FRF 210

QP : 12621

JSS COLLEGE FOR WOMEN

AN AUTONOMOUS COLLEGE OF THE UNIVERSITY OF MYSORE

Sixth Semester BCA (CBCS) Examination

Android Programming [DSE]

E SEP 2021

Time: 3 Hours

Max. Marks: 70

PART – A

I. Answer any Eleven question out of given twelve questions: **11 x 2 = 22**

1. What is android? Which is latest version of android OS.
2. List any two perspectives provided by android SDK.
3. Write the difference between java virtual machine and Dalvik virtual machine.
4. Mention any two services of intent.
5. What are the different views of android?
6. Mention any two audio and video formats.
7. Which is the library provider database support for android application.
8. Define multimedia in android.
9. Define telephony in android.
10. What is JSON?
11. How can JSON is used in javascript?
12. Differentiate JSON and XML.

PART – B

II. Answer any Two sub questions from each main questions:

13. (a) Discuss android architecture. **2 x 6 = 12**
    (b) What is android layout? Explain the different types of layout.
    (c) Explain the features of android system.

14. (a) Discuss activity life cycle of android. **2 x 6 = 12**
    (b) Explain different types of buttons used in android.
    (c) Explain android system architecture in multimedia.

2 x 6 = 12

15. (a) How to create and connect SQ lite database in android? Explain with example.
    (b) Explain geo coding and reverse geo coding.
    (c) Write the program to illustrate addition of 2 numbers using android.

16. (a) Compare XML and JSON passing. **2 x 6 = 12**
    (b) Explain JSON objects and JSON arrays with syntax.
    (c) What are the pros and cons of JSON over XML.

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AN AUTONOMOUS COLLEGE OF THE UNIVERSITY OF MYSORE

Second Semester B.Sc. (CBCS) Examination OCT 2021

MICROBIOLOGY – DSC - 2

Microbial Diversity and Environmental Microbiology

Time: 3 Hours Max. Marks: 70

Instructions: (i) Answer relevantly to the questions.
(ii) Draw neat labeled diagrams wherever necessary.

A. Answer the following: **1 x 5 = 5**

1. What is benthic zone?
2. Define MPN index.
3. What is reticulate chloroplast?
4. Define biaaerosol.
5. What are akinites?

B. Answer any FIVE of the following: **3 x 5 = 15**

6. Numerical Taxonomy.
7. Economic importance of diatoms.
8. Cyst of *Entamoeba.*
9. Soil actinomycetes.
10. Chlamydospores of *Fusarium.*
11. Mutualism.
12. Bioindicators of water contamination.

C. Answer any FOUR of the following: **5 x 4 = 20**

13. Test for fecal streptococci.
14. Rhizosphere
15. Archea
16. Carl Woese classification.
17. Endosymbiotic origin of mitochondria.
18. AGI - 30

D. Answer any THREE of the following: **10 x 3 = 30**

19. Describe the thallus structure and reproduction of *Spirogyra.*
20. Elucidate soil profile.
21. Give an account of factors affecting microbial survival in air.
22. Write detailed account of microbial flora of soil with reference to soil fungi and bacteria.
23. Explain municipal water purification system.

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First Semester B.A (CBCS) Examination SEP 2021

ECONOMICS

Principles of Micro Economics – I

Time: 3 Hours **Max. Marks: 70**

Instructions: Answer all parts
ಎಲ್ಲಾ ವಿಭಾಗಗಳಿಗೂ ಉತ್ತರಿಸಿ:

PART – A
ವಿಭಾಗ – ಎ

I. Answer any FOUR questions: **4 x 5 = 20**
ಯಾವುದಾದರೂ ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ:

1. Opportunity cost principle.
ಸದಾವಕಾಶ ವೆಚ್ಚ ತತ್ವ.

2. Increase and decrease in demand.
ಬೇಡಿಕೆಯ ಏರಿಕೆ ಮತ್ತು ಇಳಿಕೆ.

3. Total utility and marginal utility.
ಒಟ್ಟು ತುಷ್ಟಿಗುಣ ಮತ್ತು ಸೀಮಾಂತ ತುಷ್ಟಿಗುಣ.

4. Types of cost.
ವೆಚ್ಚದ ವಿಧಗಳು.

5. Classification of market.
ಮಾರುಕಟ್ಟೆಯ ವರ್ಗೀಕರಣ.

PART – B
ವಿಭಾಗ – ಬಿ

II. Answer any TWO questions: **2 x 10 = 20**
ಯಾವುದಾದರೂ ಎರಡು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ:

6. Explain the importance and limitations of Micro Economics.
ಸೂಕ್ಷ್ಮ ಅರ್ಥಶಾಸ್ತ್ರದ ಪ್ರಾಮುಖ್ಯತೆ ಮತ್ತು ಮಿತಿಗಳನ್ನು ವಿವರಿಸಿ.

7. Discuss the factors influencing supply.
ಪೂರೈಕೆಯನ್ನು ನಿರ್ಧರಿಸುವ ಅಂಶಗಳನ್ನು ಚರ್ಚಿಸಿ.

8. Explain the law of Diminishing marginal utility.
ಇಳಿಮುಖ ಸೀಮಾಂತ ತುಷ್ಟಿಗುಣ ನಿಯಮವನ್ನು ಪರಿಶೀಲಿಸಿ.

9. Examine internal and external economies of scale.
ಆಂತರಿಕ ಮತ್ತು ಬಾಹ್ಯಮಿತವ್ಯಯವನ್ನು ಪರಿಶೀಲಿಸಿ.

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PART – C
ವಿಭಾಗ – ಸಿ

III. Answer any TWO questions: **2 x 15 = 30**
ಯಾವುದಾದರೂ ಎರಡು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿ:

10. Discuss the types of price elasticity of demand.
ಬೆಲೆ ಬೇಡಿಕೆ ಸ್ಥಿತಿ ಸ್ಥಾಪಕತ್ವದ ವಿಧಗಳನ್ನು ಚರ್ಚಿಸಿ.

11. Explain the various properties of indifference curve.
ಔದಾಸೀನ್ಯ ವಕ್ರರೇಖೆಗಳ ವಿವಿಧ ಲಕ್ಷಣಗಳನ್ನು ವಿವರಿಸಿ.

12. Examine how price and output are determined under perfect competition.
ಪರಿಪೂರ್ಣ ಪೈಪೋಟಿ ಮಾರುಕಟ್ಟೆಯಲ್ಲಿ ಬೆಲೆ ಮತ್ತು ಉತ್ಪನ್ನಗಳು ಹೇಗೆ ನಿರ್ಧಾರವಾಗುತ್ತವೆ ಎಂಬುದನ್ನು ಪರಿಶೀಲಿಸಿ.

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FNE 220 QP : 13522

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AN AUTONOMOUS COLLEGE OF THE UNIVERSITY OF MYSORE

Fifth Semester B.Com. (CBCS) Examination

E OCT 202

Business Mathematics – DSC - 13

Time: 3 Hours **Max. Marks: 70**

PART – A

Answer the following. Each question carries Two marks: **10 x 2 = 20**

1. (a) If $A=\begin{bmatrix}7 & -2\\ 1 & 3\end{bmatrix}$. Find $3A^1$.

   (b) How many terms of the series 17, 15, 13 … amounts to 72?

   (c) What is differentiation?

   (d) Give the standard form of AP and GP for 'n' terms of the sequence.

   (e) Find 'x' and 'y' if $[x, 7] + [5, y] = [15, 11]$.

   (f) What is identity matrix? Give an example.

   (g) Calculate the simple interest on Rs.1,200 for 2 years at 8% p.a.

   (h) What is present value? Write the formula of present value.

   (i) Differentiate $3x^4 + 5x^2 + 2$.

   (j) Find the GM between 2 and 72.

PART – B

Answer any four of the following. Each question carries 5 marks: **5 x 4 = 20**

2. Find the value of x.

   If $\begin{bmatrix}4 & x & 6\\ 3 & 2 & 1\\ -5 & 7 & x\end{bmatrix}=-10$.

3. Evaluate $\lim\limits_{x\to 1}\dfrac{x^2+2x+3}{x^2+3x+4}$.

4. The 8th and 12th terms of an A.P are 12 and 28 respectively. Find the common difference and 10th term.

5. Find the present value of annuity of Rs.1,00,000 for four years at 10% p.a.

6. If $A=\begin{bmatrix}3 & 5 & -7\\ 2 & 6 & -2\end{bmatrix}$ $B=\begin{bmatrix}6 & -3 & 5\\ 2 & -5 & -9\end{bmatrix}$

   Find (a) $2A + 3B$

   (b) $5A - 2B$

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PART – C

Answer any three of the following. Each question carries 10 marks: 3 x 10 = 30

7. Solve by Cramer's rule.

$4x + y + 2z = 7$

$7x - y + z = 7$

$3x + 4y + z = 8$

8. A firm manufactures chairs and tables profit per chair and table is Rs.30 and 40 respectively. Two machines, 'A' and 'B' are used in the manufacturing process. Maximum number of hours available of each machine is 24. Production of one chair requires 4 hours of machine A and 2 hours of machine B. Each table requires 2 hours of machine A and 4 hours of machine B. How many chairs and tables are to be manufactured to maximize the profit? Solve graphically.

9. The sum of 3 numbers in GP is 31 and their product is 125 find the numbers.

10. What is compound interest on Rs.30,000 at 15% P.A. for a period of 2 years if

(a) The interest is payable half yearly
(b) The interest is payable quarterly and also find simple interest.

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Fourth Semester M.Sc. (CBCS) Examination

SEP 2021

CHEMISTRY

Nuclear, Radiation and Photochemistry

Time: 3 Hours **Max. Marks: 70**

Instruction: Answer any Ten subdivisions of questions in Part A and any Five in Part B.

PART – A

I. Answer any TEN of the following: **10 x 2 = 20**

1. (a) What is packing fraction? Give its significance.

   (b) Write Bethe's notations in the production of ^{3}H and ^{14}C.

   (c) Outline the principle of breeder reactors.

   (d) What are photosensitizers? Give examples.

   (e) With the help of energy level diagram explain fluorescence and phosphorescence.

   (f) Calculate the weight of one curie of ^{32}P. ($t_{1/2}$ = 24.3 days)

   (g) What is branching decay? Given an example.

   (h) Define LET and G – value in radiation chemistry.

   (i) Outline the principle of semiconductor radiation detectors.

   (j) How many collisions are required to decrease the neutron to 0.04 ev in water if its initial energy is 2MeV.

   (k) Explain the term "Cross section" for a nuclear reaction.

   (l) Write the term symbol for ground state nitrogen.

PART – B

II. Answer any FIVE of the following: **5 x 10 = 50**

2. (a) Deduce an expression for the kinetics of photochemical formation of HCl.

   (b) A system absorbs 2 x 10^{16} quanta of light/sec. At the end of 40 minutes it is observed that 0.01 mole of the irradiated substance was reacted. What is the quantum yield of the process. **[5 + 5]**

3. (a) Explain the mechanism of photodegradation of indigocarmine dye using ZnO as photo catalyst.

   (b) Formulate sterm – volmer equation of collisional quenching.

   (c) Distinguish singlet and triplet states in a photo chemical reaction. **[3 + 4 + 3]**

4. (a) What are radiation dosimeters? Explain the function of Fricke – dosimeter.

   (b) Explain the mechanism of radiolysis of cysteine.

   (c) Discuss the hazards in radio chemical work and radiation protection that need to be adopted. **[4 + 3 + 3]**

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5. (a) Explain the principle and working of a GM counter.

   (b) What is dead time of a GM counter? How do you determine dead time experimentally?

   (c) Calculate the age of chemical weighing 50g and having specific activity equal to 480 dpm ($t_{½}$ of ^{14}C = 5730 years) **[4 + 3 + 3]**

6. (a) Deduce the general expression for the growth of a radioactive daughter.

   $A \xrightarrow{\lambda_1} B \xrightarrow{\lambda_2} C$

   (b) With suitable examples explain photo nuclear reactions.

   (c) Discuss the production of any two radioisotopes by bombardment. **[4 + 3 + 3]**

7. (a) Explain the basic features and components of nuclear power reactors.

   (b) How does radioisotopes separated by solvent extraction method? Explain. **[5 + 5]**

8. (a) Briefly discuss the medical applications of isotopic tracers.

   (b) Explain the following:
   (i) Oppenheimer – Phillips process.
   (ii) Szilard – chalmers process. **[4 + 6]**

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