MANONMANIAM SUNDARANAR UNIVERSITY

DIRECTORATE OF DISTANCE AND CONTINUING EDUCATION

INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINAITONS

B.Sc. Mathematics – Second Semester

பொதுத் தமிழ் - 1

தமிழ் இலக்கிய வரலாறு

Subject Code: J1TL21

1.) **(அ)** சிற்றிலக்கியம் தோற்றம் வளர்ச்சி குறித்து விளக்குக.

(அல்லது)

(ஆ) புதுக்கவிதை தோற்றம் வளர்ச்சி குறித்து விளக்குக.

2.) **(அ)** கடிதம் அந்நியர்கள் சிறுகதைகளை ஆராய்க.

(அல்லது)

(ஆ) வேலைக்காரி நாடகம் குறித்து கட்டரை வரைக.

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B.Sc. Mathematics – Second Semester

General English - II (Part - II English)

Subject Code: J2EN21

1.) **(A)** Examine the use of imagery and metaphor in the poem **"**Still Here".

(OR)

(B) Reflect on the enigmatic personality of princess in "The lady, Or the Tiger".

2.) **(A)** Elucidate the theme of choice and decision-making in "The Road Not Taken".

(OR)

(B) Write about the narrator's grandmother's experiences of Illiteracy and her journey towards self-empowerment in "How I Taught My Grandmother to Read?"

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INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINAITONS

B.Sc. Mathematics – Second Semester

Analytical Geometry (Two & Three Dimensions)

Subject Code: JMMA21

1.) **(A)** Trace the curve $\frac{10}{r}$ = 3 Cos θ + 4 since + S

(OR)

(B) Show that the origin lies in the acute angle between the planes $x + 2y + 2z=9$, $4x - 3y + 12z + 13=0$. Find the planes bisecting the angles between them and point out which bisects the obtuse angle.

2.) **(A)** If 'l' is the line $\frac{x}{-1} = \frac{y-1}{2} = \frac{z+2}{1}$, find equation of the plane through 'l' which is parallel to the line of intersection of the plane $5x+2y+3z=4$ and $x-y+5z+6=0$.

(OR)

(B) Find the equation of the sphere which passes through the circle $x^2+y^2+z^2-2x-4y=0, x+2y+3z=8$ and touches the plane $4x+3y=25$.

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INTERNAL ASSIGNMENT FOR MAY 2024 EXAMINAITONS

B.Sc. Mathematics – Second Semester

Integral Calculus

Subject Code: JMMA22

1) a) If $I_n = \int_0^{\pi/2} x^n \sin x \, dx$, n being positive integer, prove that $I_n + n(n-1) I_{n-2} = n\left(\frac{\pi}{2}\right)^{n-1}$.

(OR)

b) Evaluate $\iint (x^2+y^2) \, dx \, dy$ over the region for which x, y are each ≥ 0 and $x+y \leq 1$.

2) a) Find the area of the surface of the sphere of radius r,

(OR)

b) Express $\int_0^1 x^m (1-x^n)^p \, dx$ in terms of Gamma functions and evaluate the integral $\int_0^1 x^5 (1-x^3)^{10} \, dx$.

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INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINAITONS

B.Sc. Mathematics – Second Semester

Allied Physics - II

Subject Code: JEPH21

1.) **(A)** Derive Bohr formula and calculate the radius of the first orbit for hydrogen atom.

(OR)

(B) Write the principle, construction and working of a nuclear reactor.

2.) **(A)** Derive Einstein's photoelectric equation. Give the application of photoelectric effect.

(OR)

(B) Derive The Galilean and Lorentz transformation equation.

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INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINAITONS

B.Sc. Mathematics – Second Semester

Mathematics for Competitive Examination - II

Subject Code: JSMA21

1.) **(A)** **i.)** Certain sum of money amounts to Rs.1008 in 2 years and to Rs.1164 in $3\frac{1}{2}$ years. Find the sum of the rate of interest.

ii.) There is 60% increase in an amount in 6 years at simple interest. What will be the compound interestof Rs.12,000 after 3 years at the same rate?

(OR)

(B) A Machine P can print one lakh books in 8 hours machine Q can print the same no.of books in 10 hours while machine R can print them in 12 hours A11 the machines are started at 9 a.m. while machine P is closed at 11a.m. and the remaining two machines complete the work. Approximately at what time will the work be finished.

2.) **(A)** 12 men and 18 boys, working $7\frac{1}{2}$ hours a day as do a piece of work in 60 days, if a man works equal to 2 boys, then how many boys will be requited to help 21 men to do twice the work in 50 days, working 9 hours a day?

(OR)

(B) **i.)** A car travels from P to Q at a workout speed. If its speed were increased by 10km/hr, if would have taken one hour lesser to cover the distance. It would have taken further 45 minutes lesser if the speed was further increased by 10km/hr what is the distance between the two cities/

ii.) Two pipes can fill a cistern in 14 hours and 16 hours respectably. The pipes are opened simultaneously and it is found the due to leakage in the bottom it took 32 minutes move to full, the cistern. When the cistern is full, in what time the leak empty it?

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B.Sc. Mathematics – Second Semester

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Subject Code: JSMA22

1.) **(A)** Explain about symbols not on the kebeark.

(OR)

(B) Explain about list of environments.

2.) **(A)** Explain about operators.

(OR)

(B) Explain about Math alphabets and symbols.