


**Knowledge Resource & Relay Centre (KRRC)**

AIKTC/KRRC/SoP/ACKN/QUES/2019-20/

Date: \_\_\_\_\_

School: SoP-CBCS- PCI Branch: SoPSEM: I

To,  
Exam Controller,  
AIKTC, New Panvel.

Dear Sir/Madam,

 Received with thanks the following <sup>(Reg)</sup> ~~Semester/Periodic~~ question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Human Anatomy and Physiology I – Theory	BP101T		✓	02
2	Pharmaceutical Analysis I – Theory	BP102T		✓	02
3	Pharmaceutics I – Theory	BP103T		✓	02
4	Pharmaceutical Inorganic Chemistry – Theory	BP104T		✓	02
5	Communication skills – Theory	BP105T		✓	02
6	Remedial Biology/ Remedial Mathematics – Theory	BP106RBT BP106RMT		✓	02

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)  
Librarian, AIKTC

Sem - I <sup>CBES</sup> R-2019 12/12/19

(3 Hours)

(Total Marks : 75)

- N.B.:**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Draw neat labelled diagrams wherever necessary.

**Q.1.**

Answer the following-choose the correct options.

20

1)

An unspecialized stem cell become brain cell during fetal development. This is an example of -

- A) Differentiation      B) Organisation      C) Homeostasis

2)

Which of the following is form of intracellular signaling.

- A) Contact dependent      B) Paracrine      C) Both A & B

3)

Collagen fibers are present on -

- A) Skin      B) Arteries      C) Liver

4)

Myelin sheath composed of oligodendrites is present in -

- A) Peripheral Nervous System      B) Central Nervous System  
C) Both A & B

5)

The layer of epidermis that contain stem cells undergoing mitosis is the

- A) Stratum corneum      B) Stratum lucidum      C) Stratum basale

6)

Melanin is produced by which of following cells?

- A) Merkel cells      B) Melanocyte      C) Langerhans cells

7)

The neurotransmitter released at neuromuscular junction is,

- A) Adrenaline      B) Acetylcholine      C) Glutamate

8)

Scapula and clavicle make up the

- A) Pelvic girdle      B) Pectoral girdle      C) Axial skeleton

9)

How much is average life span of Red Blood Cells (RBC's)?

- A) 120 days      B) 180 days      C) 60 days

10)

Which of following cells secretes histaminase?

- A) Basophil      B) Eosinophil      C) Neutrophil

11)

Which of the following organ does purification of blood?

- A) Spleen      B) Lymph node      C) Thymus

- 12) Which of the following is not a primary lymphatic organ?  
A) Red bone marrow B) Thymus C) Pulmonary capillary
- 13) ..... cells of adrenal medulla secrete Acetyl Choline  
A) Cortical Cell B) Germinal Cell C) Chromaffin cells
- 14) Which division of nervous system is also called as thoracolumbar division?  
A) Sympathetic B) Parasympathetic C) Somatic
- 15) Which papilla is the largest papilla?  
A) Vallate B) Filiform C) Fungiform
- 16) Which of the Following photoreceptors are responsible for coloured vision.  
A) Rods B) Cones C) Pyramidal
- 17) QRS wave indicate.  
A) The atria are depolarizing  
B) Ventricles are depolarizing while atria repolarize  
C) The ventricles are repolarizing
- 18) Cardiac output is determine by :  
A) Heart rate minus stroke volume  
B) Heart rate divided by stroke volume  
C) Heart rate multiplied by stroke volume.
- 19) Back-flow of blood from arteries to ventricle is prevented by  
A) Lymphatic valve B) Atrial valve C) Semifunar valve
- 20) The pace maker of the heart is -  
A) Sinoatrial node B) Atrioventricular node C) Bundle of His

Q.2. Answer any two of the following.

20

- 1) Write a note on appendicular skeleton.
- 2) Write note on parasympathetic division of autonomic nervous system.
- 3) Explain the structure and functions of arteries and veins.

- Q.3.** Answer any seven of the following.
- 1) What is endoplasmic reticulum? Write difference between smooth and rough endoplasmic reticulum.
  - 2) Write short note on extracellular matrix of connective tissue.
  - 3) Draw neat labelled diagram showing organization of skeletal muscle.
  - 4) Explain structure of sarcomere with the help of neat labelled diagram.
  - 5) Explain the process of hematopoiesis.
  - 6) Write short note on functions of platelets including their contribution in clotting pathway.
  - 7) Write short note on Lymphatic circulation.
  - 8) Explain the physiology of hearing in detail.
  - 9) Write short note on role of chemoreceptor and baroreceptor in regulation of blood pressure.

Time: 3 Hours

Max.Marks:75

Note:

- All questions are compulsory.
- Figure at the right indicates maximum marks.
- Multiple Choice Questions (MCQ) in Q.1 carries 1mark each.
- All MCQs contain four options (a), (b),(c) and (d) select the correct option and only write selected option in answer for each MCQ.
- Write all MCQs and other sub-questions in proper order.
- Draw diagrams and give examples wherever applicable.

Q.1 Select and write correct option for following multiple choice questions. (20)

I. The results of analysis are 36.97 g, if accepted true value is 37.06 g. What is the relative error in parts per thousand?

- (a) -0.09                      (b) -2.4                      (c) -0.0024                      (d) -90

II) Limit tests are designed to-

- (a) Determine percent purity of API                      (b) Compare purity.  
(c) Purify drug substance                      (d) Identify and control impurities in API

III) The following substance is used as indicator in non aqueous titrations -

- (a) Methyl Red                      (b) Crystal Violet  
(c) Mordant black II                      (d) Feric ammonium sulphate

IV) 1M  $\text{KMnO}_4$  is equivalent to-

- (a) 1N  $\text{KMnO}_4$                       (b) 2N  $\text{KMnO}_4$   
(c) 5N  $\text{KMnO}_4$                       (d) None of these

V) Aspirin I.P. is assayed by-

- (a) Direct Aqueous acid base titration                      (b) Indirect Aqueous acid base titration  
(c) Non-aqueous titration                      (d) None of these

VI) pH is -

- (a)  $[\text{H}^+]$                       (b)  $-\log [\text{H}^+]$                       (c)  $\log [\text{H}^+]$                       (d)  $-\log[\text{OH}^-]$

VII) In modified Volhard's method -----is added.

- (a) dibutyl phthalate                      (b) nitrobenzene  
(c) both a and b                      (d) a or b

## Paper / Subject Code: 66306 / Pharmaceutical Analysis-I (R-2019)

VIII) Typical Polarogram is-

- (a) Current vs volume curve (b) L-shaped C-V curve  
(c) S-shaped C-V curve (d) Linear C-V curve

IX) Number of significant figures in number "0.0670" are-

- (a) 5 (b) 4 (c) 3 (d) 67

X) Calcium gluconate is assayed by-

- (a) Cerimetry (b) Gravimetry  
(c) Complexometry (d) Iodometry

XI) Mohr's method is not performed in-

- (a) Nearly Neutral –slightly alkaline Conditions (pH 6.5-9)  
(b) Acidic conditions (below pH 5)  
(c) Strong alkaline conditions (pH10-13)  
(d) Both b and c

XII) Ephedrine HCl is assayed by -

- a) Cerimetric titration b) Non-aqueous titration  
c) EDTA titration d) Argentometric titrations

XIII) Gravimetric factor for determination of sulphate (formula wt. 96.06) as barium sulphate (formula wt. 233.39) is-

- (a) 2.4311 (b) 0.24311  
(c) 0.4116 (d) 41.16

XIV) In polarographic experiment, quantitative estimation of analyte concentration is based on-

- (a) Nernst equation (b) Ilkovic equation  
(c) Henderson- Hasselbalch equation (d) None of these

XV) Errors can be minimised by -

- (a) Controlling personal errors (b) Using calibrated instruments  
(c) Using purest form of chemicals and reagents (d) All of these

## Paper / Subject Code: 66306 / Pharmaceutical Analysis-I (R-2019)

XVI) The method of analysis based upon the measurement of electrical parameter is

- (a) Conductometry (b) Polarography  
(c) Potentiometry (d) All of these

XVII) Which of the following is/are used as adsorption indicator?

- (a) Ferric ammonium sulphate (b) Fluorescein and its derivatives  
(c) Eosin (d) Both B and C

XVIII) -----is not related to redox titrations.

- (a)  $\text{Na}_2\text{S}_2\text{O}_3$  (b)  $\text{KMnO}_4$  (c)  $\text{NaNO}_2$  (d)  $\text{KBrO}_3$

XIX) The term solubility product is important to be studied in-

- (a) Precipitation titrations (b) Redox titrations  
(c) Neutralisation titration (d) Non-aqueous titration

XX) Which of the following is reference electrode

- (a) Dropping mercury electrode (DME) (b) Rotating platinum electrode  
(c) Calomel electrode (d) None of these

**Q.2 Answer the following (Attempt any TWO).**

**Marks: 20**

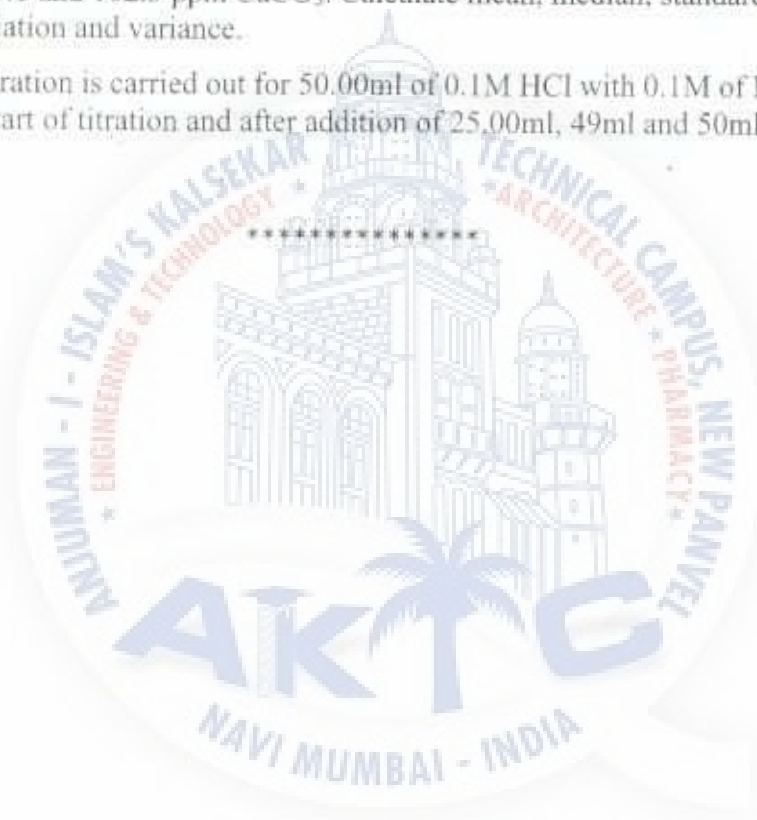
- I. What are different sources of impurities in pharmaceutical agents? Give principle and reactions involved in limit test of Arsenic and Iron.
- II. Give meanings of the terms- titration error and indicator. Explain any one theory of acid-base indicators. Give different types of solvents used in non aqueous titrations?
- III. What are redox titrations? Give meaning and examples of oxidizing agents and reducing agent. Explain cerimetry with suitable example. Define and differentiate -Iodimetry and Iodometry.

**Q.3 Answer the following (Attempt any SEVEN).**

**Marks: 35**

- I. What are argentometric titrations? Write principle, reactions involved in assay of sodium chloride by Mohr's method and Volhard's method of precipitation titrations.
- II. Write structure and properties of EDTA as chelating agent. Give meanings and examples of following
  - (a) Masking and demasking reagents in complexometric titrations
  - (b) Metal ion indicators
- III. Explain unit operations in gravimetric analysis. Add a note on purity of precipitate with respect to the terms co-precipitation and post precipitation.

- IV. Give principle, reaction, experimental conditions and end point determination in Diazotisation titrations with suitable example.
- V. What are conductometric titrations? Explain Conductivity cell. Give two applications of conductometric titrations.
- VI. What is electrochemical cell? Enlist various electrodes used in potentiometry, explain any one electrode in detail.
- VII. Explain the terms- Half wave potential, Diffusion current and limiting current with the help of polarographic C-V curve. Give applications of polarography.
- VIII. Replicate water samples are analysed for water hardness with following results: 102.2, 102.8, 103.1 and 102.3 ppm  $\text{CaCO}_3$ . Calculate mean, median, standard deviation, coefficient of variation and variance.
- IX. A neutralization titration is carried out for 50.00ml of 0.1M HCl with 0.1M of NaOH. Calculate the pH values at the start of titration and after addition of 25.00ml, 49ml and 50ml and 51ml of base.





[3 hours]

Note: Please check whether you have got the right question paper.

NB: 1. All questions are compulsory.

2. Figures to the right indicate full marks.

**I Choose the correct answer**

20

- (i) The eighth edition of Indian Pharmacopoeia was published in \_\_\_\_\_  
 (a) 2016 (b) 2017 (c) 2018 (d) 2019
- (ii) \_\_\_\_\_ is India's First pharmaceutical company  
 (a) Bengal Chemicals (b) Zandu (c) GSK (d) Hamdard laboratories  
 Reality
- (iii) Using Young's rule calculate the dose for 6-year-old child if the adult dose is 400mg.  
 (a) 100mg (b) 223mg (c) 133mg (d) 150mg
- (iv) Using Clark's rule calculate the dose for a child weighing 75 lbs if the adult dose is 250mg.  
 (a) 150 (b) 125 (c) 100 (d) 200
- (v) Calculate the dose of the child whose body surface area is  $0.43m^2$  if the adult dose is 400mg.  
 (a) 124 (b) 110 (c) 99 (d) 154
- (vi) Nebuliser is administered by \_\_\_\_\_ route  
 (a) Inhalation (b) Oral (c) Injection (d) Ophthalmic
- (vii) 5 minim is \_\_\_\_\_ ml.  
 (a) 0.188 (b) 0.308 (c) 0.065 (d) 0.468
- (viii) Which one of the following is not an artificial sweetener?  
 (a) Sucralose (b) Sucrose (c) Aspartame (d) Sodium Saccharine
- (ix) Vehicle used for the preparation of an Elixir \_\_\_\_\_  
 (a) water (b) alcohol (c) water-alcohol (d) alcohol-ether
- (x) \_\_\_\_\_ emulsifying agent is preferred for oral use  
 (a) Cationic (b) Anionic (c) Non-ionic (d) both a and b
- (xi) Brittleness is problem associated with \_\_\_\_\_ type of bases  
 (a) Hard fat (b) Cocoa butter (c) macrogol bases (d) glycerinated gelatin
- (xii) Incompatibility encountered in Eutectic mixture is \_\_\_\_\_  
 (a) precipitation (b) complexation (c) immiscibility (d) liquefaction
- (xiii) Which base from the following undergoes polymorphic transitions if heated above  $35^{\circ}C$   
 (a) Hard fat (b) Cocoa butter (c) macrogol (d) glycerinated gelatin
- (xiv) Moistening the suppository with water just before use is advised for suppository with \_\_\_\_\_ base  
 (a) Hard fat (b) Cocoa butter (c) macrogol bases (d) glycerinated gelatin
- (xv) \_\_\_\_\_ test measures the liquefaction time of rectal suppositories in an apparatus that stimulates in vivo conditions.  
 (a) Melting Range (b) Breaking test (c) Dissolution test (d) Liquefaction test

- (xvi) Following are Physiological factors affecting absorption through skin except \_\_\_\_\_  
 (a) Skin moisture content (b) Thickness of skin (c) Age of skin (d) molecular weight of drug
- (xvii) \_\_\_\_\_ is applied to weeping and oozing surfaces.  
 (a) Ointment (b) Lotion (c) Cream (d) Paste
- (xviii) \_\_\_\_\_ is used as penetration enhancer  
 (a) DMSO (b) DMF (c) Urea (d) All of the above
- (xix) Solid gels with low solvent concentration are termed as \_\_\_\_\_  
 (a) organogel (b) xerogel (c) hydrogel (d) All of the above
- (xx) Ceresin is a mixture of Ozokerite and \_\_\_\_\_  
 (a) Liquid paraffin (b) emulsifying wax (c) paraffin wax (d) bees wax

**Q.2 Answer any TWO**

- (a) Classify powders & state advantages and disadvantages of powders. Write a note on Dusting powder. 20
- (b) Discuss identification tests and stability problems of emulsions.
- (c) Discuss different types of ointment bases & explain methods of preparation of ointment.

**Q.3 Answer any SEVEN**

- (a) Write a note on History and Development of Pharmacy Profession in India 35
- (b) Explain parts of prescription and discuss job opportunities after B.Pharm
- (c) Classify dosage forms and define Lozenge, collodion, plaster, pessary
- (d) How will you prepare 70 g of 15% Iodine Ointment from 5%, 20% & 25% Iodine ointment? Calculate the amount of sodium chloride required to make a 2% Atropine sulfate solution isotonic. (F. P. of 1% Atropine sulphate = 0.074, F. P. of 1% NaCl = 0.576)
- (e) Elaborate on different excipients used in formulation of liquid dosage form
- (f) Differentiate between flocculated suspensions and deflocculated suspensions.
- (g) Write a note on solutions instilled into body cavities
- (h) Define displacement value. Each suppository contains 400mg of Bismuth subgallate. If six medicated suppositories weigh 13.6gm, calculate the displacement value. (Mould Capacity=2gm)
- (i) Define incompatibility and discuss one example each of physical and chemical incompatibility

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SEM-I CBCS R-2019 20/12/2019

[3 Hours]

[ Marks : 75]

Please check whether you have got the right question paper.

**N.B: 1. All questions are compulsory****2. Answer all subquestion.****3. Figure to right indicate full marks****4. Scientific calculators are allowed to use.**

1. All the questions are compulsory

20

1. First edition of Indian Pharmacopoeia was published under the chairmanship of
  - a) Ramnath Chopra
  - b) Aakash Chopra
  - c) Dr. Nityanand
  - d) B. Mukhelji
2. Thioglycolic acid is used in the limit test of
  - a) Chloride
  - b) Sulphate
  - c) Ferrous
  - d) Arsenic
3. Calcium gluconate is made by mixing
  - a) Gluconic acid with calcium carbonate
  - b) Gluconate with calcium carbonate
  - c) Glucose with calcium hydroxide
  - d) Oxalic acid with calcium carbonate
4. Choose the incorrect pair
  - a) Calcium Gluconate-Mordant black II
  - b) Sodium chloride-ferric ammonium sulphate
  - c) Sodium thiosulphate-starch
  - d) Ferrous sulphate - ceric ammonium nitrate
5. Calculate the number of milliequivalence of NaCl in 1 litre of 0.1 % w/v solution
  - a) 17.1
  - b) 17
  - c) 5.85
  - d) 58.5
6. Which one of the following is not the content of ORS
  - a) NaCl
  - b) Glucose
  - c) KOH
  - d) Trisodium citrate
7. Foaming property of COLGATE® tooth paste is due to
  - a) Sodium N-lauroyl sarcosinate
  - b) Magnesium N-lauroyl succinate
  - c) Calcium N-lauroyl sarcosinate
  - d) Fluorine N-lauroyl succinate
8. Gastric hydrochloric acid is secreted by
  - a) Parietal cell
  - b) Mast cell
  - c) Mucosa
  - d) Submucosa
9. GELUSIL® contains
  - a) Aluminum hydroxide and Magnesium trisilicate
  - b) Aluminum hydroxide and Magnesium hydroxide
  - c) Magnesium trisilicate and calcium carbonate
  - d) Aluminum oxide and magnesium oxide

10. Which one of the following is not the ideal property of antacids
- |   |   |
|---|---|
| a) Antacid should not absorbable and laxative                   | b) Antacid should buffer in PH range 4-6                        |
| c) Antacid exerts its effect rapidly over a long period of time | d) Antacid react with HCl should not cause an evaluation of gas |
11. Select the incorrect statement for laxative
- |                            |                                   |
|----------------------------|-----------------------------------|
| a) Stimulant: Senna        | b) Bulk-forming: Cellulose        |
| c) Emollient : Mineral oil | d) Protective: Activated charcoal |
12. Quinine sulphate is used as a stabilizer in the preparation of
- |                      |                  |
|----------------------|------------------|
| a) Hydrogen peroxide | b) Urea oxide    |
| c) Thiourea peroxide | d) Zinc peroxide |
13. Chemically BETADINE® is
- |                          |                    |
|--------------------------|--------------------|
| a) Polyvinyl pyrrole     | b) Pyridine iodide |
| c) Polyvinyl pyrrolidone | d) Povidone iodide |
14. What is use of ammonium chloride
- |                |               |
|----------------|---------------|
| a) Expectorant | b) Emetics    |
| c) Acidifier   | d) Both a & c |
15. Universal antidote contains
- |  |  |
|--|--|
| a) Activated charcoal, magnesium oxide and tartaric acid | b) Activated charcoal, magnesium hydroxide and tartaric acid |
| c) Tannic acid, magnesium oxide and activated charcoal   | d) Activated charcoal, magnesium hydroxide and tannic acid   |
16. Which of the following is not a property of astringent?
- |   |                           |
|---|---------------------------|
| a) Stop bleeding from small cuts          | b) Decrease perspiration  |
| c) Prevent inflammation by blocking veins | d) High penetration power |
17. A radioactive isotope undergoes decay with respect to time following \_\_\_\_ law
- |                   |                |
|-------------------|----------------|
| a) Logarithmic    | b) Exponential |
| c) Inverse square | d) Linear      |
18. The treatment of diseased tissue with high-intensity radiation i.e. gamma rays from radioactive Co-60 is known as
- |                 |                         |
|-----------------|-------------------------|
| a) Radiotherapy | b) Contact therapy      |
| c) Teletherapy  | d) Implantation Therapy |
19. The diagnostic agent used for the determination of renal function in radio pharmaceuticals is
- |             |               |
|-------------|---------------|
| a) Hippuran | b) Albumatope |
| c) Radiocap | d) Iodotope   |
20. Which of the following agent used in the combination with the radioactive agent to locate brain tumour
- |                   |               |
|-------------------|---------------|
| a) Phosphorus-32  | b) Hg-203     |
| c) Technitium-99m | d) Iodine-131 |



IR@AKTC

**ANJUMAN-I-ISLAM'S  
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**

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- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

**SCHOOL OF PHARMACY**

PCI

CLASS:- FY PHARMACY

SEM:- I (CBCS Revised 2019)

SUBJECT / COURSE:- Communication Skills (CS)

DATE:- 10/12/2019

DURATION:- 1 HOUR 30 MIN

MAX. MARKS:- 35

**END SEMESTER 2<sup>ND</sup> HALF 2019 THEORY EXAMINATION**

**Q.01 Attempt any ONE:**

**Marks**

a) With the help of a diagram, describe the components and process of communication.

10

Define barriers of communication. Explain its various types with examples.

10

**Q.02 Attempt any FIVE:**

**Marks**

a) What are the qualities evaluated for in a candidate during Group Discussion? State any four.

5

b) Psychological barrier can be overcome by one's own efforts.

5

c) Write a short note on E-mail etiquettes.

5

d) What is non-verbal communication? Describe any two non-verbal communication method with examples.

5

e) Explain the necessity and importance of feedback.

5

f) How can one be an effective presenter?

5

g) State the major objectives of communication. Explain any three.

5

PCI



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- SCHOOL OF ENGINEERING & TECHNOLOGY
- SCHOOL OF PHARMACY
- SCHOOL OF ARCHITECTURE

SUB-REMEDIAL MATHS SEM I CBCS REV 2019 23/12/2019 Time-2.30 am to 4pm

Q(1) Solve any 5

[10M]

(1) Find value of  $x$  if  $\begin{vmatrix} x^2 - x + 1 & x + 1 \\ x + 1 & x + 1 \end{vmatrix} = 0$ .

(2) If  $A = \begin{bmatrix} 2 & -2 & -4 \\ -1 & 3 & 4 \\ 1 & -2 & -3 \end{bmatrix}$  prove that  $A^2 = A$ .

(3)  $f(x) = ax^2 - bx + 6$   $f(2) = 3$   $f(4) = 30$  find  $a, b$ .

(4) Evaluate  $\lim_{x \rightarrow -3} \frac{x+3}{x^2+4x+3}$ .

(5) Resolve into partial fractions  $\frac{x}{(x+2)(2x+1)}$ .

(6) If  $x = at^2$   $y = 2at$  find  $\frac{dy}{dx}$ .

Q(2) Solve any 5

[25M]

(1) Find  $L(te^t \sin t)$ .

(2) Solve  $\int x^2 \cos x \, dx$ .

(3) Find  $A^{-1}$  if  $A = \begin{bmatrix} 1 & 2 & 3 \\ -1 & 1 & 2 \\ 1 & 2 & 4 \end{bmatrix}$

(4) Find the equation of altitude from A & median from B of  $\Delta ABC$  where  $A(2, 5)$   $B(6, -1)$  &  $C(-4, -3)$  are its vertices.

(5) Find  $\frac{dy}{dx}$  if  $x^3 + y^3 + 4x^3y = 0$ .

(6)  $\int_{-2}^1 \frac{1}{x^2 + 4x + 13} \, dx$ .