

JEE–MAIN EXAMINATION – JANUARY 2026

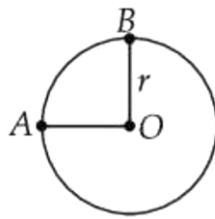
(HELD ON FRIDAY 23rd JANUARY 2026)

TIME : 9:00 AM TO 12:00 NOON

26. C"42"o "rpi "wpkqto "eqr r gt'y kg'j grf "j qtk qpvcnf "ku"cnqy gf "vq'hcm'wpf gt'vj g'i tckxk' *i | 32"o 1u⁴ +'y tqwi j c"wpkqto "j qtk qpvcnf'ci pgvle"hgfr "qh"207"i cwau'r gtr gpf lewact"vq"vj g"rpi vj "qh"vj g'y kg0'Vj g"lpf wegf "GO H cetquai'vj g'y kg'y j gp'k'tcxgn'c'xgtv'ecnf'kucpeg'qh"422"o "ku"aaaa "o X'0

- *3+"422√32
- *4+"42√32
- *5+"4√32
- *6+"204√32

27. C'y kg'qh'wpkqto 'tgukucpeg"λ 1o 'ku'dgpv'kpv'c'ekterg'qh'tcf kwu't 'cpf'cpqvj gt'r kgeg'qh'y kg'y kj 'rpi vj "4t ku'eqppgevgf'dgy ggp'r qkpw"C 'cpf "D "CQD+'cu'uj qy p'k'hi wt g0'Vj g'gs vkcrgpv'tgukucpeg'dgy ggp'r qkpw"C cpf "D "ku"aaaa " 0



- *3+" 8πλt / 5π 38
- *4+" / π 2304tλ
- *5+" 5πλt / :
- *6+" 4πλt

28. Kp'c'uetgy 'i cwi g.'y g' | gtq'qh'vj g'ekterwt'uecrg'hgu'5'f kxkukpu'cdq'xg'vj g'j qtk qpvcnf'kej 'hpg'y j gp'vj gk't'o gvcnle uwf u'ctg'dtqwi j v'kp'eqpvce0'Wukpi "y ku'kputwo gpv'vj kempgu'qh'c'uj ggv'ku'o gcuwtgf 0'K'r'kej 'uecrg'tgcf kpi 'ku'3 o o 'cpf 'vj g'ekterwt'uecrg'tgcf kpi 'ku'73'vj gp'vj g'eqtge'vj kempgu'qh'vj g'uj ggv'ku"aaaa"o o 0]Cuwo g'hcuv'eqwv'p ku'203"o o _

- *3+"3072""
- "
- *4+"306:"
- "
- *5+"3073""
- "
- *6+"3076

29. Hqwt'r g'ua'pu'o gcuwtg'vj g'rpi vj "qh'c'tqf "cu"42022'eo .3; 07'eo .39023'eo "cpf "3: 047'eo 0'Vj g'tgrv'kxg'gttqt kp'vj g'o gcuwtgo gpv'qh'cxgtci g'rpi vj "qh'vj g'tqf "ku"<

- *3+"20:"
- "
- *4+"208:"
- "
- *5+"208""
- "
- *6+"2046

30. Vj g'o qo gpv'qh'kpgt'k'qh'c'us wctg'iqqr 'o cf g'qh'hqwt'wpkqto 'uqrk' 'e { kpf gtu.'gcej 'j cxkpi 'tcf kwu'T "cpf 'rpi vj N*T < N+'cdq'w'cp'czku'r cuukpi "y tqwi j "y g'o k'f'r qkpw'qh'qr r quks'ukf gu.'ku"Vcng'vj g'o cuu'qh'vj g'gpv'k'iqqr cu"O "t'<

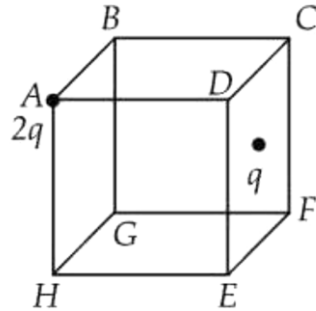
- *3+" 5/8 OT⁴ 2 3/8 ON⁴
- *4+" 5/6 OT⁴ 2 9/34 ON⁴
- *5+" 5/8 OT⁴ 2 9/34 ON⁴
- *6+" 5/6 OT⁴ 2 3/8 ON⁴

31. C'vj kp'r tkuo "y kj "cpi ng"7° qh'tghtcevkxg'lpf gz "304"ku'eqo dlpf "y kj "cpqvj gt'r tkuo "qh'tghtcevkxg'lpf gz "30 "vq r tqf wegf'f kur gtukp'y kj qw'f gxlcv'kp0'Vj g'cpi ng'qh'ugeqpf'r tkuo "ku"aaaa 0

- *3+"60°
- *4+"7°
- *5+"8°
- *6+"6°

32. Vj g'f g'Dtqi rkg'y cxgrgpi vj "qh'cp"qz {i gp"o qrgewg"cv' 49° E "ku z × 32⁴³⁴ "o 0'Vj g'xcnwg"qh' z "ku"xcnwg"Rrcpenū" eqpucpv= 8085 × 32⁴⁵⁶ Lū. 'Dqnrū o cpp'eqpucpv'= 306: × 32⁴⁴⁵ 'L1M.'o cuu'qh'qz {i gp"o qrgewg"= 7063 × 32⁴⁴⁸ "mi +"

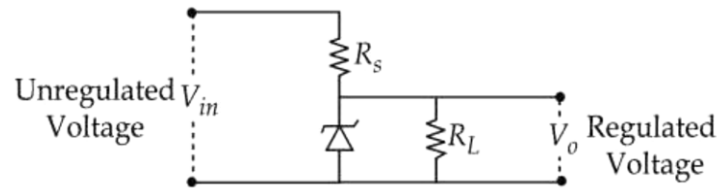
33. Vy q'r qkpv'ej cti gu"4s "cpf "s "ctg'r megf "cv'xgtvgz" C "cpf "egpvtg"qh'hceg'EF GH'qh'vj g'ewdg'cu'uj qy p'kp'hki wtg0 Vj g'grgevtke"mzw'r cuukpi "vj tqwi j "vj g'ewdg'ku<



*3+" s ϵ_2 *4+" 5s $4\epsilon_2$ *5+" 5s $6\epsilon_2$ *6+" 5s ϵ_2

34. Kp'j {ftqi gp'cvqo "ur gevtwo . "T ↓ "T {fdgti ū'eqpucpv+
 C0Vj g'o czko wo "y cxgrgpi vj "qh'vj g'tcf kcvkp"qh'N{ o cp'ugtkgu'ku $\frac{6}{5T}$
 D0Vj g'Dcm gt'ugtkgu'kgu'kp'vj g'xkukdrg'tgi kqp"qh'vj g'ur gevtwo
 E0Vj g'o kpo wo "y cxgrgpi vj "qh'vj g'tcf kcvkp"qh'Rcuj gp'ugtkgu'ku $\frac{7}{T}$;
 F0Vj g'o kpo wo "y cxgrgpi vj "qh'N{ o cp'ugtkgu'ku" $\frac{7}{6T}$
 Ej qqug'vj g'eqttegevc'puy gt'htqo "vj g'qr vkpu'i kxgp'dgny "<
 *3+"C.'D'Qpn(" " *4+"C.'D'cpf 'F'Qpn("
 *5+"C.'D'cpf 'E'Qpn(" *6+"D.'F'Qpn("

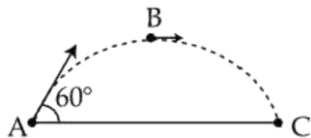
35. Vj g'hqmy kpi "f lci tco "uj qy u'c" gppt'f kqf g'cu'c'xqnci g'tgi wrcvt0Vj g' gppt'f kqf g'ku'tcvf "cv X_i | 7"X "cpf "vj g' f gultg' "ewtgpv'kp'hqcf "ku'7"o C0Vj g'wptgi wrcvf "xqnci g'lwtege'cp'uw r n' "wr vq'47"X0Epukf g'kpi "vj g' gppt'f kqf g' ecp'y kj uc'pf "hwt'ko gu'qh'vj g'hqcf "ewtgpv'vj g'xcnwg"qh'gukvqt" T_u "uj qy p'kp'ekewk+uj qwf "dg"aaaa " 0



*3+"6222" *4+"32" *5+"322" *6+"3222"

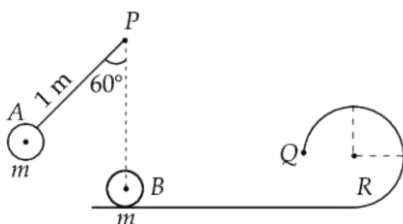
36. I kxgp'dgny "ctg'y q'ucvgo gpw'qpg'ku'rdgmgf "cu'Cuugt vkp" *C +cpf "vj g'qyj gt'ku'rdgmgf "cu'T gcuqp" *T +0 Eqpukf gt'c' hgttqo ci pgvle"o cvgtkcn<
Assertion (A) : "Vj g'kpf kxf wcn'cvqo u'kp'c' hgttqo ci pgvle"o cvgtkcnf quugu'c"o ci pgvle" f k' r qng"o qo gpv'cpf "k'p'gtcv y kj "qpg'cpqj gt'kp'uwej "c'y c{ "vj cv'vj g' "ur qpvcpgqwn' "c'ki p'vj go ugrku'hqto kpi "f qo c'kpu0
Reason (R) : "Cv'j ki j "gpqwi j "vgo r gtcwtg."vj g'f qo c'k'p'utwewtg"qh'hgttqo ci pgvle"o cvgtkcnf kulpygi tcvgu0Vj wu. o ci pgv'k' cvkq'p'y knif kucr r gct'cv'j ki j "gpqwi j "vgo r gtcwtg"npqy p'cu'Ewtkg'vgo r gtcwtg0
 Kp'vj g'hki j v'qh'vj g'cdq'xg'ucvgo gpw.'ej qqug'vj g'eqttegevc'puy gt'htqo "vj g'qr vkpu'i kxgp'dgny "<
 *3+"Dqj "C'+cpf "T'+ctg'tvg'cpf "T'+ku'vj g'eqttegevc'zr r'pcvkq'qh"C+
 *4+"C'+ku'hcnug'dw" *T'+ku'tvg
 *5+"C'+ku'tvg'dw" *T'+ku'hcnug
 *6+"Dqj "C'+cpf "T'+ctg'tvg'dw" *T'+ku'pqv'vj g'eqttegevc'zr r'pcvkq'qh"C+

37. Cp'qdlgev'ku'r tqlgevgf 'y kj 'npgvle'gpgti { "M'ltqo 'c'r qkv"C 'cv'cp'cpi ng"82° 'y kj 'y g'j qtk qpwrn'Vj g'tcvk'qh vj g'f'k'htgpeg'lp'npgvle'gpgti kgu'cv'r qkvu"D 'cpf'E 'vq'y cv'cv'r qkv"C 'ugg'hki wtg+'lp'y g'cdugpeg'qh'ck'ht'kvqp ku"<



- *3+"3<4"
- *4+"3<6"
- *5+"4<5"
- *6+"5<6"

38. C'uo cm'dqd"C 'qh'o cuu"o 'ku'cwcej gf 'vq'c'o cuugu'tki kf 'tqf'qh'rgpi vj '3'o 'r kxqvgf 'cv'r qkv'R 'cpf 'ngr v'cv'cp cpi ng'qh"82° 'y kj 'xgt'v'ecni'cu'uj qy p'lp'hki wtg0Cv'f k'v'cpeg'qh'3'o 'dgm'y 'r qkv'R. 'cp'kf gp'v'ecni'dqd"D 'ku'ngr v'cv' tgu'qp'c'uo qqy 'j qtk qpwrn'uw'hceg'y cv'gz'vgpf u'vq'c'ekewrct't'ceni'qh'tcf kuu"T 'cu'uj qy p'lp'hki wtg0K'i'dqd"D l'wu'o cpci gu'vq'eqo r'ngv'y g'ekewrct'r'cvj 'qh'tcf kuu"T 'wr'vq'c'r qkv'S 'chgt'dgkpi 'j k'gr'v'v'ecni'd'{"dqd"C . vj gp'tcf kuu"T ku'aa'o 0



- *3+"4 4 √5 / 7
- *4+"3 / 7
- *5+"4 2 √5 / 7
- *6+"5 / 7

39. Vy q'uo cm'dcmu'y kj "o cuugu"o "cpf"4"o "ctg'cwcej gf 'vq'dqvj "gpf u'qh'c'tki kf 'tqf'qh'rgpi vj "f "cpf'pgi rki kdrq o cuu0K'i'cpi wrct"o qo gpwo "qh'y ku'u{vgo "ku" N "cdqw"cp'czku"*C+'r cuukpi "y tqwi j "ku'egp'v'g'qh'o cuu'cpf r gtr gpf'kwrc't'vq'y g'tqf 'y gp'cpi wrct'x'gn'ekv'{"qh'y g'u{vgo "cdqw"C 'ku"<

- *3+"6 N / 5 o f^4
- *4+"5 N / 4 o f^4
- *5+"4N / 7 o f^4
- *6+"4N / o f^4

40. C'uko r ng'r gpf wwo "qh'utkpi "rgpi vj "52"eo 'r gthqto u"42"quekm'v'kpu'lp"32"u'0'Vj g'rgpi vj "qh'y g'utkpi 'tgs vkt gf hqt'y g'r gpf wwo "vq'r gthqto "62"quekm'v'kpu'lp'y g'uco g'vko g'f'v'cv'k'p'ku" aaaa "eo '0]Cuuo g'y cv'y g'o cuu'qh vj g'r gpf wwo 'tgo ckpu'uco g0

- *3+"207
- *4+"37"
- *5+"342"
- *6+"907"

41. K'c'r gthgevn' 'l'p'gr'v'v'ecni'eqm'kukp.'y q'ur j gtu'o cf g'qh'y g'uco g'o cvgtkcn'y kj "o cuugu"37"mi "cpf"47"mi . "o qxlpi lp"qr r'q'v'k'f'k'ge'v'k'pu'y kj "ur g'gf u'qh"32"o "lu" cpf "52"o "lu"."t'gur'v'v'ecni'g'ce'j "qy g't'cpf "v'v'ecni'v'qi g'y gt0 Vj g't'kug'lp"vgo r'g'v'v'ecni'g'p" "E "+"k'cm'y g'j g'cv'r tqf weg'f "f'v'v'ecni' vj g'eqm'kukp"ku't'g'v'v'ecni'g'f "d{ "y g'ug'ur j gtu. "ku"< *ur'g'v'v'ecni'j g'cv'qh'ur j gtu'o cvgtkcn'53ecni'mi 0'E" cpf "3ecni| #60'L"+

- *3+"307"
- "
- *4+"307"
- "
- *5+"3066"
- "
- *6+"3087"

42. ओरवज 'Nkuv'/'Ky kj 'Nkuv'/'Kk

**List – I
Relation**

C. $\oint \vec{E} \cdot d\vec{l} = -\frac{d}{dt} \oint \vec{B} \cdot d\vec{a}$

B. $\oint \vec{B} \cdot d\vec{l} = \mu_0 \left(I + \epsilon_0 \frac{d\phi_E}{dt} \right)$

C. $\oint \vec{E} \cdot d\vec{a} = \frac{1}{\epsilon_0} \int \rho dv$

D. $\oint \vec{B} \cdot d\vec{l} = \mu_0 I$

**List – II"
Law"**

I. Ampere's circuital law

II. Faraday's laws of electromagnetic induction

III. Ampere - Maxwell law

IV. Gauss's law of electrostatics

Choose the correct answer from the options given below :

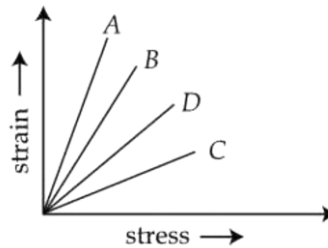
(1) A-IV, B-I, C-II, D-III

(2) A-II, B-III, C-I, D-IV

(3) A-I, B-IV, C-III, D-II

(4) A-II, B-III, C-IV, D-I

43. The strain-stress plot for materials A, B, C and D is shown in the figure. Which material has the largest Young's modulus ?



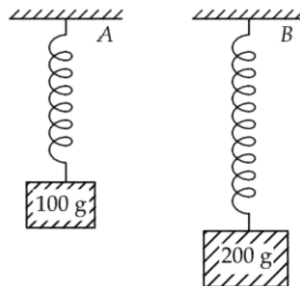
(1) D

(2) C

(3) B

(4) A

44. Two blocks with masses 100 g and 200 g are attached to the ends of springs A and B as shown in figure. The energy stored in A is E. The energy stored in B, when spring constants k_A, k_B of A and B, respectively satisfy the relation $4k_A = 3k_B$, is :



(1) 2E

(2) 4E

(3) 3E

(4) $\frac{4}{3} E$

45. Consider light travelling from a medium A to medium B separated by a plane interface. If the light undergoes total internal reflection during its travel from medium A to B and the speed of light in media A and B are 2.4×10^8 m/s and 2.7×10^8 m/s, respectively, then the value of critical angle is :

(1) $\cos^{-1} \left(\frac{8}{9} \right)$

(2) $\sin^{-1} \left(\frac{9}{8} \right)$

(3) $\tan^{-1} \left(\frac{8}{\sqrt{17}} \right)$

(4) $\cot^{-1} \left(\frac{3}{\sqrt{13}} \right)$

Section B

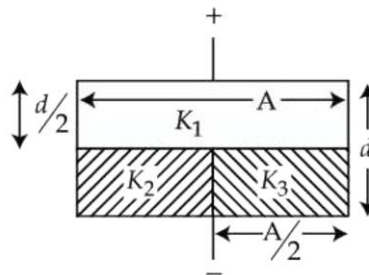
46. In two separate Young's double-slit experimental set-ups and two monochromatic light sources of different wavelengths are used to get fringes of equal width. The ratios of the slits separations and that of the wavelengths of light used are 2:1 and 1:2 respectively. The corresponding ratio of the distances between the slits and the respective screens (D_1 / D_2) is ____ .

47. The equation of the electric field of an electromagnetic wave propagating through free space is given by :
 $E = \sqrt{377} \sin(6.27 \times 10^3 t - 2.09 \times 10^{-5} x) \text{ N/C}$.

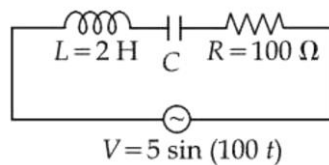
The average power of the electromagnetic wave is $\left(\frac{1}{\alpha}\right) \text{ W/m}^2$. The value of α is ____

(Take $\sqrt{\frac{\mu_0}{\epsilon_0}} = 377$ in SI units)

48. The space between the plates of a parallel plate capacitor of capacitance C (without any dielectric) is now filled with three dielectric slabs of dielectric constants $K_1 = 2, K_2 = 3$ and $K_3 = 5$ (as shown in figure). If new capacitance is $\frac{n}{3} C$ then the value of n is ____ .



49. Using a variable frequency a.c. voltage source the maximum current measured in the given LCR circuit is 50 mA for $V = 5 \sin(100t)$. The values of L and R are shown in the figure. The capacitance of the capacitor (C) used is ____ μF .



50. A simple pendulum made of mass 10 g and a metallic wire of length 10 cm is suspended vertically in a uniform magnetic field of 2 T. The magnetic field direction is perpendicular to the plane of oscillations of the pendulum. If the pendulum is released from an angle of 60° with vertical, then maximum induced EMF between the point of suspension and point of oscillation is ____ mV. (Take $g = 10 \text{ m/s}^2$)