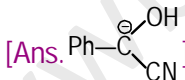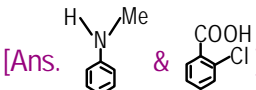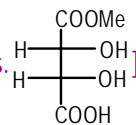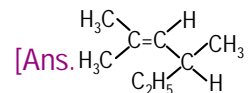## CHEMISTRY [Booklet No. 2680563]

Category : I

1. At 25ºC, the solubility ... will be[Ans.2×10^{-3}]

2. The IUPAC..[Ans.2,2-dimethyl-4-oxopentanenitrile]

3. In $SOCl_2$ ... angles are   [Ans.96º&106º]

4. (+)-2-chloro-2-..formation of[Ans.carbocation]

5. Acid catalysed hydrolysis ... will be[Ans.0]

6. The different colours ... respectively,
[Ans.red, violet & blue]

7. Baeyer's reagent is

[Ans.alkaline potassium permanganate]

8. The correct order ... ions is

[Ans. $H^+ > HO^- > K^+ > CH_3COO^-$]

9. Nitric acid can be ... compounds
[Ans.nitric oxide and nitrogen dioxide]

10. In the...benzaldehyde, is   [Ans. $Ph-\overset{\ominus}{\underset{CN}{C}}-OH$]

11. In O_2 and H_2O_2 ... length is   [Ans.1.28Å]

12. The change ... defined as [Ans.$dS = \delta q_{rev}/T$]

13. Correct pair ... separately done is

[Ans. $\underset{\text{Ph}}{\overset{H}{N}}\text{-Me}$ & $\underset{Cl}{\overset{COOH}{}}$]

14. Chlorine gas...give[Ans.calcium..& oxygen]

15. For a chemical ... 27ºC will be   [Ans. e]

16. 2-Methylpropane..give[Ans.1-Chloro-2...product]

17. The half-life for decay...would be[Ans.15/16]

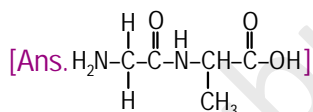18. A van der ... ideally when [Ans. the pressure is very low]

19. The optically active ... is   [Ans. $\begin{array}{c} COOMe \\ H-\!\!\!-OH \\ H-\!\!\!-OH \\ COOH \end{array}$]

20. In diborane ... bridges is   [Ans.four]

21. The reaction ... formation of   [Ans.the tetranionic complex of iron(II)... NOS^- ion]

22. At 25ºC, pH of a 10^{-8} M ... will be[Ans.7.02]

23. An optically active ... compound is

[Ans. $\underset{C_2H_5}{\overset{H_3C}{C}}=\underset{H}{\overset{H}{C}}\overset{CH_3}{}$]

24. Mixing of two..lead to[Ans.incre. ...entropy...system]

25. The ground..molecule is[Ans.$1\sigma^2 2\sigma^2 3\sigma^2 1\pi^2 2\pi^2$]

26. When aniline..obtained is[Ans.m-nitroaniline]

27. The measured..cnst.=$1.86\,K\,kg\,mol^{-1}$)[Ans.4×10^{-5}]

28. The ore chromite is   [Ans.$FeCr_2O_4$]

29. 'Sulphan' is [Ans.100% oleum (a...H_2SO_4)]

30. Pressure-vol..(where E..the system)   [Ans. zero]

31. Amongst $[NiCl_4]^{2-}$...species are
[Ans.$[NiCl_4]^{2-}$,...$[Ni(PPh_3)_2Cl_2]$

32. Ribose..differentiated by[Ans.Osazone formation]
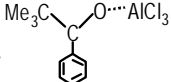
33. Number of hydrogen...at 25ºC is[Ans.8.01 million]

34. The correct..at 28ºC is [Ans.p-chloro...p-nitrophenol]

35. For isothermal...parameters will be
[Ans.$\Delta U=0$,...$\Delta H=0$]

36. Addition of..halide complex[Ans.tetrahedral $K_2[HgI_4]$]

37. Amongst the...compound is [Ans.$C_8H_{12}O$]

38. A conductivity..constant will be [Ans.1.00 cm^{-1}]

39. The orange...respectively [Ans.$K_2Cr_2O_7$ & CrO_3]

40. The best method...the reaction of
[Ans.$(Me_3C)_2CuLi$ & $MeCH_2Br$]

41. The condition...process is[Ans.lowering of Gibbs...temperature and pressure]

42. The ... NO_2^+ and NO_2^- is [Ans. $NO_2 < NO_2^- < NO_2^+$]

43. The correct...dipeptide gly-ala is

[Ans. H₂N–C–C–N–CH–C–OH]

44. Equi.conductivity..cm^2mol^{-1}, respec.]
[Ans. 271.8S cm^2eq^{-1}]

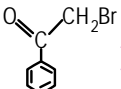45. For BCl_3..character is [Ans. $BCl_3 < AlCl_3 < GaCl_3$]

Category : II

46. In borax the..respectively[Ans. five & four]

47. Reaction of..$AlCl_3$ gives[Ans.]

(wrong Ques. Me_3COCl should be Me_3CCOCl)

48. 1×10^{-3} mole..acid is 4.75 at 25ºC)[Ans.4.75]

49. On heating,..decomposes to [Ans.$HClO_4$,Cl_2O_2 & H_2O]

50. The best method...of Me_3CCN is
[Ans.to react Me_3CMgBr with ClCN]

51. Bromination..produces mainly [Ans.]

52. The standard..(given..=8.314 JK/mol)[Ans.4.7 Kg]

53. Silicone oil...poly.. [Ans. trimethy.. dimethyl..]

54. Treatment..liq.NH_3 gives [Ans.]

55. Identify the CORRECT statement [Ans.All the... are required to.. completely]

Category : III

56. In basic medium...product is (are) [Ans.in ammoniacal...oxime,to...one Ni^{2+}, in the other]

57. Correct..*n*-butanol and *t*-butanol is (are)
[Ans.t-butanol...n-butanol,boiling...n-butanol]

58. Tautomerism.. [Ans.$(Me_3CCO)_3CH$;]

59. The important..is (are) [Ans.All options are correct]

60. Consider the...product is/are [Ans.rate = – ½[dp(NO_2)/dt];rate=½[dp(NO_2F)/dt]]