KUVEMPU UNIVERSITY
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TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS (2019-20)
B.Sc. First Year (PCM & CBZ)

General Note: *Students are advised to read the separate enclosed instructions regarding submission of Internal Assessment Assignments.*

Part I: Topics in Language Papers

*(Students to submit IAs of **TWO** Language Papers, (among them one should be English) which they have chosen at the time of admission to the Course.)*

ಕನ್ನಡ ಭಾಷಾ ಪತ್ರಿಕೆ	
1. 'ಬೆಳಗು', 'ಪ್ರಾರ್ಥನೆ', 'ಸಾವಿರಾರು ನದಿಗಳು' - ಈ ಕವಿತೆಗಳ ವಸ್ತು ಹಾಗೂ ಧೋರಣೆಗಳನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.	10 ಅಂಕಗಳು
2. ಆಡಳಿತ ಭಾಷೆ ಎಂದರೇನು ? ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ ಬೆಳೆದು ಬಂದ ಬಗೆಯನ್ನು ತಿಳಿಸಿ.	05 ಅಂಕಗಳು

ENGLISH *(Language Paper)*

1. How does Charles Dickens bring out the contrast between Fact and fancy in the lesson "Definition of horse"?   **10 Marks**
2. Critically analyse the poem "Full many a glorious morning I have seen".   **05 Marks**

HINDI (LANGUAGE PAPER)	
1 'समाधि भाई रामसिंह' कहानी का सारांश लिखिए।	10Marks
2 कवि धर्मवीर भारती का परिचय देते हुए 'कविता की मौत' के उद्धेश्य को समझाइए।	05Marks

DEPARTMENT OF URDU

ASSIGNMENT FOR FIRST YEAR B.A.,/B.Sc.,/B.COM/BBM
URDU LANGUAGE

Paper- I	TITLE: PROSE, POETRY, FICTION AND FORMS OF LITERATURE	
10 Marks	يا علامہ اقبال کا سفر بنگلور و میسور کی روداد قلم بند کیجئے۔ مولانا الطاف حسین حالی کی سیرت و شخصیت پر اظہار خیال کیجئے۔	1
5 Marks	نظم "خاکِ ہند" یا " دیہات کی ایک شام " کا خلاصہ اپنے الفاظ میں لکھئے۔	2

	SANSKRIT (LANGUAGE PAPER)	
1	I. ಭರ್ತೃಹರಿಯ ಕಾಲ-ದೇಶ-ಕೃತಿಗಳನ್ನು ಕುರಿತು ಪ್ರಬಂಧ ಬರೆಯಿರಿ. **Marks** भार्तृहरेः जीवन-काल-ग्रन्थानां विषये प्रबन्धमेकं लिखत। Write an essay on the life, period and works of Bhatruhari.	10 Marks
2	II. एकस्य लघुटिप्पणीं लिखत। ಈ ಕೆಳಗಿನ ಯಾವುದಾದರು ಒಂದರ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ Write shorts notes on any one of the following. मूर्खाणां लक्षणानि। Characteristics of fools. ಮೂರ್ಖರ ಲಕ್ಷಣಗಳು. अथवा or अनन्तवर्मणे वसुरक्षितस्य उपदेश:। Vasuraksita's advice to King Anantavar ಅನಂತವರ್ಮ ರಾಜನಿಗೆ ಮಂತ್ರಿಯಾದ ವಸುರಕ್ಷಿತನ ಹಿತವಚನಗಳು.	05 Marks

Part II: Topics in Optional Papers

Notes:

1. *Students to submit Internal Assignments of THREE Optional Papers (PCM or CBZ) in accordance with the combination opted by them.*

2. *Out of 15 Internal Assignment marks per Optional Paper, 5 marks are earmarked for the attendance of the student at the Counseling/ Contact/ Practical Programme. Therefore, the topics given below are only for 10 marks each paper. (For Mathematics paper 25 Marks).*

PHYSICS *Answer all Topics*

Topic Number		Maximum 10 Marks
1.	Define moment of inertia and radius of gyration. Derive an expression for moment of inertia of a rectangular plate about an axis passing through its centre and perpendicular to its plane.	**05** Marks
2.	Write Galilean transformation equations. Show that a frame moving with a uniform velocity relative to an inertial frame is also an inertial frame.	**05** Marks

CHEMISTRY
Answer all Topics

Topic Number		Maximum 10 Marks
1.	Explain the acidic character of acetylene.	03 Marks
2.	Explain SN^1 reaction with mechanism.	04 Marks
3.	Describe the mechanism of nitration of benzene.	03 Marks

MATHEMATICS
Answer all Topics

Topic Number		Maximum 25 Marks
1.	Find the least positive incongruent solution of $3x \equiv 9(mod\ 25)$	**05** Marks
2.	Derive pedal equation with usual notations and hence find the pedal equation of the curve $r = a\theta$	**05** Marks
3.	Find the equation of the plane through the point (1,2,3) and the line $l: x = 2 + t, y = 2 + 2t, z = -3t.$	**05** Marks
4.	Find the position and the nature of the double points of the curve $x^4 - 2ay^3 - 3a^2y^2 - 2a^2x^2 + a^4 = 0$	**05** Marks
5.	Evaluate $\int \frac{3x+1}{2x^2-x+5} dx$	**05** Marks

Topic Number	BOTANY *Answer all Topics*	Maximum 10 Marks
1.	Give an account of different types of Lichens with suitable diagrams and their economic importance.	**05** Marks
2.	Explain the structure and asexual reproduction in Rhizopus with suitable diagram. Mention their economic importance.	**05** Marks

Topic Number	ZOOLOGY *Answer all Topics*	Maximum 10 Marks
1.	Describe female urinogenital system of Rabbit with labeled diagram.	**05** Marks
2.	Explain the life history of *Plasmodium vivax* in mosquito.	**05** Marks

Part III: Topics in Compulsory Paper

¥Àj ¸ÀgÀ «eÁ£À / ENVIRONMENTAL SCIENCE

Topic Number	*Answer all Topics*	Maximum 15 Marks
1	Discuss the use and over utilization of ground water. CAv¢dõ®zÀ §¼ÀPÉ ªÀv«£À «Àw«ÄÄj zÀ §¼ÀPÁiÀ PÀj vÀ Zàaõ¹.	10 Marks
2	Write a note on structure and function of an ecosystem ¥Àj ¸ÀgÀ ªªÀ̧ÉÀiÀ gÀZÉ£É ªÀv«£À PÁÀiÀ̄ÕzÀ PÀj vÀ §gÉ̈Àj.	05 Marks

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TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS (2019-20)
B.Sc. Second Year (PCM & CBZ)

Important Notes: *Students are advised to read the separate enclosed instructions before beginning the writing of assignments.*

Out of 20 Internal Assignment marks per paper, 05 marks will be awarded for regularity (attendance) to Counseling/ Contact Programme classes pertaining to the paper. Therefore, the topics given below are only for 15 marks each paper(Maths-25 Marks each paper).

ÁUÀ-1 : ÁµÁ ¥Àwæ±À°è «ÀAiÀÄUÀ¼À

PART-1 : TOPICS IN LANGUAGE PAPERS
(Students to submit IAs of TWO Language Papers, (among them one should be English), which they have chosen at the time of admission to the Course.)

ಕನ್ನಡ ಭಾಷಾ ಪತ್ರಿಕೆ

1.	'ನಾಲ್ಕು ಮೊಳ ಭೂಮಿ' ಮತ್ತು 'ಅಮಾಸ' ಈ ಕಥೆಗಳ ಸ್ವಾರಸ್ಯವನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.	10 ಅಂಕಗಳು
2.	ದೇವರು ಇದ್ದಾನೆಯೋ ? ಅಥವಾ ನಾವು ತಂದುಕೊಂಡ ಭ್ರಮೆಯೋ ?ಚರ್ಚಿಸಿ.	05 ಅಂಕಗಳು

ENGLISH (LANGUAGE PAPER)

1	Critically analyse assassination scene in Julius ceasar	10 Marks
2	Consider "My Last Duchess" as a dramatic monologue.	05 Marks

HINDI (LANGUAGE PAPER)

1	'संविधान में हिन्दी' पर एक लेख लिखिए।।	10 Marks
2	आधुनिक युग में अनुवाद की महत्ता को दर्शाइए।	05Marks

ASSIGNMENT FOR SECOND YEAR B.A. AND B.Sc., URDU LANGUAGE

Paper- II	TITLE: PROSE, POETRY, PEN PORTRAITS AND TRANSLATION	
10 Marks	زبان دانی کے چند پہلو کے متعلق رشید حسن خاں کے نظریات قلم بند کیجئے۔ یا افسانہ "ندی" کا تجزیہ کیجئے۔	1
5 Marks	نظم "شکوہ" یا " مجھ سے پہلی سی محبت مرے محبوب نہ مانگ" کا خلاصہ لکھے۔	2

	SANSKRIT (LANGUAGE PAPER)	
1	I.ಶ್ರೀ.ಹರ್ಷ ಕವಿಯ ಕಾಲ-ದೇಶ-ಕೃತಿಗಳನ್ನು ಕುರಿತು ಪ್ರ.ಬಂಧ ಬರೆಯಿರಿ. श्री. हर्षस्य जीवन-काल-ग्रन्थानां विषये प्रबन्धमेकं लिखत। Write an essay on the life,period and works of Poet Sri.Harsha	10 Marks
2	II. एकस्य लघुटिप्पणीं लिखत। ಈ ಕೆಳಗಿನ ಯಾವುದಾದರು ಒಂದರ ಬಗ್ಗೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ. Write shorts notes on any one of the following. चम्पूकाव्यस्य लक्षणं उगमं च। Defination and origin of Champu kavya ಚಂಪೂಕಾವ್ಯದ ಲಕ್ಷಣ ಹಾಗೂ ಉಗಮ. अथवा or जीमूतरवाहनः। Jeemutharavahanaha ಜೀಮೂತವಾಹನ್.	05Marks

Part II: Topics in Optional Papers

Notes:
1. *Students to submit Internal Assignments of THREE Optional Papers (PCM or CBZ) in accordance with the combination opted by them.*
2. *Out of 15 Internal Assignment marks per Optional Paper, 5 marks are earmarked for the attendence of the student at the Counseling/ Contact/ Practical Programme. Therefore, the topics given below are only for 10 marks each paper.(For Mathematics paper 25 marks)*

Topic Number	PHYSICS *Answer all Topics*	Maximum 10 Marks
1.	Give the theory of diffraction grating for an oblique incidence	05 Marks
2.	Derive an expression for self inductance of a coil using Anderson's method using j operator	05 Marks
Topic Number	CHEMISTRY *Answer all Topics*	Maximum 10 Marks
1.	Explain the basicity of amines.	03 Marks
2.	Discuss the types of hydrogen bonding with examples.	04 Marks
3.	Discuss the structure and reactivity of carbonyl group.	03 Marks

Topic Number	MATHEMATICS *Answer all Topics*	Maximum 25 Marks
1.	Solve: $(x^2D^2 - xD + 4)y = cos(log\ x) + x\ sin(log\ x)$	**05** Marks
2.	Solve: $y - 2px + yp^2 = 0$	**05** Marks
3.	Verify Cauchy's Mean Value Theorem for the functions $f(x) = x^3$ and $g(x) = x^2$ in $[1,3]$.	**05** Marks
4.	Discuss the convergence of the series $$\sum_{n=1}^{\infty}[\sqrt{n^2+1} - \sqrt{n^2-1}]$$	**05** Marks
5.	Find the sum to infinity of the series $$\frac{1}{1.2} - \frac{1}{2.3} - \frac{1}{3.4} - \frac{1}{4.5} + \cdots .$$	**05** Marks
Topic Number	BOTANY *Answer all Topics*	Maximum 10 Marks
1.	Explain the general characters of gymnosperms	**05** Marks
2.	Explain Megasporogenesis with neat labeled Diagrams.	**05** Marks
Topic Number	ZOOLOGY *Answer all Topics*	Maximum 10 Marks
1.	Write the applications of DNA finger printing technique.	**05** Marks
2.	Give an account of pituitary hormones.	**05** Marks

Part III: Topics in Compulsory Paper

ಭಾರತದ ಸಂವಿಧಾನ/ **INDIAN CONSTITUTION**		
1	ಭಾರತದ ಸರ್ವೋಚ್ಚ ನ್ಯಾಯಾಲಯದ ರಚನೆ, ಅಧಿಕಾರ ಮತ್ತು ಕಾರ್ಯಗಳನ್ನು ವಿವರಿಸಿ.	10 Marks
2	ಭಾರತದ ಉಪರಾಷ್ಟ್ರಪತಿಯ ಕಾರ್ಯಗಳನ್ನು ವಿವರಿಸಿ.	05 Marks
1	Explain the composition, powers & functions of the Supreme Court of India.	10 Marks
2	Explain the functions of the Vice-President of India.	05 Marks

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TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS (2019-20)
B.Sc. Final Year (PCM & CBZ)

General Note: *Students are advised to read the separate enclosed instructions regarding submission of Internal Assessment Assignments.*

Notes: 1) *Students are advised to read the separate enclosed instructions regarding submission of Internal Assessment Assignments.*
2) *Students to submit Internal Assignments of all the Optional Papers (PCM or CBZ) in accordance with the combination opted by the.*
3) *Out of 25 Internal Assignment marks per Paper (30 Marks for Mathematics Papers) 05 marks will be awarded for regularity (attendance) to Counseling/ Contact Programme classes pertaining to the paper. Therefore, the topics given below are only for 10 marks each paper (Mathematics papers 25 marks).*

Topics in Optional Papers
PHYSICS
Paper- III: Spectroscopy, Wave Mechanics, Statistical Mechanics, Relativity and Astrophysics

Topic Number	Answer all Topics	Maximum 10 Marks
1.	What are continuous and characteristics X-rays? Derive Braggs's law for X-rays.	05 Marks
2.	Write a note on stellar magnitudes and hence state mass – luminosity relation. Using uncertainty principle, show that electrons do not exist inside the nucleus.	05 Marks

Paper- IV: Nuclear Physics, Solid State Physics and Electronics

Topic Number	Answer all Topics	Maximum 10 Marks
1.	The ratio of the mass of Pb^{208} to the mass of U^{238} in a certain rock specimen is found to be 0.5. Assuming that the rock originally contained no lead. Estimate its age. Half life of uranium is 4.5×10^9 years.	05 Marks
2.	Describe full adder by using logic gates with necessary truth tables.	05 Marks

CHEMISTRY

Paper- III:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	What are fuel cells? Explain H_2-O_2 fuel cell with schematic diagram.	**04** Marks
2.	Elucidate the structure of Citral.	**04** Marks
3.	Explain briefly mutarotation of glucose.	**02** Marks

Paper- IV:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	Explain ionization isomerism of complex compounds with an example.	**03** Marks
2.	Explain the synthesis of antipyrine and sulphathiazole.	**03** Marks
3.	Discuss the free radical mechanism of addition polymerization.	**04** Marks

MATHEMATICS

Paper- III:

Topic Number	Answer all Topics	Maximum 25 Marks
1.	State and prove Fundamental Theorem of Homomorphisms.	**05** Marks
2.	Show that the set of all matrices of the form $\begin{pmatrix} 0 & x \\ 0 & y \end{pmatrix}$ where $x, y \in Q$ is a non-commutative ring without units with respect to addition and multiplication of matrices.	**05** Marks
3.	Find the quotient and the remainder obtained by the division of $f(x) = x^6 + 3x^5 + 4x^2 - 3x + 2$ and $g(x) = x^2 - 2x + 3$ over Z_7.	**05** Marks
4.	Find K so that $(1, K, 5)$ is a linear combination of the vectors $(1, -3, 2)$ and $(2, -1, 1)$	05 Mark
5	If $z = \log(\sqrt{x^2 + y^2}$ prove that $xz_x + yz_y = 1.$	**05** Marks

Paper- IV:

Answer all Topics

Maximum 25 Marks

1. Find the volume of the tetrahedron formed by the plane $x = 0, y = 0, z = 0$ and the plane $6x + 4y + 3z = 12$

    05 Marks

2. If c is the semicircle with centre at $(0, 4)$ and radius 2 units and lying in the first quadrant, evaluate $\int_C (x^2 - y^2)dx + x^3y\, dy$

    05 Marks

3. Evaluate $\int_0^1 \frac{x^{2n}}{\sqrt{1-x^2}}\, dx$

    05 Marks

4. Solve $xy'' - 2(x + 1)y' + (x + 2)y = (x - 2)e^{2x}$ by finding the part of complementary function.

    05 Marks

5. Show that $\int_1^2 (3x + 1)dx = \frac{11}{2}$ using integral as limit of sum.

    05 Marks

Paper- V:

Answer all Topics

Maximum 25 Marks

1. Show that $L[f(t)] = \frac{1}{5}\tanh\left(\frac{5a}{4}\right)$ where

    $$f(t) = \begin{cases} 1, & 0 < t < \frac{a}{2} \\ -1, & \frac{a}{2} < t < a \end{cases} \quad \text{and } f(t + a) = f(t).$$

    05 Marks

2. Solve the integral equation $f(t) = at + \int_0^t f(u)\sin(t - u)\, du$

    05 Marks

3. If $f(z) = u + iv$ then show that

    $$\left(\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}\right)|f(z)|^2 = 4|f'(z)|^2$$

    05 Marks

4. Find the orthogonal trajectory of the family of curves $x^2 - y^2 + x = c$

    05 Marks

5. Evaluate $\int_0^6 \frac{dx}{1+x^2}$ by using
    (a) Trapezoidal rule
    (b) Simpson's $\frac{1}{3}$ rule.

    05 Marks

BOTANY

Paper- III:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	Explain the simple fruits with neat labeled diagram.	**05** Marks
2.	Explain the salient features of family Verbenaceae and Cucurbitaceae with labeled diagram .	**05** Marks

Paper- IV:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	What is plant breeding? Describe the objectives and principles of plant breeding.	**05** Marks
2.	Explain Embryo culture with appropriate diagrams and their applications .	**05** Marks

ZOOLOGY

Paper- III:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	Explain the modern concept of evolution.	**05** Marks
2.	Explain the role of isolating mechanism in speciation.	**05** Marks

Paper- IV:

Topic Number	Answer all Topics	Maximum 10 Marks
1.	Explain the advantages of bird migration.	**05** Marks
2.	Describe the biota of desert biome and their applications.	**05** Marks

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