Gajendra Purohit

Legend in CSIR-UGC NET & IIT-JAM

~ Unlock Code : GPSIR ~ PhD, CSIR NET (Maths) | Youtuber(800K+165K Sub.)/Dr.Gajendra Purohit (Maths), 17+ Yr. Experience, Author

50M Watch mins | **3M** Watch mins (last 30 days) | **44K** Followers | **2K** Dedications

- **TOP EDUCATOR ON UNACADEMY FOR CSIR NET & IIT JAM**
- **YouTuber with 800K Subscribers**
- **AUTHOR OF BEST SELLER BOOK FOR CSIR NET & IIT JAM**

Get 10% Off **Referral Code : GP SIR**

unacademy **Accelerate**

Save up to 43%*

on your CSIR UGC NET Subscription with free extension of up to 6 months

Valid only till **August 12, 11:59 PM!**

	Duration	Current Price	Total Value	What you pay	What you Save
Plus	24 months + 6 months	₹ 23,100	~~₹ 36,498~~	₹ 20,790	₹15,708 (43%)
	12 months + 3 months	₹ 16,748	~~₹ 23,967~~	₹ 15,073	₹8,894 (37%)
	6 Months + 1 Month	₹ 13,398	~~₹ 16,804~~	₹ 12,058	₹3,746 (24%)
Iconic	24 months + 6 months	₹ 52,975	~~₹ 74,515~~	₹ 47,678	₹26,838 (36%)
	12 months + 3 months	₹ 30,780	~~₹ 41,550~~	₹ 27,702	₹13,848 (33%)
	6 Months + 1 Month	₹ 21,540	~~₹ 26,130~~	₹ 19,386	₹5,744 (23%)

Subscribe Now Use code _____

*T&C apply, as available on the platform.

unacademy **Accelerate**

Save up to 43%*

on your IIT JAM Subscription with free extension of up to 6 months

Valid only till **August 12, 11:59 PM!**

	Duration	Current Price	Total Value	What you pay	What you Save
Plus	24 months + 6 months	₹ 23,100	~~₹ 36,498~~	₹ 20,790	₹15,708 (43%)
	12 months + 3 months	₹ 16,748	~~₹ 23,967~~	₹ 15,073	₹8,894 (37%)
	6 Months + 1 Month	₹ 13,398	~~₹ 16,804~~	₹ 12,058	₹3,746 (24%)
Iconic	24 months + 6 months	₹ 52,975	~~₹ 74,515~~	₹ 47,678	₹26,838 (36%)
	12 months + 3 months	₹ 30,780	~~₹ 41,550~~	₹ 27,702	₹13,848 (33%)
	6 Months + 1 Month	₹ 21,540	~~₹ 26,130~~	₹ 19,386	₹5,744 (23%)

Subscribe Now Use code _____

*T&C apply, as available on the platform.

FEE DETAILS FOR IIT JAM SUBSCRIPTION

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 908 / mo Total ₹ 21,780	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,248 / mo Total ₹ 14,974	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,497 / mo Total ₹ 13,475	
6 months Save 25%	₹ 2,042 / mo Total ₹ 12,252	
3 months Save 17%	₹ 2,269 / mo Total ₹ 6,807	
1 month	₹ 2,723 / mo Total ₹ 2,723	

To be paid as a one-time payment

Have a referral code?

Proceed to pay

Get 10% Off

After Using My Referral Code

GPSIR

Awesome! You get 10% off

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 817 / mo ~~₹ 21,780~~ ₹ 19,602	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,123 / mo ~~₹ 14,974~~ ₹ 13,477	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,348 / mo ~~₹ 13,475~~ ₹ 12,128	
6 months Save 25%	₹ 1,838 / mo ~~₹ 12,252~~ ₹ 11,027	
3 months Save 17%	₹ 2,042 / mo ~~₹ 6,807~~ ₹ 6,126	

Proceed to pay

Methods of solving differential equation

Variable separable method

The equation of this type can be put in the form $f(x)dx + g(y)dy = 0$

Integrating both sides, we get the solution

$$\int f(x)dx + \int g(y)dy = C$$

Q.1. The DE $2x\frac{dy}{dx}-3(2y-1), y(0)=\frac{1}{2}$ has

(a) No solution

(b) Infinite many solution

(c) A unique solution

(d) More than one but only finitely many solutions

Q.2. The differential equation $y - x\frac{dy}{dx} = 3\left(1 + x^2\frac{dy}{dx}\right)$ s.t

y(0) = 3 has

(a) Unique solution (b) Infinite solution

(c) Two solution

(d) More than two but finite solution

Q.3. Consider the equation $y`=\frac{-t}{y}$ then which of the following is correct.

(below c_1 is a constant and $y`=\frac{dy}{dt}$)

(a) There exist a solution for $|t| \leq |c_1|$

(b) Solution is not defined for $|t| \geq |c_1|$

(c) Both (a) and (b) are true

(d) Neither (a) nor (b) is true.

Q.4. $y(t)$ be the solution of ODE $y'(t) = 1 - y^2(t)$,

$t \in R$. $y : R \to R$, $y(0) = 0$

(a) $y(t) = 1$ for some $t_1 \in R$

(b) $y(t)$ is strictly increasing in R

(c) $y(t) > -1$ for all $t \in R$

(d) $y(t)$ is increasing in $(0, 1)$ and decreasing in $(1, \infty)$

TARGETED AUDIENCE

- IIT-JAM
- M.Sc. Entrance Exam

COMPLETE COURSE ON

MATHEMATICS

FOR IIT-JAM 2022

TOPICS TO BE COVERED

- REAL ANALYSIS
- FUNCTION OF ONE & TWO VARIABLE
- LINAER ALGEBRA
- MODERN ALGEBRA

TOPICS TO BE COVERED

- SEQUENCE & SERIES
- INTEGRAL CALCULUS
- VECTOR CALCULUS
- DIFFERENTIAL EQUATION

FEE DETAILS FOR IIT JAM SUBSCRIPTION

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 908 / mo Total ₹ 21,780	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,248 / mo Total ₹ 14,974	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,497 / mo Total ₹ 13,475	
6 months Save 25%	₹ 2,042 / mo Total ₹ 12,252	
3 months Save 17%	₹ 2,269 / mo Total ₹ 6,807	
1 month	₹ 2,723 / mo Total ₹ 2,723	

To be paid as a one-time payment

Have a referral code?

Proceed to pay

Get 10% Off

After Using My Referral Code

GPSIR

Awesome! You get 10% off

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 817 / mo ~~₹ 21,780~~ ₹ 19,602	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,123 / mo ~~₹ 14,974~~ ₹ 13,477	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,348 / mo ~~₹ 13,475~~ ₹ 12,128	
6 months Save 25%	₹ 1,838 / mo ~~₹ 12,252~~ ₹ 11,027	
3 months Save 17%	₹ 2,042 / mo ~~₹ 6,807~~ ₹ 6,126	

Proceed to pay

FOUNDATION COURSE OF

MATHEMATICS

FOR CSIR-NET

Reducible to seperation of variable

If equation of form $\frac{dy}{dx} = f(ax+by+c)$ or $\frac{dy}{dx} = f(ax+by)$ then we can be reduced to an equation in which variable can be separated for this purpose we use substitution

$ax + by + c = v$ or $ax + by = v$

Q.5. Let $(x+y+1)\frac{dy}{dx}=1$ s.t. y(1) = 1, then

(a) $x + y + 2 = 4\, e^{y-1}$

(b) $x + y - 3 = -\, e^{y-1}$

(c) $x + y + 1 = 3\, e^{y-1}$

(d) $x + y + 3 = 5\, e^{y-1}$

Q.6. The general solution of the differential equation $(x + y - 3)dx - (2x + 2y + 1)\,dy = 0$ is

(a) $\ln|3x + 3y - 2| + 3x + 6y = k$

(b) $\ln|3x + 3y - 2| - 3x - 6y = k$

(c) $7 \ln|3x + 3y - 2| + 3x + 6y = k$

(d) $7 \ln|3x + 3y - 2| - 3x + 6y = k$

Q. 9. Match each differential equation in Group I to its family solution curves from Group II

Group I	**Group II**
A. $\frac{dy}{dx}=\frac{y}{x}$	1. Circles
B. $\frac{dy}{dx}=-\frac{y}{x}$	2. Straight lines
C. $\frac{dy}{dx}=\frac{x}{y}$	3. Hyperbola
D. $\frac{dy}{dx}=-\frac{x}{y}$	

(a) A-2 ,B-3 ,C-3 ,D-1

(b) A-1 ,B-3 ,C-2 ,D-1

(c) A-2 ,B-1 ,C-3 ,D-3

(d) A-3 ,B-2 ,C-1 ,D-2

Q10. Let y(x) be the solution of the differential equation

$$\frac{d}{dx}\left(x\frac{dy}{dx}\right)=x;\ y(1)=0,\ \left.\frac{dy}{dx}\right|_{x=1}=0.$$ Then y(2) is

[IIT-JAM: 2016]

(a) $\frac{3}{4}+\frac{1}{2}\ln 2$

(b) $\frac{3}{4}-\frac{1}{2}\ln 2$

(c) $\frac{3}{4}+\ln 2$

(d) $\frac{3}{4}-\ln 2$

unacademy CSIR-UGC NET Search Login

Educator Profile

Gajendra Purohit

#5 Educator in CSIR-UGC NET

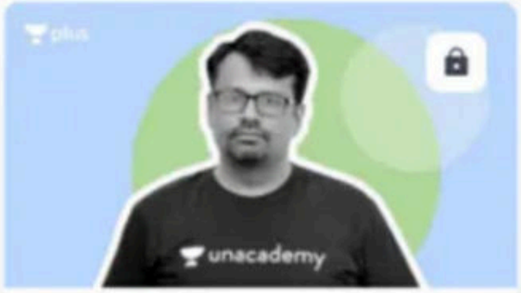
Dr.Gajendra Purohit PhD, CSIR NET (Maths) | Youtuber(330K+30k Sub.)/Dr.Gajendra Purohit (Maths), 17+ Yr. Experience, Author of Bestseller

Follow

11M Watch mins | **1M** Watch mins (last 30 days) | **22k** Followers | **1k** Dedications

CSIR-UGC NET

SEE ALL



HINDI MATHEMATICAL SCIENCES

Course on Linear Algebra, Partial Diff. Equation & Calculus

Starts on Mar 1, 2021 • 24 lessons

Gajendra Purohit

HINDI MATHEMATICAL SCIENCES

Course on Complex Analysis & Integral Equation

Starts on Jan 14, 2021 • 16 lessons

Gajendra Purohit

HINDI MATHEMATICAL SCIENCES

Foundation Course on Mathematics for CSIR 2021

Starts on Dec 7, 2020 • 20 lessons

Gajendra Purohit

Educator highlights

- Works at **Pacific Science College**
- Studied at **M.Sc., NET, PhD(Algebra), MBA(Finance), BEd**
- PhD, NET | Plus Educator For CSIR NET | Youtuber (260K+Subs.) | Director Pacific Science College |
- Lives in **Udaipur, Rajasthan, India**
- Unacademy Educator since

FEE DETAILS FOR IIT JAM SUBSCRIPTION

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 908 / mo Total ₹ 21,780	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,248 / mo Total ₹ 14,974	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,497 / mo Total ₹ 13,475	
6 months Save 25%	₹ 2,042 / mo Total ₹ 12,252	
3 months Save 17%	₹ 2,269 / mo Total ₹ 6,807	
1 month	₹ 2,723 / mo Total ₹ 2,723	

To be paid as a one-time payment

Have a referral code?

Proceed to pay

Get 10% Off

After Using My Referral Code

GPSIR

Awesome! You get 10% off

No cost EMI available on 6 months & above subscription plans

24 months Save 67%	₹ 817 / mo ~~₹ 21,780~~ ₹ 19,602	
You get 6 months extra for free		Offer expires 15 Jun 2022
✓ 12 months Save 54%	₹ 1,123 / mo ~~₹ 14,974~~ ₹ 13,477	
You get 6 months extra for free		Offer expires 15 Jun 2022
9 months Save 45%	₹ 1,348 / mo ~~₹ 13,475~~ ₹ 12,128	
6 months Save 25%	₹ 1,838 / mo ~~₹ 12,252~~ ₹ 11,027	
3 months Save 17%	₹ 2,042 / mo ~~₹ 6,807~~ ₹ 6,126	

Proceed to pay

THANK YOU VERY MUCH EVERYONE

GET THE UNACADEMY PLUS SUBSCRIPTION SOON.

TO GET 10% DISCOUNT IN TOTAL SUBSCRIPTION AMOUNT

USE REFERRAL CODE: GPSIR