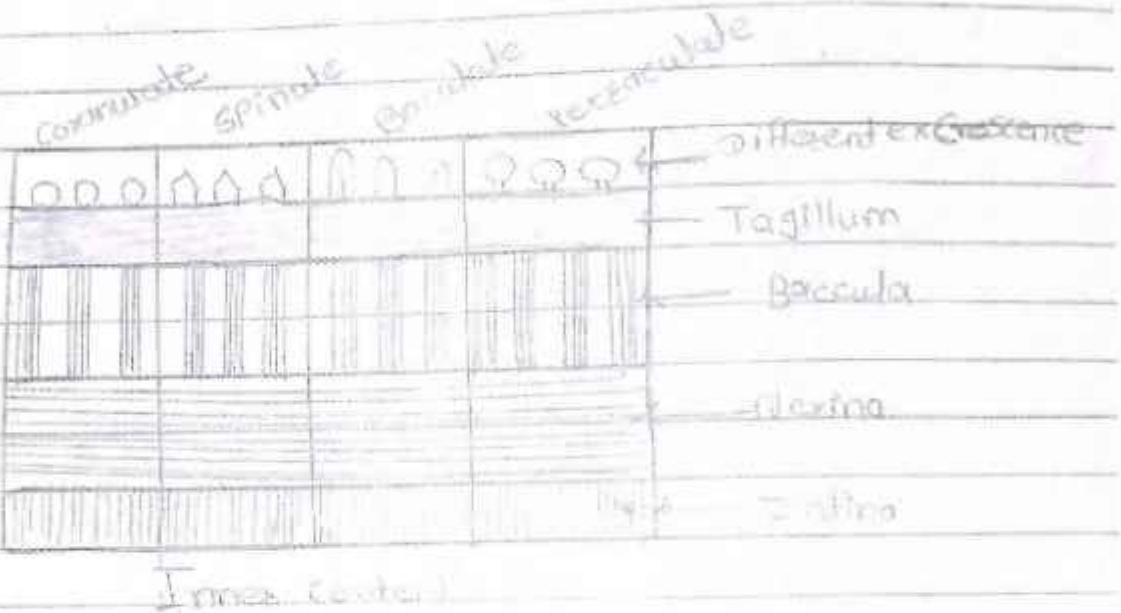

Fig - Excrescences

29/12/2021

परिक्षा नंबर

रयत शिक्षण संस्थेचे,
एस.एस.जी.एम.कॉलेज,कोपरगाव

दि. ०३/१०/२०१९	**Tutorial Exam**	वर्ग : एफ.वाय.बी.कॉम.
वेळ : ४५ मिनिट	विषय : व्यावसायिक अर्थशास्त्र (सूक्ष्म)	गुण : १०

सूचना: १. सर्व प्रश्न सोडवणे आवश्यक आहे.
२. उजव्या बाजूचे अंक पूर्ण गुण दर्शवतात.
३. संदर्भासाठी मुळ इंग्रजी प्रश्नपत्रिका पहावी.
४. आवश्यक तेथे सुबक आकृत्या काढा.

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प्रश्न १ ला. मागणीची किंमत लवचिकता म्हणजे काय? किंमत लवचिकतेचे प्रकार स्पष्ट करा. १०

Q.No. 1. What is Price Elasticity of Demand ? Explain different types of price elasticity of demand. 10

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Assignment -1

Name - [illegible]
std
sub climatology
Date

Q-1 Structure and Compsition of atmosphere.

What is atmosphere ?

We all know that earth is a unique planet due to the presence of life. The air is one among the necesseary conditions for the existence of life on this planet. The air is a mixture of several gases and it encompass the earth from all sides. The air surrounding the earth is called the atmosphere.

- Atmosphere is the air surrounding the earth.
- The atmosphere is a mixture of different gases It conatains life-giving gases like oxygen for humans and animals and carbon dioxide for plants.
- It envelops the earth all around and is held in place by the gravity of the earth
- It helps is stopping the ultraviolet rays harmful to the life and maintains the suitable temperature necessary for life.
- Generally, atmosphere extends up to about 1600 km from the earth's surface. However, 99% of the total mass of the atmosphere is confined to the height of 32 km from the earth's surface.
- Composition of the atmosphere the atmosphere is made up of different gases, water

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Vapour and [illegible] The composition of the atmosphere is not static and it changes according to the time and place. Gases in the atmosphere

Permanent Gases of the Atmosphere.

Constituent	Percent by Volume	Concentration in Parts Per Million [PPM]
Nitrogen (N_2)	78.084	780840.0
Oxygen (O_2)	20.946	209460.0
Argon (A_r)	0.934	9340.0
Carbon dioxide (CO_2)	0.036	360.0
Neon (Ne)	0.00182	18.2
Helium (He)	0.000524	5.24
Krypton (K_r)	0.000114	1.14
Hydrogen (H_2)	0.00005	0.5

Carbon Dioxide.

Carbon dioxide is meteorologically a very important gas.

It is transparent to the incoming solar radiation (insolation) but opaque to the outgoing terrestrial radiation and reflects back some part of it towards the earth's surface

Carbon dioxide is largely responsible for the greenhouse effect

When the volume of other gases remains

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Gases are very sparse in this sphere due the lack of gravitational force. Therefore the density of air his is very less here.

07
10

19/4/22

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रयत शिक्षण संस्थेचे,
एस.एस.जी.एम.कॉलेज,कोपरगाव

दि. ०७/०९/२०१९	Assignment Exam	वर्ग : एफ.वाय.बी.कॉम.
वेळ : ४५ मिनिट	विषय : व्यावसायिक अर्थशास्त्र (सूक्ष्म)	गुण : १०

सूचना: १. सर्व प्रश्न सोडवणे आवश्यक आहे.
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३. संदर्भासाठी मुळ इंग्रजी प्रश्नपत्रिका पहावी.
४. आवश्यक तेथे सुबक आकृत्या काढा.

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प्रश्न १ ला. समवृतीवक्राची व्याख्या सांगा. व समवृती वक्राची वैशिष्टये स्पष्ट करा. १०

Q.No. 1. Definitions of Indifference Curve. and Explain the characteristics of Indifference Curve. 10

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S.S.G.M. College, Kopargaon

Department of Commerce & Management

Students Home Assignment & Tutorial

Academic Year – 2021-2022
Semester: I, III & V

Class- S.Y.B.Com.

Subject- Corporate Accounting
Home Assignment Questions

D) Practical Problem :

1. **Anil Ltd.** was incorporated on 1st July, 2012 to take over the running business of Mr. Anand with effect from 1st April, 2012. The following Profit & Loss Account for the year ending 31st March, 2013 was as under:

Profit & Loss Account
For the year ended 31st March, 2014

Particulars	Rs.	Particulars	Rs.
To Commission	2,625	By Gross Profit b/d	98,000
To Advertisement	5,250		
To Remu. to Managing Director	9,000		
To Depreciation	--		
To Salaries	2,800		
To Insurance Premium	18,000		
To Preliminary Exp.	600		
To Rent & Taxes	700		
To Discount	3,000		
To Bad debts	350		
To Net Profit	1,250		
	54,425		
	98,000		98,000

The following details are available :

a) The average monthly sales from 1st July, 2012 was double than that of the previous months.

b) Rent for the first three months was paid at Rs. 200 per month & there after it was increased by Rs.50 per month.

c) Bad debts upto 30th June 2012 was amounting to Rs.300.

Ascertain the profit earned prior to & after incorporation of the Company. Oct-2015

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