21.10.19 Special Test – Commerce Time: 1½ hrs

STD: XI (E,H,I) Marks: 50

I. Choose the correct answer: 10x1=10

1. It may be wise to finance fixed assets through _____.

    a) Bank over draft b) Creditors c) Bills discounting

2. Public deposits are the deposits which are raised directly from

    a) The public b) The Owners c) The Auditors

3. Equity shareholders are the _____ of a company.

    a) Debtors b) Creditors c) Owners

4. What is defined as the provision of money at the time when it
  is required?

    a) Finance b) Bank c) Cash management

5. Debenture holders are entitled to a fixed rate of _____.

    a) Interest b) Dividend c) Profits

6. Internal sources of capital are those that are _____.

    a) Generated within the business

    b) Generated through issue of shares

    c) Generated through loans from commercial banks

7. Funds required for purchasing current asset is an example for

    a) Working capital requirement

    b) Fixed capital requirement c) Lease financing

8. Which of the following holder is given voting right?

    a) Equity shares b) Bonds c) Debentures

9. ADRS are issued in _____.

    a) India b) Canada c) USA

10. The maturity period of a commercial paper ranges from

    a) 120 to 365 days b) 90 to 364 days

    c) 20 to 40 days

II. Answer any 5 of the following: 5x2=10

11. State any 2 factors that affect the choice of source of finance.

12. Explain debenture.

13. What is public deposits?

14. What is pledge?

15. Write the funds used under Owner's fund.

16. Write the funds used under borrowed fund.

III. Answer any 5 of the following: 5x3=15

17. Write the internal and external sources of business finance.

18. What do you mean by working capital requirement of
  business?

19. For which purpose fixed capital is needed in business?

20. Explain Retained Earnings.

21. Explain Lease financing.

22. Explain Hypothecation.

IV. Answer the following questions: 3x5=15

23. List out the various sources of financing.

24. Explain any four personal investment avenues.

25. What are the different types of short term finances given by
  commercial banks?

21.10.19   Special Test – Physics   Time: 1½ hrs

STD: XI (A,B)   Marks: 50

I. Choose the correct answer: 10x1=10

1. The time period of Jupiter to revolve around the sun is _____.

     a) 1 year   b) 1.88 years   c) 11.9 years   d) 84 years

2. If the mass and radius of the earth are doubled then the acceleration due to gravity 'g' is _____.

     a) remains same   b) $\frac{g}{2}$ c) 2g   d) 4g

3. The time period of a satellite orbiting earth in a circular orbit is independent of _____.

     a) Radius of the orbit   b) mass of the satellite

     c) Both the mass and radius of the orbit

     d) Neither the mass nor the radius of its orbit

4. The workdone by the sun's gravitational force on the earth is _____.

     a) always zero   b) always positive

     c) can be positive or negative   d) always negative

5. If the distance between the earth and sun were to be doubled from its present value, the number of days in a year is _____.

     a) 64.5   b) 1032   c) 182.5   d) 730

6. If a person moves from Chennai to Trichy his weight _____.

     a) increases   b) decreases   c) remains same

     d) increases and then decreases

7. If the acceleration due to gravity becomes 4 times its original value, then escape speed _____.

     a) remains same   b) 2 times of original value

     c) become halved   d) 4 times of original value

8. The distance of Mars from the Sun is _____ (days).

     a) 365.25   b) 87.77   c) 686.98   d) 4332.62

9. The time period of a polar satellite is nearly _____ minutes.

     a) 60   b) 62   c) 100   d) 208

10. 2400 years ago _____ measured the radius of the earth using simple geometry and trigonometry.

     a) Copernicus   b) Kepler   c) Eratosthenes   d) Newton

II. Answer the following: 5x2=10

11. What is meant by superposition of gravitational field?

12. Define gravitational potential.

13. What are geostationary and polar satellites?

14. State Newton's law of gravitation.

15. Why there is no lunar eclipse and solar eclipse every month?

III. Answer any 5 of the following: 5x3=15

16. State Kepler's three laws.

17. Derive Newton's Inverse Square law.

18. Explain the variation of g with altitude.

19. Moon is the natural satellite of earth and it takes 27 days to go once around its orbit. Calculate the distance of the moon from the surface of the earth assuming the orbit of the moon as circular.

20. Derive the total energy of the orbiting satellite.

21. Derive the gravitational energy near the surface of the earth.

IV. Answer any 3 in detail: 3x5=15

22. Derive the time period of the satellite orbiting the earth.

23. Explain the variation of g with depth from the earth surface.

24. Derive the expression for gravitational potential energy.

25. Derive an expression for escape speed.

21.10.19   Special Test – Chemistry   Time: 1½ hrs
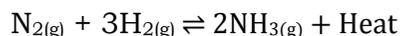STD: XI (C,D)   Marks: 50
I. Choose the correct answer: 10x1=10
1. Solubility of carbondioxide gas in cold water can be increased by _____.
    a) increase in pressure   b) decrease in pressure
    c) increase in volume   d) none of these
2. The formation of ammonia from $N_{2(g)}$ and $H_{2(g)}$ is a reversible reaction
$$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)} + Heat$$
  What is the effect of increase of temperature on this equilibrium reaction?
    a) equilibrium is unaltered
    b) formation of ammonia is favoured
    c) equilibrium is shifted to the left
    d) reaction rate does not change
3. Match the equilibria with the corresponding conditions.
    i) Liquid $\rightleftharpoons$ Vapour   ii) Solid $\rightleftharpoons$ Liquid
    iii) Solid $\rightleftharpoons$ Vapour   iv) Solute(s) $\rightleftharpoons$ Solute (solution)
    1) Melting point   2) Saturated solution
    3) Boiling point   4) Sublimation point
    5) Unsaturated solution

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

4. In which of the following equilibrium, K_p and K_c are not equal?
    a) $2NO_{(s)} \rightleftharpoons N_{2(g)} + O_{2(g)}$
    b) $SO_{2(g)} + NO_{2(g)} \rightleftharpoons SO_{3(g)} + NO_{(s)}$
    c) $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(s)}$
    d) $Pcl_{5(g)} \rightleftharpoons Pcl_{3(s)} + cl_{2(s)}$
5. $\dfrac{K_C}{K_P}$ for the reaction, $N_{2(g)} + 3H_{2(s)} \rightleftharpoons 2NH_{3(g)}$ is
    a) $\dfrac{1}{RT}$ b) $\sqrt{RT}$ c) RT   d) $(RT)^2$
6. An equilibrium constant of 3.2×10^{-6} for a reaction means the equilibrium is
    a) largely towards forward direction
    b) largely towards reverse direction
    c) never established   d) none of these
7. If <u>Ar</u> is added to the equilibrium $N_{2(g)} + 3H_{2(s)} \rightleftharpoons 2NH_3$ at constant volume, equilibrium will

    a) shift in forward direction   b) not shift in any direction
    c) shift in reverse direction   d) All are correct
8. Catalyst speeds up the attainment of equilibrium by providing a new pathway having a _____.
    a) lower activation energy   b) higher activation energy
    c) more activation energy   d) no activation energy
9. What is the relation between standard free energy change and equilibrium constant?
    a) $\Delta G^0 = RT\ln k$ b) $K = -G^0RT$ c) $\Delta G^0 = -RT \ln k$ d) $K = RT\Delta G$
10. The ratio of $\dfrac{K_P}{K_C}$ for reaction $CO_{(g)} + \frac{1}{2}O_{2(g)} \rightleftharpoons CO_{2(g)}$ is
    a) $\dfrac{R}{T}$ b) RT   c) $(RT)^{1/2}$ d) $(RT)^{-1/2}$
II. Answer any 5 of the following: 5x3=15
11. State law of mass action.
12. Explain how will you predict the direction of a equilibrium reaction.
13. What is the effect of added inert gas on the reaction at equilibrium at constant volume?
14. Distinguish between homogenous and heterogenous equilibrium reaction.
15. List down the applications of equilibrium constant.
16. Find out the Δn_g values and write the K_c and K_P relation for the equilibrium reactions.
    i) Decomposition of Ammonia (NH_3) ii) Formation of NO
III. Answer the following: 5x5=25
17. Derive the K_P and K_C for the dissociation of Pcl_5.
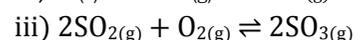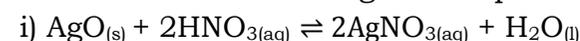18. Deduce the Van't Hoff equation.
19. Explain: How does the extent of reaction depend on K_c?
20. a) State Lechatlier principle.
    b) If there is no change in the concentration, why is the equilibrium state considered dynamic?
21. Discuss the changes you observe in the reaction of synthesis of Ammonia with preference to effect of pressure.
22. a) Which of the following reactions involve homogenous and which involve heterogenous equilibrium?   (3M)
    i) $AgO_{(s)} + 2HNO_{3(aq)} \rightleftharpoons 2AgNO_{3(aq)} + H_2O_{(l)}$
    ii) $C_{(s)} + CO_{2(g)} \rightleftharpoons 2CO_{(g)}$
    iii) $2SO_{2(g)} + O_{2(g)} \rightleftharpoons 2SO_{3(g)}$
 b) Write a balanced chemical equation for a given equilibrium reaction
    $K_c = \dfrac{(NH_3)^4(O_2)^5}{(NO)^4(H_2O)^6}$ (2M)

21.10.19   Special Test – Economics   Time: 1¼ hrs

STD: XI (F,G)   Marks: 40

I. Choose the correct answer: 15x1=15

1. Tenth five year plan period was _____.

    a.1992-1997   b. 2002-2007   c. 2007-2012

2. Annual plans formed in the year _____.

    a.1989-1991   b. 1990-1992   c. 2000-2001

3. How many Commercial banks were nationalised in 1969?

    a. 12   b.14   c. 16

4. The oldest large scale industry in India _____.

    a. cotton   b. jute   c. steel

5. The father of Green Revolution in India was _____.

    a. Ms. Swaminathan   b. Gandhi   c. Viswaswariah

6. In 1614 Sir Thomas Roe was successful in getting permission

   from _____.

    a. Akbar   b. Shajahan   c. Jahangir

7. The arrival of vasco-do-Gama in Calicut, India _____.

    a. 1498   b. 1948   c. 1950

8. Ryotwari System was initially introduced in _____.

    a. Kerala   b. Tamilnadu   c. Maharastra

9. First world war started in the year _____.

    a. 1914   b. 1814   c. 1941

10. In the 1st five plan the top priority was given to _____ sector.

    a. Service   b. Agriculture   c. Industrial

11. In Industry which was de reserved in 1993?

    a. Railway   b. Mining of copper & zinc   c. Atomic energy

12. Human development index (HDI) was development by

   _____.

    a. Jawaharlal Nehru   b. M. K Gandhi   c. Amartiya sen

13. The PQLI was developed by _____.

    a, Planning commission   b. Nehru   c. Morris

14. When did the Government of India declared its first Industrial

   Policy?

    a. 1956   b. 1991   c. 1948

15. The main objective of nationalization of banks was

_____.

    a. Private social welfare   b. social welfare   c. To earn

II. Answer the following (any 3).   3x5=15

16. Explain the period of Industrial Capital.

17. What are the major reasons for decline of Indian Handicrafts.

18. Write a short note on SSI.

19. Explain Nationalisation of Banks.

III. Answer the following (any 2).   2x5=10

20. Explain the role of SSIs in Economic Development.

21. Describe the performance of Five Year Plan in India.

22. Explain the objectives of nationalization of Commercial

   banks.