



CHEMISTRY

BOOKS - SHARAM PUBLICATION

2018 QUESTION PAPER

Exercise

1. The total number of atoms per unit cell of a face centred cubic crystal is

A. 01

B. 02

C. 03

D. 04

Answer:



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2. The overall order of reaction which has rate expression, $\text{Rate} = K[A]^{1/2}[B]^{3/2}$ is _____

A. 01

B. 02

C. 03

D. zero

Answer:



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3. The alloy containing a non-metal is _____.

A. Brass

B. Bronze

C. Steel

D. White metal

Answer:



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4. A transition metal ion has configuration $[Ar]3d^5$ is in tripositive oxidation state. Its atomic number is :

A. 29

B. 28

C. 32

D. 24

Answer:



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5. Vitamin B_{12} is known as -

A. Thiamine

B. Riboflavin

C. Pyridoxine

D. Cyano Cobalamine

Answer:

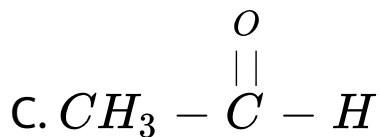
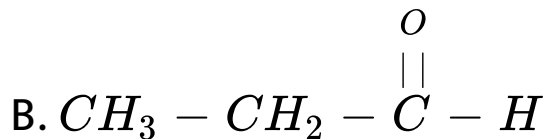
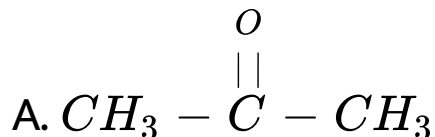
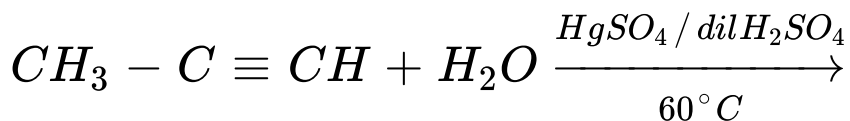


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6. Choose and write the correct answer of the following

What is the product of the following reaction

?

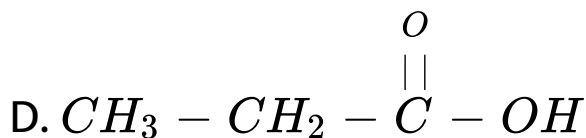
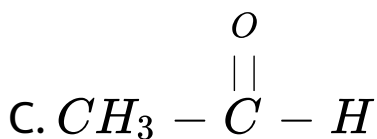
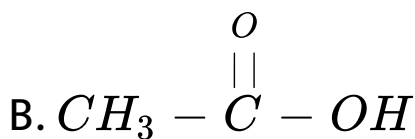
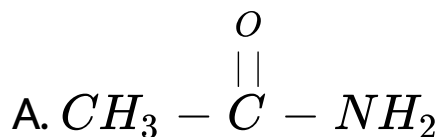


Answer:



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7. The product formed during hydrolysis of methyl nitrile in acid medium is



Answer:



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8. What is the IUPAC name of isopropyl alcohol ?



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9. Between formaldehyde and acetaldehyde which gives Cannizzaro's reaction ?



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10. What is the molarity of 10% (w/v) NaOH solution?



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11. What is the value of spin only magnetic moment of Fe^{2+} ion?



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12. In ZnS crystal, Zn^{2+} ions occupy _____ void.



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13. Which inert gas is used in beacon lights?



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14. What is the unit of rate constant of zero order reaction?



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15. Explain why HCl is a gas and HF is a liquid at room temperature.



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16. How can you convert ethanol to methanol ?



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17. What are Tranquilizers ? Give three examples .



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18. For a first order reaction the time required for 99% completion of the reaction is twice the time required for the completion of 90% of the reaction. Statement is True or false.



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19. What product formed when calcium acetate is dry distilled ?



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20. Give three differences between crystalline and Amorphous solids.



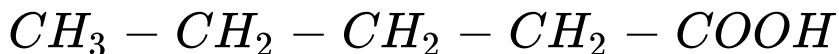
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21. What are antibiotics ? Write down at least names of three antibiotics.



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22. Write the IUPAC name of the following compounds



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23. With an example, explain roasting.



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24. With an example, explain roasting.



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25. 50 ml of $\frac{N}{10}$ NaOH. solution, 100 ml of $\frac{N}{5}$

NaOH solution and 500ml of $N/2$ NaOH

solution are mixed together. What is the strength of the resultant solution?



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26. What is lanthanide contraction? Write any two of its consequences.



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27. $FeSO_4$, solution mixed with $(NH_4)_2SO_4$, solution in 1:1 molar ratio gives the test for

Fe^{2+} ion but $CuSO_4$, solution mixed with aqueous ammonia in 1:4 molar ratio does not give the test for Cu^{2+} ion. Explain.



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28. Why phenol is acidic in nature ?



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29. Explain the Hofmann bromamide reaction with one example.



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30. What are addition and condensation polymerisation? Give one example of each.



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31. What is a semiconductor? What are n-type and p-type semiconductors?



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32. Explain why transition metal ions are usually coloured.



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33. Explain the amphoteric behaviour of amino acids.



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34. Differentiate between multimolecular and macromolecular colloids.



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35. Boiling point of water is $100^{\circ}C$. Calculate the boiling point of an aqueous solution containing 5g urea (mol. mass = 60) in 100 g water. (K_b for water = $0.52K \cdot kg \cdot mol^{-1}$)



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36. State and explain Kohlrausch's law of independent migration of ions .

The equivalent conductance of infinite dilution (A_0) for sodium acetate , sodium chloride and hydrochloric acid are 78, 109 and 384 $ohm^{-1}cm^2 g$.

Calculate the A_0 of acetic acid .



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37. Write the assumptions of crystal field theory. Discuss the pattern of splitting of d-

orbitals under the effect of an octahedral crystal field.



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38. Define an expression for the rate constant of a 1st order reaction. Define half life period. A first order reaction takes 69.3 minutes for 50% completion. How much time will be needed for 80% completion?



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39. How can you distinguish between primary, secondary and tertiary alcohols? With equation explain how does ethyl alcohol react with (i) acidified $K_2Cr_2O_7$ solution and(ii) phosphorous pentachloride?



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40. How can you distinguish between primary ,secondary and tertiary alcohols ? With equation explain how does ethyl alcohol

reacts with

phosphorus pentachloride .



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