Ores of Magnesium
Magnesite : MgCO₃
Dolomite : CaCO₃·MgCO₃
Kieserite : MgSO₄·H₂O
Kainite : K₂SO₄·MgSO₄·3H₂O
Carnalite : KCl·MgCl₂·6H₂O
Talc : 3MgO·4SiO₂·H₂O
Spinel : MgO·Al₂O₃

Ores of aluminium
Bauxite : Al₂O₃·2H₂O
Cryolite : Na₃AlF₆
Feldspar : K₂O·Al₂O₃·6SiO₂ or KAlSi₃O₈
Mica : K₂O·3Al₂O₃·6SiO₂·2H₂O
Corundum : Al₂O₃
Alumstone or Alunite : K₂SO₄·Al₂(SO₄)₃·4Al(OH)₃

Ores of iron
Magnetite (Fe₃O₄)
Red haematite (Fe₂O₃)
Brown haematic Limonite or (Fe₂O₃·3H₂O)
Spathic iron or siderite (FeCO₃)
Iron pyrites (FeS₂)

Ores of copper
Copper glance or Chalcocite: Cu₂S
Chalcopyrites(copper pyrites): Cu₂S·FeS₂
Cuprite : Cu₂O
Malachite : [CuCO₃·Cu(OH)₂]
Azurite : [2CuCO₃·Cu(OH)₂]

Ores of lead
Galena : PbS
Anglesite : PbSO₄
Cerussite : PbCO₃
Lanarkite : PbO, PbSO₄
Crocoisite : PbCrO₄

Ores of silver
Silver glance or Argentite (AgS)
Horn silver (AgCl)
Ruby Silver (3Ag₂S, Sb₂S₃)
Silver Copper glance or stromeyerite (Ag₂S, Cu₂S)

Colours of different compounds
Black Coloured Compounds
1. PbS
2. Ag₂S
3. CuS
4. Cu₂S
5. NiS

Blue Colour Compounds
(a) Light Blue Compounds
1. Cu(OH)₂
2. Cu(NO₃)₂
3. CuCl₂
4. CuSO₄·5H₂O (Blue Vitriol)
5. Zn₂[Fe(CN)₆] (Bluwish white ppt.)
6. Co(OH)₂

(b) Deep Blue Compounds
1. [Cu(NH₃)₄]SO₄ (Switzer’s reagent)
2. [Cu(NH₃)₄](NO₃)₂
3. Fe₄[Fe(CN)₆]₃ (Prussian’s blue)
4. Fe₃[Fe(CN)₆]₂ ( Turnbull’s blue)
5. Na₄[Fe(CN)₅(NO)] (Violet)

Green Colour Compounds
1. Ni(OH)₂ (green ppt.)
2. Hg₂I₂ (green ppt.)
3. Cr₂O₃ (green solid)
4. Cr(OH)₃ (green ppt.)
5. Cr₂(SO₄)₃
6. CrCl₃
7. FeSO₄·7H₂O
8. FeCl₂
9. FeSO₄·(NH₄)₂SO₄·6H₂O (Mohr’s salt)
10. Na₂MnO₄
11. K₂MnO₄
12. B(OC₂H₅)₃ (Burns with green edge flame)
13. CoO·ZnO (Riemann’s green)

Yellow Coloured Compounds
1. As₂S₃
2. As₂S₅
3. CdS
4. SnS₂ (Artificial gold)
<table>
<thead>
<tr>
<th>Red Coloured Compounds</th>
<th>Pink Coloured Compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. FeS₂ (Fool’s gold)</td>
<td>1. Mn(OH)₂</td>
</tr>
<tr>
<td>6. ((\text{NH}_4\text{)}_2\text{S}_x) (where (x = 2) to (5))</td>
<td>2. MnS</td>
</tr>
<tr>
<td>7. PbCrO₄</td>
<td>3. (\text{MnO}_4^-) (Pink or purple in aq. solution)</td>
</tr>
<tr>
<td>8. BaCrO₄</td>
<td>4. Co(CN)₂</td>
</tr>
<tr>
<td>9. SrCrO₄</td>
<td>5. ((\text{NH}_4\text{)}_2\text{SnCl}_6)</td>
</tr>
<tr>
<td>10. AgBr (light yellow)</td>
<td>6. CoCl₂-6H₂O</td>
</tr>
<tr>
<td>11. AgI (Dark yellow)</td>
<td></td>
</tr>
<tr>
<td>12. PbI₂</td>
<td></td>
</tr>
<tr>
<td>13. PbO (in Cold)</td>
<td></td>
</tr>
<tr>
<td>14. ZnO (in Hot)</td>
<td></td>
</tr>
<tr>
<td>15. HgO (Yellow ppt.)</td>
<td></td>
</tr>
<tr>
<td>16. Na₂O₂ (Pale yellow)</td>
<td></td>
</tr>
<tr>
<td>17. Ag₃PO₄</td>
<td></td>
</tr>
<tr>
<td>18. Ag₂CO₃</td>
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</tr>
<tr>
<td>19. Ag₃AsO₃</td>
<td></td>
</tr>
<tr>
<td>20. Cu(CN)₂</td>
<td></td>
</tr>
<tr>
<td>21. K₃[Co(NO₂)₆]</td>
<td></td>
</tr>
<tr>
<td>22. ((\text{NH}_4\text{)}_3\text{PO}_4\cdot12\text{MoO}_3)</td>
<td></td>
</tr>
<tr>
<td>23. ((\text{NH}_4\text{)}_3\text{AsO}_4\cdot12\text{MoO}_3)</td>
<td></td>
</tr>
<tr>
<td>24. Na₂CrO₄</td>
<td></td>
</tr>
<tr>
<td>25. CrO₄²⁻ (Yellow in solution)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brown Coloured Compounds</th>
<th>Orange Coloured Compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SnS</td>
<td>1. Sb₂S₃</td>
</tr>
<tr>
<td>2. Bi₂S₃</td>
<td>2. Sb₂S₅</td>
</tr>
<tr>
<td>3. CdO</td>
<td>3. KO₃</td>
</tr>
<tr>
<td>4. PbO₂</td>
<td>4. CsO₂</td>
</tr>
<tr>
<td>5. Fe(OH)₃ (Reddish Brown)</td>
<td>5. (\text{CrO}_4)^{2-} (Orange in aq. solution)</td>
</tr>
<tr>
<td>6. Fe₂O₃ (Reddish Brown solid)</td>
<td></td>
</tr>
<tr>
<td>7. (\text{Fe}_2(\text{CO}_3)_3)</td>
<td></td>
</tr>
<tr>
<td>8. Cu₂O (Reddish Brown)</td>
<td></td>
</tr>
<tr>
<td>9. Ag₃AsO₄ (Reddish Brown)</td>
<td></td>
</tr>
<tr>
<td>10. Cu₂I₂ + (I^-) (Brown ppt.)</td>
<td></td>
</tr>
<tr>
<td>12. Cu₂[Fe(CN)₆] (Chocolate brown)</td>
<td></td>
</tr>
<tr>
<td>13. NO₂ (Brown gas)</td>
<td></td>
</tr>
<tr>
<td>14. ([\text{Fe(H}_2\text{O})_5(\text{NO})]\text{SO}_4) (Brown ring)</td>
<td></td>
</tr>
</tbody>
</table>
Summary of the Extraction of Metals

<table>
<thead>
<tr>
<th>Metal</th>
<th>Main Occurrence</th>
<th>Main method of Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>Common Salt, NaCl</td>
<td>Electrolysis of fused NaCl with CaCl₂</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Carnallite, KCl₂MgCl₂.H₂O.6H₂O, Magnesite, MgCO₃</td>
<td>Electrolysis of fused MgCl₂ with KCl</td>
</tr>
<tr>
<td>Calcium</td>
<td>Lime stone, CaCO₃, Gypsum, CaSO₄.2H₂O</td>
<td>Electrolysis of fused CaCl₂ and CaF₂</td>
</tr>
<tr>
<td>Zinc</td>
<td>Zinc blende, Zns, Calamine ZnCO₃</td>
<td>Reduction of ZnO with carbon or electrolysis of ZnSO₄</td>
</tr>
<tr>
<td>Lead</td>
<td>Galena, PbS</td>
<td>Reduction of PbO with carbon</td>
</tr>
<tr>
<td>Tin</td>
<td>Cassiterite, SnO₂</td>
<td>Reduction of SnO₂ with carbon</td>
</tr>
<tr>
<td>Chromium</td>
<td>Chromite, Fe₃O₃·Cr₂O₃</td>
<td>Reduction of Cr₂O₃ with Al</td>
</tr>
<tr>
<td>Nickel</td>
<td>Millerite, NiS</td>
<td>Reduction of NiO with CO</td>
</tr>
<tr>
<td>Mercury</td>
<td>Cinnabar, HgS</td>
<td>Direct reduction of HgS by heat alone</td>
</tr>
</tbody>
</table>

Preparations Tips

The day before IITJEE

- Let your intensity of studies come down in the later half of the day.
- Don’t study anything fresh after 2pm but don’t sleep.
- If possible go through small summary of inorganic. Even if you are not able to recollect, don’t discourage yourself.
- Be bold. You will come out successfully.
- Evening relax – may be you can watch TV/going to temple/prayers.
- Eat healthy food. This is not only for this day, start from today.
- Eat healthy breakfast – supplement with iron rich food (kellogs/palak)
- Take almonds – rich in omega 3 fatty acid.
- Drink lots of water
- Avoid oily and spicy food.
- You can check your centre location.

IITJEE day...

- Ensure that you have taken the admit card plus the required stationeries.
- You should reach the test centre at least half an hour before the exam.
- Carry water bottle.
- Take it as a normal day as if you are going to write a practice test in your institute.
- Enter the examination hall in a positive mood to crack the test.
- Re-check your stationeries and synchronize your wristwatch with the center’s clock
- Fill up all the particulars carefully.
- If there is any mistake in your omr, address to it immediately.

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Tips for solving question paper

Don’t go to the exam hall with prejudiced mind for starting with a particular subject, always decide the subject after scanning the paper thoroughly as you may find some other subject more easier as compared to that you have decided earlier. After getting the paper scan the paper once and if you find any questions which could be solved very easily attempt them immediately, in this way you may save time for tough part of the question paper.

➢ Read instructions carefully
➢ Scan the problems immediately
➢ Make a rough estimate of easy, moderate and most difficult questions.
➢ Keep attempting the easy/scoring ones first.
➢ Don’t go for complicated calculation. Complicated calculation means wrong solution
➢ Single choice options are going to be mark fetching ones. Try to attempt as much as possible.
➢ Don’t take any guess work. Concentrate on one question at a time.
➢ Don’t be panic if others start attempting
➢ Never make any conclusion by looking at others.
➢ Don’t make any conclusions about the paper in the exam hall.
➢ Minimize the possibility of using eraser
➢ Never submit the paper before time. If you have some time in your hand, better to revise the solution
➢ Use the rough space wisely so that you can cross verify at any time.
➢ Use the value of constants given in the paper in solving a numerical. If the value is not mentioned, use the one you remember. Carry out all rough work only in the space given in the paper.
➢ Attempting to solve all questions in haste increases the chances of error. It is better to solve slightly fewer questions faultlessly.
➢ While attempting questions, go on segregating them by putting some identification mark. These questions are from topics that you have prepared.
➢ After the first exam, don’t discuss the paper with anyone. Try to understand the difference between facts and fiction.
➢ What ever you have done is good. Say to yourself before the 2nd paper that you are going to do this much better.
➢ Don’t take too much time on attempting a question. If some concepts are not at all known to you, immediately come out of it.

Success is yours
➢ Believe in basics
➢ Make a proper plan & execute with a cool pace of mind. Success is easy, keep it simple.

SAKSHI team wishes you a thumping VICTORY in JEE’11