NEET (UG) GRAND TEST

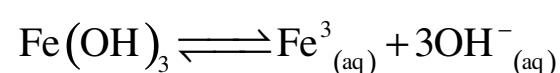**No. of Questions: 180**   **Max. Marks: 720**   **Time: 3 Hours**
[Each Question carries 4 marks. For each incorrect response, one mark will be deducted]

నిన్నటి 'విద్య' తరువాయి

157. In the reaction

$$Fe(OH)_3 \rightleftharpoons Fe^3_{(aq)} + 3OH^-_{(aq)}$$

If the conc. of OH^- is decreased by ¼ times, then equilibrium conc. of Fe^{3+} will be increased by
1) 16 times   2) 4 times
3) 8 times   4) 64 times

158. The fraction of the total volume occupied by the atoms present in a simple cube is:
1) $\frac{\pi}{6}$ 2) $\frac{\pi}{\sqrt{2}}$
3) $\frac{\pi}{\sqrt{3}}$ 4) $\frac{\pi}{2}$

159. For two liquids A and B the vapour pressure ratio is $P_A^0 : P_B^0 = 1:3$. In the ideal solution of A and B the mole fraction of ratio of A to B in the vapour state is 4 : 3 then the mole fraction of 'B' in the solution (all measurements are done at the same temperature)
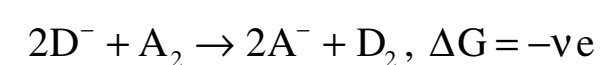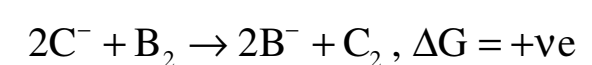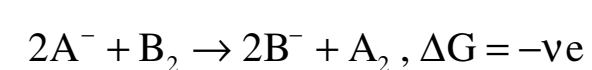1) $\frac{3}{4}$ 2) $\frac{2}{3}$ 3) $\frac{1}{5}$ 4) $\frac{4}{5}$

160. Elevation in boiling point is highest for:
1) 0.1m urea
2) 0.1m NaCl
3) 0.1m $MgCl_2$
4) 0.1m $AlCl_3$

**161.** The concept of over potential is used to explain the formation of products during electrolysis with respect to:
1) Thermodynamically controlled product
2) Kinetically controlled product
3) Both thermodynamic and kinetically controlled product
4) Neither thermodynamic and kinetically controlled product

162. Based on the following data select the correct statement.

$2A^- + B_2 \rightarrow 2B^- + A_2$, $\Delta G = -ve$
$2C^- + B_2 \rightarrow 2B^- + C_2$, $\Delta G = +ve$
$2D^- + A_2 \rightarrow 2A^- + D_2$, $\Delta G = -ve$

then:
1) $E^0_{C^-/C_2} > E^0_{B^-/B_2} > E^0_{A^-/A_2} > E^0_{D^-/D_2}$
2) $E^0_{C^-/C_2} < E^0_{B^-/B_2} < E^0_{A^-/A_2} < E^0_{D^-/D_2}$
3) $E^0_{C^-/C_2} < E^0_{B^-/B_2} > E^0_{A^-/A_2} > E^0_{D^-/D_2}$
4) $E^0_{C^-/C_2} > E^0_{B^-/B_2} < E^0_{A^-/A_2} < E^0_{D^-/D_2}$
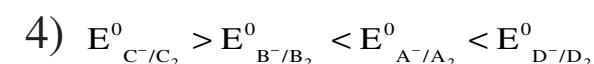
163. The rate constant value for 1st order, 2nd order and 3rd order reactions is same [A = products] then (r = rate of reaction):
1) If $[A]=1 \rightarrow r_1 = r_2 = r_3$
2) If $[A]<1 \rightarrow r_1 > r_2 > r_3$
3) If $[A]>1 \rightarrow r_3 > r_2 > r_1$
4) All are valid

164. Gold numbers of four protective colloids A, B, C and D are 0.04, 0.004, 10 and 40 respectively. The protective power of these colloids is:
1) B > A > C > D
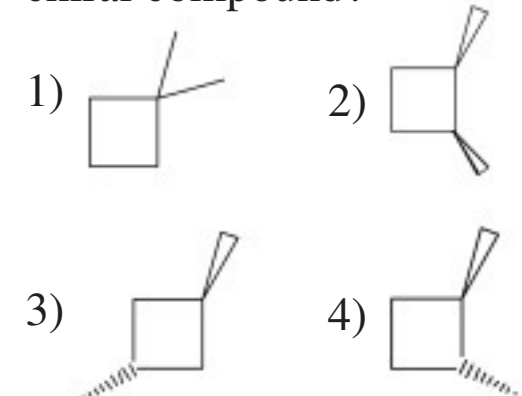2) A > B > C > D
3) B < A < C < D
4) B > A > D > C

165. Select the correct match.
1) Hoopes process - Refining of aluminium
2) Monds process - Refining both Ni and Au
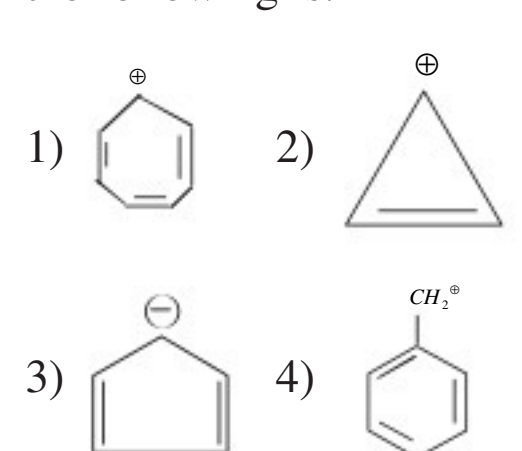3) Serpecks process - Refining of red bauxite
4) Zone refining - Metallurgy of Zn

166. The volume of oxygen liberated from 20ml of 20 vol. of H_2O_2 solution at S.T.P is:
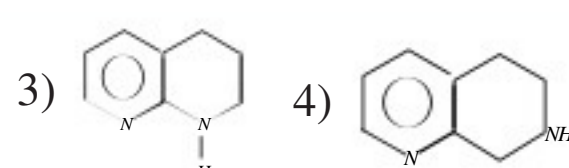1) 40ml   2) 400ml
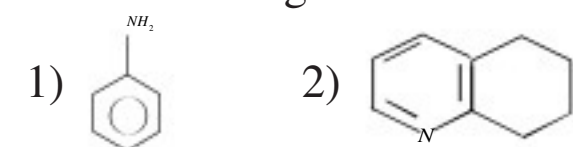3) 440ml   4) 220ml

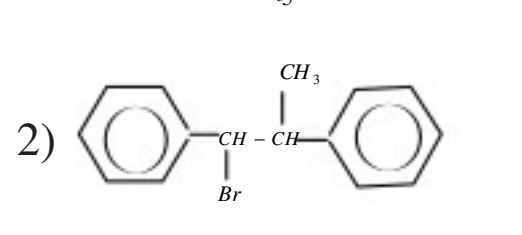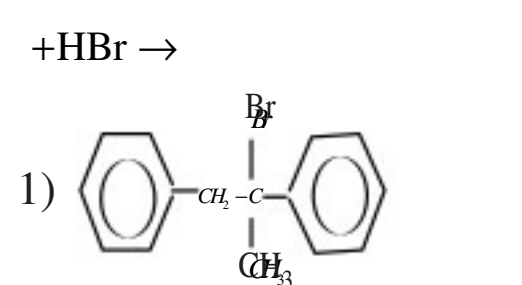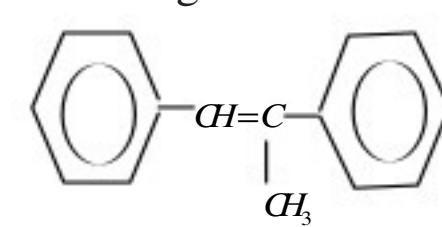**167.** Which of the following is a chiral compound?

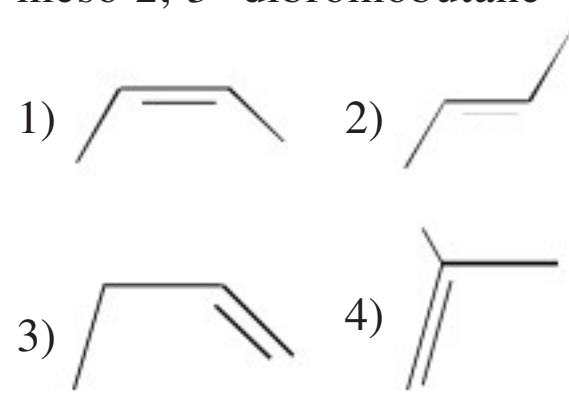**168.** Most stable carbocation among the following is:

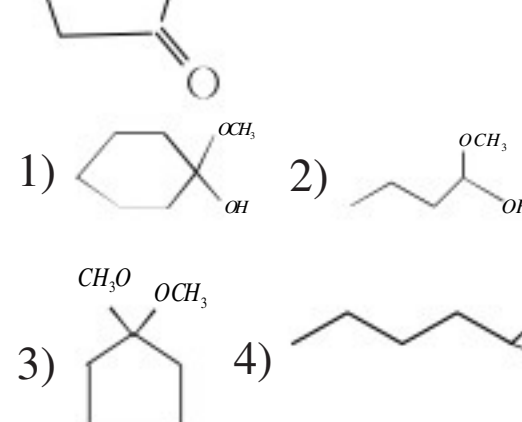
169. Tendency for electron pair donation is highest in:
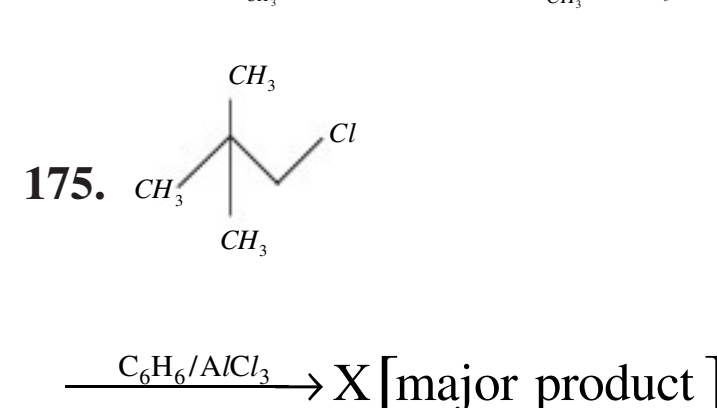

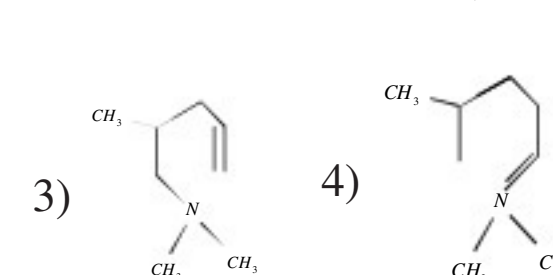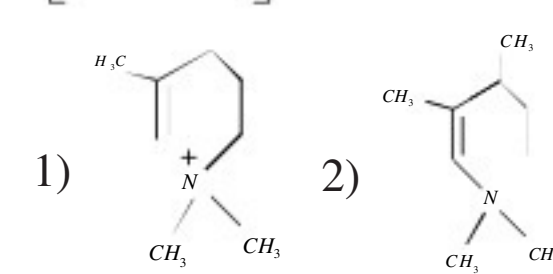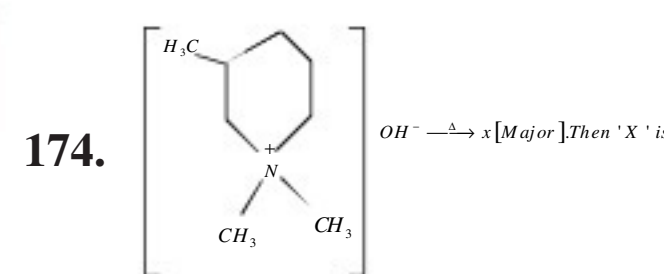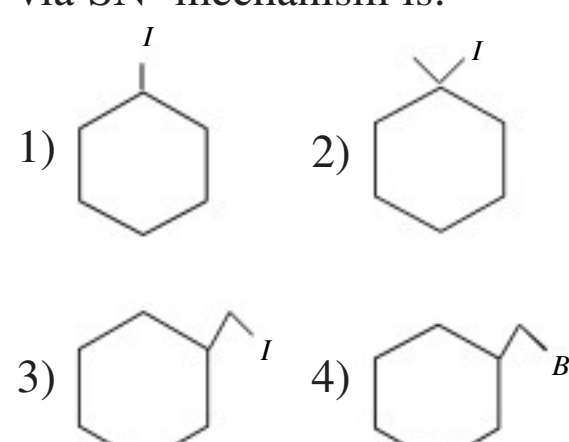**170.** The major product of the following reaction is:

+HBr →

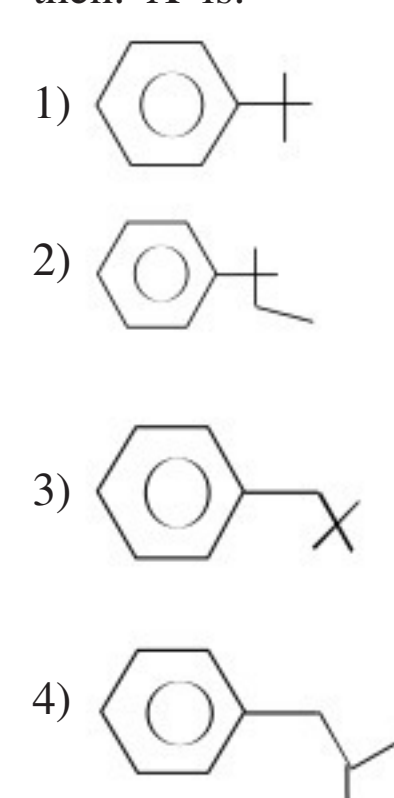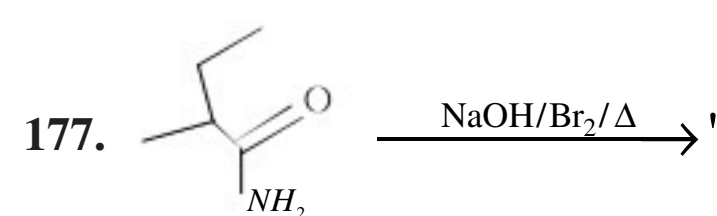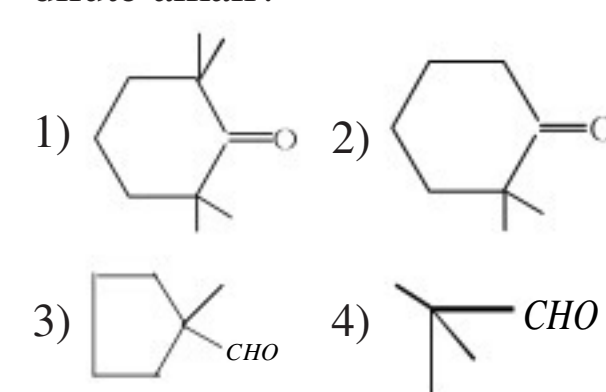**171.** Which of the following on treatment with Br_2/CCl_4 gives meso 2, 3- dibromobutane

172.

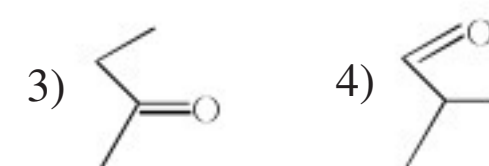**173.** The halide that react most radily via SN^2 mechanism is:

174.

$OH^- \xrightarrow{\Delta} x[Major]$ Then 'X' is
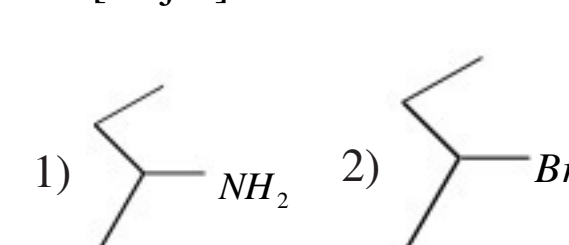

175.

$\xrightarrow{C_6H_6/AlCl_3}$ X [major product]

then. 'X' is:

176. Which of the following has a tendency to undergo self addition reaction in the presence of dilute alkali?

177.

$\xrightarrow{NaOH/Br_2/\Delta}$ '

'x '[major].Then ' x 'is

3)   4)

178. Hair conditioner among the following is:
1) Sodium dodecyl benzene sulphonate
2) Cetyl trimethyl ammonium bromide
3) Sodium stearate
4) B.H.T.

179. Lactose is a reducing sugar. This property is due to:
1) Anomeric Carbon of $\beta - D$ – glucose
2) Anomeric Carbon of $\beta - D$ – galactose
3) Anomeric Carbon of $\alpha - D$ – glucose
4) Anomeric Carbon of $\alpha - D$ – galactose

180. Repeating structural unit of orlon is:
1) $-(CH_2 - CH)-$ with ph
2) $-(CH_2 - CH)-$ with CN
3) $-(C-(CH_2)_5 NH)-$ with O
4) $-(HN - CH_2 - C-$ with O, $NH - (CH_2)_4 - C)-$

KEY

157) 4   158) 1   159) 3   160) 4
161) 2   162) 2   163) 4   164) 1
165) 1   166) 2   167) 4   168) 1
169) 4   170) 1   171) 2   172) 3
173) 3   174) 3   175) 2   176) 2
177) 1   178) 2   179) 1   180) 2

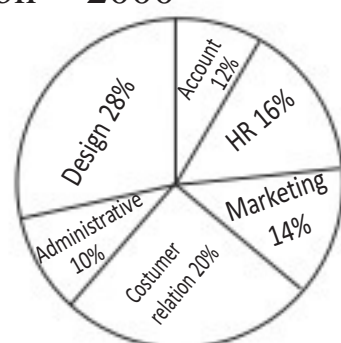**SBI POs, Clerks**
Quantitative Aptitude

Directions (Q.No.1-3): Study the following graph carefully and answer the questions that follow:
Percentage of employees in different department of a company.
Total No. of employees = 4500

Percentage of females in each department in the same company. Total No.of females in the Organisation = 2000

1. What is the total number of males from Design, Customer Relation and HR departments together?

a) 1550   b) 1510
c) 1540   d) 1580
e) None of these

2. What is the ratio of number of males in HR department to the number of males in Accounts department respectively?
a) 3 : 17   b) 4 : 15
c) 2 : 15   d) 2 : 13
e) None of these

3. The number of females in the Marketing department are approximately what percent of the total employees in Marketing and

Customer Relation Departments together?
a) 26%   b) 36%   c) 6%
d) 46%   e) 16%

Key & Explanations

1. Number of employees in design, customer relation and HR departments together
$4500 \times (32 + 22 + 8)\%$

$\Rightarrow \frac{4500 \times 62}{100} = 2790$

Number of women employees in these departments
$= 2000 \times (28 + 20 + 16)\%$

$\Rightarrow \frac{2000 \times 64}{100} = 1280$

∴Required number of males
= 2790 − 1280 = 1510   *Ans: b*

2. Required ratio =

$= \frac{4500 \times \frac{8}{100} - 2000 \times \frac{16}{100}}{4500 \times \frac{12}{100} - 2000 \times \frac{12}{100}}$

$= \frac{40}{300} = \frac{2}{15}$ *Ans: c*

3. Required percentage
$= \frac{280}{1800} \times 100 = 15.555 \approx 16\%$ *Ans: e*