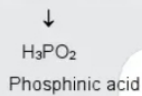


Sol. P_4 (White) + Conc. NaOH \rightarrow NaH_2PO_2 + PH_3



2. Activation energy of a first order reaction is 532611 J, then relation between rate constant of reaction at 300 K and 310 K is $K_{300} = [X] \times 10^{-3} K_{310}$, the value of X is ----- (Given $R = \frac{J}{mole \times K}$, $\ln 10 = 2.3$).

Ans. (1)

Sol. $\ln\left(\frac{K_{310}}{K_{300}}\right) = \frac{E_a}{R} \left(\frac{1}{300} - \frac{1}{310}\right)$

$$= \frac{532611}{8.3} \left(\frac{10}{300 \times 310}\right) = 6.9$$

$$\ln\left(\frac{K_{310}}{K_{300}}\right) = 6.9$$

$$\ln\left(\frac{K_{310}}{K_{300}}\right) = 2.3 \times 3$$

$$\ln\left(\frac{K_{310}}{K_{300}}\right) = 3 \ln(10)$$

$$\left(\frac{K_{310}}{K_{300}}\right) = 10^3$$

$$K_{300} = 1 \times 10^{-3} K_{310}$$

So X = 1

3. Which of the following is true regarding colloidal solution

- (1) Brownian movement destabilize the colloidal solution
- (2) Opposite charge sol when mixed neutralize the charge stable the colloidal solution
- (3) Similar charge on colloidal particle makes the sol stable
- (4) None of these

Ans. (3)

Sol. Similar charge on colloidal particle makes the sol stable

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

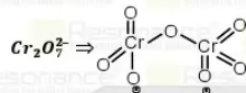
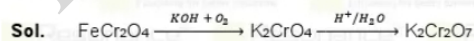
This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 1

Resonance® Educating for better tomorrow | JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

4. In the following reaction sequence $FeCr_2O_4 \xrightarrow{KOH} A \xrightarrow{H^+/H_2O} B$
Find no of terminal oxygen atom in product 'B'.

Ans. (6)



No. of terminal oxygen = 6

5. Enthalpy of vaporization of 17 gram of ammonia is 23.4 kJ, then find enthalpy of vaporisation of 85 gram ammonia.

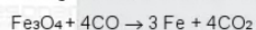
Ans. (117)

Sol. ΔH_{vap} of 17 gram of NH_3 = 23.4 kJ

$$\Delta H_{vap} \text{ of 85 gram of } NH_3 = \left[\frac{23.4}{17} \times 85\right]$$

$$= 23.4 \times 5 = 117 \text{ kJ}$$

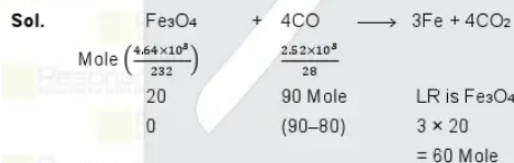
6. 4.64kg Fe_3O_4 react with 2.52kg of CO according to following reaction



Then find mass of Iron is formed in gram is

- (1) 3360 gram (2) 5040 gram (3) 2800 gram (4) 3920 gram

Ans. (1)

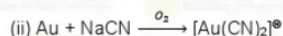
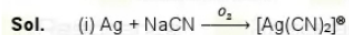


Mass of Fe = 60 × 56 = 3360 Gram

7. In extraction of which metal cyanide is not used

- (1) Zn (2) Au (3) Ag (4) Cu

Ans. (1)



(iii) During froth floatation process of copper pyrites it contain PbS and ZnS as impurities, NaCN is used as depressant during this process

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/Resonance | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 2

Resonance Educating for better tomorrow | JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

8. In which solution AgCl has maximum solubility

- (1) 0.01MKCl (2) 0.01MHCl
(3) 0.01MAgNO₃ (4) Deionised water

Ans. (4)

Sol. In kcl, HCl and AgNO₃ solubility decrease due to common ion effect so solubility maximum in deionised water

9. Column-I

Metal

- (i) Li
(ii) Na
(iii) Rb
(iv) Cs

- (1) b
(2) a
(3) d
(4) b

Ans. (1)

Sol.

Column-II

Wave length of Colour (λ(nm))

- (a) 780
(b) 670.8
(c) 589.2
(d) 455.5

- (i) (ii) (iii) (iv)
(1) b c a d
(2) a b c d
(3) d c b a
(4) b a c d

Metal	Li	Na	K	Rb	Cs
Colour	Crimson red	Yellow	Violet / Lilac	Red violet	Blue
Wave length (λ(nm))	670.8	589.2	766.5	766.5	766.5

10. Identify correct decreasing order of covalent character.

- (a) LiCl (b) NaCl (c) RbCl (d) CsCl
(1) a > b > c > d (2) d > c > b > a (3) a > c > b > d (4) a > b > d > c

Ans. (1)

Sol. On moving down the group covalent character is decreasing.

11. 0.55 gram of an organic compound containing nitrogen in kjeldahl method it give NH₃ gas which neutralize

completely by 12.5 ml, 1 M H₂SO₄, then find % of nitrogen in organic compound. [Report your answer to nearest integer]

<https://previouspaper.in>

Ans. (64)

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/resowatch | blog.resonance.ac.in

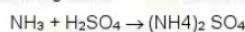
This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 3

Resonance[®] | JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

Sol. Organic compound → NH₃(g)

0.55 g



VF = 1 VF = 2

Eq. of NH₃ = eq. of H₂SO₄

$$1(n_{\text{NH}_3}) = 2 [1 \times 12.5] \times 10^{-3}$$

$$n_{\text{Nitrogen}} = 2 \times 12.5 \times 10^{-3}$$

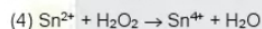
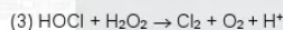
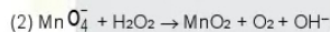
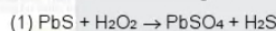
$$W_{\text{Nitrogen}} = [14 \times 2 \times 12.5] \times 10^{-3} \text{ gram}$$

$$= 35 \times 10^{-2} \text{ gram}$$

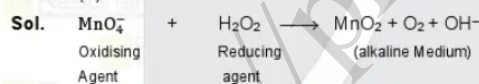
$$\% \text{ of Nitrogen} = \frac{35 \times 10^{-2}}{55 \times 10^{-2}} \times 100$$

$$= 63.636\% \approx 64\%$$

12. In which of the following reaction H₂O₂ act as reducing agent (in alkaline medium)



Ans. (2)



13. 1.2 ml of acetic acid with density 1.02 gram/ml When dissolved in 2 Lit of water depression in freezing point observed is 0.0198°C then find % dissociation of acetic acid in this solution [given K_f(H₂O) = 1.85K.kg/ mole]

(Report your answer to nearest integer)

Ans. (5)

Sol. Mass of CH₃COOH = dV = 1.02 × 1.2
= 1.224 gram

$$\text{Molality of CH}_3\text{COOH solution} = \left(\frac{1.224}{60 \times 2} \right)$$

$$\Delta T_b = i k_f \times m$$

$$0.0198 = i \times 1.85 \left(\frac{1.224}{60 \times 2} \right)$$

$$i = 1.0493$$

$$i = 1 + (n - 1)\alpha$$

$$1.0493 = 1 + (2 - 1)\alpha$$

$$\alpha = 0.0493$$

$$\% \alpha = 4.93 \approx 5$$

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | [facebook.com/ResonanceEdu](https://www.facebook.com/ResonanceEdu) | twitter.com/ResonanceEdu | www.youtube.com/resowatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

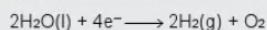
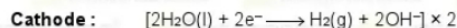
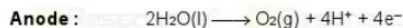
PAGE # 4

<https://previouspaper.in>

14. 0.1 amp current is passed for 2 hours through dil. H_2SO_4 solution, then find total volume of gases (in ml) produced as electrode during electrolysis at NTP. [Given volume of 1 mole of ideal gas at NTP = 22.7 lit.]

Ans. (127)

Sol. Charge = $q = it = 0.1 \times 2 \times 60 \times 60$
 $= 720 \text{ C}$



4F charge produced = 3 mole gas

$$\left(\frac{720}{96500}\right)F \text{ charge produced} = \left(\frac{3}{4} \times \frac{720}{96500}\right) \text{ mole} = \frac{3 \times 18}{9650} \text{ mole}$$

$$\text{Volume of gas (at NTP)} = \frac{54}{9650} \times 22.7 = 0.127 \text{ lit.} = 127 \text{ ml}$$

15. Correct electronic configuration of Pt (atomic no. 78) :

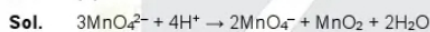
(1) $[\text{Xe}] 4f^{14} 5d^{10} 6s^0$ (2) $[\text{Xe}] 4f^{14} 5d^9 6s^1$ (3) $[\text{Xe}] 4f^{14} 5d^8 6s^2$ (4) $[\text{Xe}] 4f^{14} 5d^{10} 6s^0$

Ans. (2)

Sol. Pt (Z = 78) = $[\text{Xe}] 4f^{14} 5d^9 6s^1$

16. MnO_4^{2-} disproportionate in acidic medium then find magnetic moment (spin only) in higher oxidation state product.

Ans. (0)



$_{25}\text{Mn}^{7+} = 3d^0$ unpaired electron = 0

$$\mu(\text{spin only}) = 0$$

17. Which of the following set of statement is correct.

- (a) magnetic quantum number can have negative value.
- (b) In ground state electron are always filled according to increasing order of energy of orbital.
- (c) Total number of nodes are $(n - 2)$.
- (d) electronic configuration of Cr is $[\text{Ar}] 3d^5 4s^1$.

(1) a, b, d (2) a, b, c (3) b, c, d (4) a, c

Ans. (1)

Sol. Total number of nodes are $(n - 1)$.

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/resowatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 5

18. An ideal gas (density = 0.121 gram/ml) at 257°C temperature have pressure 100 mm of Hg then find molar mass of gas. [Given R = 0.082 Latam / mole.k.]

[Report your answer to nearest integer]

Ans. = 40

Sol. For ideal gas

$$PM = dRT$$

$$\left(\frac{100}{760}\right)M = 0.121 \times 0.082 \times 530$$

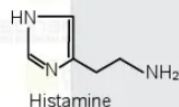
$M = d \times 330.296$

$M = 39.97 \approx 40$

19. Which of the following compound does not contain Sulphur atom.
 (1) Cimetidine (2) Ranitidine (3) Histamine (4) Saccharin

Ans. (3)

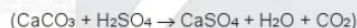
Sol. It is fact.



20. The acid that is believed to be mainly responsible for the damage of Taj Mahal is
 (1) Phosphoric acid (2) Hydrochloric acid
 (3) Hydrofluoric acid (4) Sulphuric acid

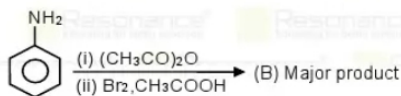
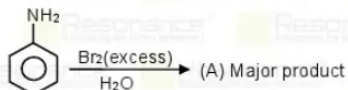
Ans. (4)

Sol. The acid rain reacts with marble, CaCO_3 of Taj Mahal



causing damage to this wonderful monument that has attracted people from around the world. As a result, the monument is being slowly disfigured and the marble is getting discoloured and lustreless.

21. In the given reaction, the product (A) and (B) are respectively.



Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005

Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

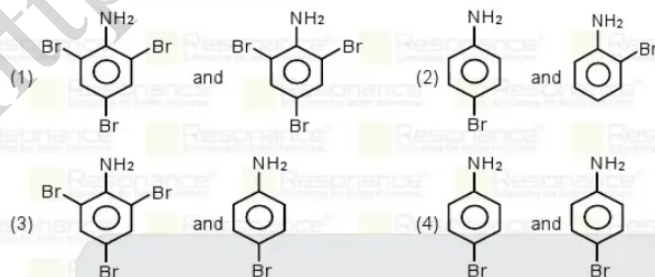
To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029

Toll Free : 1800 258 5555 | 7340010333 | Facebook.com/ResonanceEdu | Twitter.com/ResonanceEdu | www.youtube.com/resowatch | Blog.resonance.ac.in

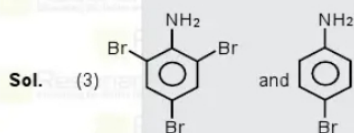
This solution was download from Resonance JEE (MAIN) 2022 Solution portal

PAGE # 6

Resonance® JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY



Ans. (3)



22. **Statement-I** : During esterification of acid with alcohol, the reaction proceeds via Nucleophilic acyl substitution.

Statement-II : Present of Electron withdrawing group on acid increases the rate of esterification.

- (1) Statement-I is correct only. (2) Statement-II is correct only.

(3) Both statement-I & II are correct. (4) None of the statement is correct.

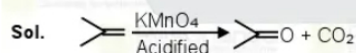
Ans. (3)

Sol. Both statement-I & II are correct.

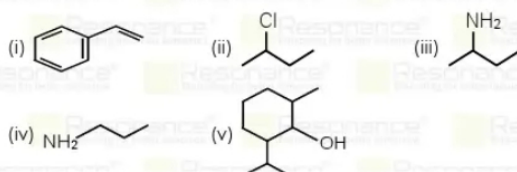
23. C_4H_8 with acidified $KMnO_4$ gives effervescence of a gas and a ketone. The compound is

- (1) But-1-ene (2) Cis-But-2-ene
(3) Trans-But-2-ene (4) 2-Methylpropene

Ans. (4)



24. How many of the following compounds has asymmetric carbon atom.



Ans. (3)

Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
Toll Free : 1800 258 5555 | 7340010333 | Facebook.com/ResonanceEdu | Twitter.com/ResonanceEdu | www.youtube.com/reswitch | Blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 7

Resonance® | JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

Sol. (ii), (iii) and (v) has asymmetric carbon atom.

25. **Statement-I** : Phenol shows acidic character so it is soluble in NaOH.

Statement-II : Phenol is weaker acid than alcohol and water.

- (1) Statement-I is correct only. (2) Statement-II is correct only.
(3) Both statement-I & II are correct. (4) None of the statement is correct.

Ans. (1)

Sol. Phenol is stronger acid than alcohol and water but weakest acid then organic and mineral acids.

26. The polymer made of which of the following monomer can be stretches and still retain its physical form.

- (1) Buna-N (2) Bakelite
(3) Terylene (4) Nylon-6,6

Ans. (1)

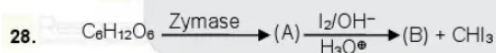
Sol. In elastomeric polymers, the polymer chains are held together by the weakest intermolecular forces. These weak binding forces permit the polymer to be stretched. A few 'crosslinks' are introduced in between the chains, which help the polymer to retract to its original position after the force is released as in vulcanised rubber. The examples are buna-S, buna-N, neoprene, etc.

27. In DNA and RNA, which of sugar molecule is present respectively.

- (1) Ribose, 2-DeoxyRibose (2) 2-DeoxyRibose, Ribose
(3) Ribose, Ribose (4) 2-DeoxyRibose, Deoxy-2-Ribose

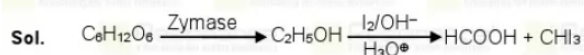
Ans. (1)

Sol. The sugar found in polynucleotides is either ribose (a monosaccharide pentose) or 2' deoxyribose. A nucleic acid containing deoxyribose is called deoxyribonucleic acid (DNA) while that which contains ribose is called ribonucleic acid (RNA).



No. of carbon in compound is

Ans. (1)



Resonance Eduventures Ltd.

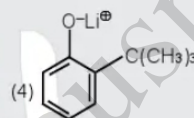
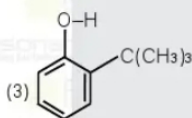
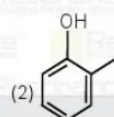
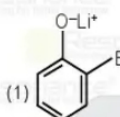
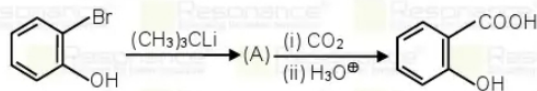
Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

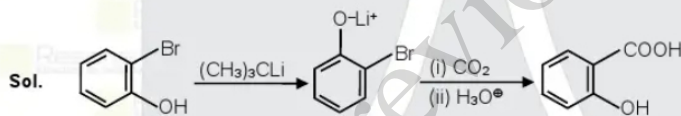
This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 8

Resonance Educating for better tomorrow | JEE MAIN-2022 | DATE : 29-06-2022 (SHIFT-1) | PAPER-1 | MEMORY BASED | CHEMISTRY

29. Product (A) in the given reaction is



Ans. (1)



Resonance Eduventures Ltd.

Reg. Office & Corp. Office : CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Ph. No.: +91-744-2777777, 2777700 | FAX No.: +91-022-39167222

To Know more : sms RESO at 56677 | Website : www.resonance.ac.in | E-mail : contact@resonance.ac.in | CIN : U80302RJ2007PLC024029
Toll Free : 1800 258 5555 | 7340010333 | facebook.com/ResonanceEdu | twitter.com/ResonanceEdu | www.youtube.com/reswatch | blog.resonance.ac.in

This solution was download from Resonance JEE (MAIN) 2022 Solution portal PAGE # 9




Resonance[®]
Educating for better tomorrow

BEST RANK

from Kota Classroom among
all Institutes of Kota

AIR
8

CHAITANYA AGGARWAL
JEE (Advanced) 2021





Numbers that Inspire Students to **EXCEL**

Trust of 9,50,000+ STUDENTS*	Total Selections 1,78,546 <small>JEE (Adv.) - Eligibility for JEE (Adv.)** - NEET (UG)</small>	AIRs in TOP-100 350 <small>JEE (Adv.) - JEE (Main) - NEET (UG)</small>	Pool of 800+ FACULTY	Study Centres in 70+ CITIES
---	---	--	-----------------------------------	--

* Since 2001 | **Students Qualified from JEE (Main) to JEE (Advanced) since 2013
Total Selections & AIR in TOP-100 in JEE (Adv.) / IIT-JEE (since 2002), JEE (Main)/ AIEEE (since 2009), NEET (UG) / AIPMT (since 2012) | AIR: All India Rank

For Class XII Passed Students

<p>TARGET</p> <p>JEE (Main+Advanced) 2023</p> <p>COURSE VISHESH (JD)</p> <p> CLASS STARTS 27th June & 4th July</p>	<p>TARGET</p> <p>JEE (Main) 2023</p> <p>COURSE ABHYAAS (ED)</p> <p> CLASS STARTS 27th June & 4th July</p>
--	---

*T & C Apply

Scholarship upto 90%*
on the basis of JEE (Main) Percentile Score

अपनी **स्कोलरशिप** जानने के लिए **अपनी जेईई (मेन) परसेंटाइल वाट्सअप करें: 73400-10345**

Resonance Eduventures Ltd.
Kota Study Centre & Registered Corporate Office: CG Tower, A-46 & 52, IPIA, Near City Mall, Jhalawar Road, Kota (Raj.) - 324005
Tel. No.: 0744-2777777, 2777700 | CIN: U80302RJ2007PLC024029 | www.resonance.ac.in | contact@resonance.ac.in