



F.E. (Semester – I) (Revised in 2007-08) Examination, May/June 2012

COMMUNICATION SKILLS

Duration : 3 Hours

Total Marks : 100

Instructions: 1) Attempt any five questions in all.

- Questions : 2) It is compulsory to answer at least one question from each Module.
 i). What is 'Drug Abuse'?
 ii). Why is 'Drug Abuse' a social problem?
 iii). An _____ is a person who indulges in the use of drugs.
- 3) Last question may be answered from any Module.
 4) Figures to the right indicate marks.

MODULE – I

1. a) Do as directed :

12

i) I bought _____ horse, _____ ox, and _____ buffalo.

[Insert suitable articles]

ii) The actor played the role of an ageing duke in the film.

[Rewrite changing the gender]

iii) She said, "The man died in the afternoon."

[Change to indirect]

iv) Radha is a good swimmer. She is jumping _____ the pool.

2) Do as directed : [Insert appropriate preposition]

v) She was elected captain of her team.

[Make it negative]

vi) A cold fear gripped us.

[Change to passive voice]

vii) The mountaineers climbed means of rope ladders.

[Insert prepositions if necessary]



viii) Ahana is the prettiest girl in town.

[Name the degree of comparison used]

ix) Gopinath broke the glass _____

[Insert question tag]

x) India _____ prosperous if it _____ its industrial production.

[Use correct 'verb forms' (be/increase)]

xi) An individual who believes that there is no God : _____

[Using a suitable prefix fill the appropriate word]

xii) 'Hamlet' is the best Shakespearean play. _____

[Change to positive degree]

b) Read the passage carefully and answer the following questions :

From time immemorial drugs have been used by mankind for medicinal purposes. But never before had the abuse of narcotics caused such unprecedented world wide concern and posed an alarming menace to the society. According to World Health Organization estimates conducted in 1988, there are over 7,50,000 heroin addicts, 4.8 million cocaine abusers, 1.76 million opium abusers and 3.4 million abusers of barbiturates, sedatives and tranquillisers around the world today. Even the eastern hemisphere is no longer secure from the drug network. Drugs have scanned the planet at jet speed and proved once again that the earth is a small place to live in the abuse of drugs is now an international problem that bothers Indians and Americans alike.

Taking a drug other than for medical reasons in amount, strength, frequency or manner that damages the physical and mental functioning is drug abuse. Drug abuse is a painful problem for the addict for his family and for all those who touch his life. It is mostly the youngster who falls prey to drugs. Adolescence is a period when many choices must be made. At this stage, the youngster is especially vulnerable to pressure from friends.

The future generation is virtually being crippled by the spread of drugs. A drug abuser is completely self-centered and cares least about others. His consciousness is clouded, and he loses his will power, concentration, memory and judgement capacity. When in need of money, he does not hesitate to steal or indulge in other anti-social activities. "More drugs, more crime" shows the graph. A new addict develops friendship with fellow addicts and gradually enters the so-called 'drug sub-culture'. He is then regarded as an outcast in the society and there is little chance that he shall again lead a healthy life.

Questions :

- i) What is 'Drug Abuse' ? 1
 - ii) Why is 'Drug Abuse' a menace to society ? 2
 - iii) An _____ is a person who is rejected by his/her social group. 1
 - A) Outcast
 - B) Adolescent
 - C) Youth
 - D) Mankind
 - iv) Provide a suitable title for the passage. 1
 - v) Summarize the passage in fifty words. 3
2. A) Choose the appropriate SYNONYM from the alternatives provided. 5
- 1) Excerpt
 - a) Expert
 - b) Skillful
 - c) Abrupt
 - d) Extract
 - 2) Decay
 - a) Fade
 - b) Sprout
 - c) Convey
 - d) Bloom
 - 3) Nasty
 - a) Emotional
 - b) Genuine
 - c) Unpleasant
 - d) Natural
- D) A person who believes that God is everything and everything is God. 1
- A) Agnostic
 - B) Theist
 - C) Pantheist
 - D) Panthechnicon



4) Exorbitant

- a) Odd
 - b) Ridiculous
 - c) Excessive
 - d) Threatening

5) Hackneyed

- a) Common
 - b) Novel
 - c) Troublesome
 - d) Problematic

B) Choose the appropriate ANTONYM from the alternatives provided :

- 1) Sane dual who believes that there is no God

- a) Good-Humoured
 - b) Insane
 - c) Sound
 - d) Bane

- ## 2) Divine

- a) Informal
 - b) Celestial
 - c) Native
 - d) Mundane

- ### 3) Cease

- a) Bend
 - b) Mount
 - c) Start
 - d) Slacker

- #### 4) Deficit

- a) Superfluous
 - b) Explicit
 - c) Implicit
 - d) Surplus

- 5) Putrid

- a) Fresh
 - b) Fragrant
 - c) Sweet
 - d) Agreeable

C) In each of the following sentences one of the **four** parts has an error. Write the letter corresponding to the error and then write the correct form.

- 1) My father said that he would discuss about the problem the next day.

A

B

6

D

2) The professor deals harshly with students who are not prepared and he is

A

B

C

even more severe with those who plagiarize.

D

3) The furniture are to be delivered immediately to Mr. Patil

A

B

C

who lives in Vasco.

D

4) No matter how many encores the audience demands, Helen Walker is always

A

B

willing to sing yet another song pleasing the audience.

C

D

5) Mohan, the son of Sohan has gone to Mumbai for the first time; has he?

A

B

C

D

D) In each of the following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentence.

1) Yearly celebration of a date or event

A) Birthday

B) Anniversary

C) Jubilee

D) Centenary

2) One who eats too much

A) Vegetarian

B) Cannibal

C) Glutton

D) Carnivorous

3) The place where bricks are baked

A) Mint

B) Cemetery

C) Foundry

D) Klin

4) To break off proceedings of a meeting for a time

A) Convene

B) Terminate

C) Adjourn

D) Procrastinate

5) A person who believes that God is everything and everything is God.

A) Agnostic

B) Theist

C) Pantheist

D) Pantechnicon





25 MODULE – II

3. a) Read the following extract given below. Draft a precis of about **one third** of the original length and provide a suitable title.

10

Men are not made in the same mould, like a lot of bricks. It would have ill-suited the wants of the world if it had been so. Consequently, even in the same country, men differ in disposition, and inclination and manners, and opinion, more probably than they do in face or form. And between the people of different countries the contrast is even more striking. We have then, also, different sentiments, different sympathies, different hopes, different ways altogether. It will always be so. So long as there are different minds, there will be different views on all matters that admit of opinion. So long as there are different interests, different attachments and different habits. It behoves us, therefore, to cultivate a generous spirit of forbearance towards those, of whatever race, who may think differently and act differently, from overselves. Even though we may be convinced that they are wrong, if we know them to be sincere, we should still bear with them and give them credit for their sincerity.

This is the virtue of toleration or bearing with others. When we may differ from them, or may not like their ways. Tolerant should be shown in all differences of opinion on even the highest matters of life and death; and here it is of more value than anywhere else. When we cannot agree with one about a point of science, or philosophy, or faith, we can at least agree to differ from him, and there is an end. We must always remember that we are all likely to make mistakes and possess weaknesses, and that we ourselves need the same forbearance and sympathy. We are, besides, all the same human brotherhood, and should, "like brothers, agree".

[308 words]

- b) Draft the minutes of the 'executive council' of 'Red Wood Housing Society'. The following points were discussed at the meeting.

10

- Construction of a swimming pool for members of the housing society in the recent space available on its premises.
- Collection and disposal of garbage.
- A need to appoint a security guard.
- Any other business with the permission of the chair.

4. a) Describe any two of the following : 8

- 1) Coil
- 2) Redwood Viscometer
- 3) Magnetic circuit
- 4) Mobile phone.

b) Select **any one** object from your surrounding and write a technical description. 12

MODULE – III

5. a) Draft an application with curriculum vitae for the post of an engineer. A good academic record along with excellent communication skills is a must. Interested candidates should apply to D. K. B. Consultancy Services Pvt. Ltd., Fatoda Goa. (5+7)

b) Assuming that you have been elected as the General Secretary of your College, draft the notice with agenda for the first meeting of the students council of your college which has been recently installed. 8

6. a) Write a letter to the head of your institution requesting him **any one** of the following : 8

- 1) Leave of absence
- 2) Bonafide certificate
- 3) Character certificate.

b) Draft a report on the 'World Environment Day' celebrated on 5th June in your college with the help of the points given below : 12

- 1) World Environment Day Celebrated
- 2) Principal Dr. Naidu addressed and welcomed the Chief Guest/gathering
- 3) Chief Guest address – Safeguarding our Environment
- 4) Dance performance – First year students
- 5) Planting of saplings
- 6) Vote of Thanks.

[Insert prepositions if necessary]





8

MODULE – IV

3. a) Read the following extract given below and provide a suitable title.

7. a) Define communication. Describe the two-way communication process with the help of a suitable diagram.

b) Elaborate on the barriers to communication.

8. a) Write short notes on **any two** of the following : (6+6)

1) Grievance interview

2) Encoding and decoding

3) Non-verbal communication.

b) Mention the various types of interviews and elaborate on any two types of interviews.

them credit for their sincerity

This is the virtue of toleration or bearing with others. When we may differ from them, or may not like their ways. Toleration should be shown in all differences of opinion on even the highest matters of life and death; and here it is of more value than anywhere else. When we cannot agree with one about a point of science, or philosophy, or faith, we can at least agree that there is an end. There is an end. We must always remember that we are all likely to make mistakes, and that we ourselves have made many, and that we ourselves have

and should, "like brothers, agree".

b) Draft the agenda of the meeting between the members of the housing society. The following points were discussed at the meeting.

- Construction of a swimming pool for members of the housing society in the vacant space available on its premises.
- Collection and disposal of garbage.
- A need to appoint a security guard.
- Any other business with the permission of the chair.

F.E. (Semester – I) Examination, May/June 2012
(Revised in 2007 – 08)



BASIC ELECTRICAL ENGINEERING

Duration : 3 Hours Total Marks : 100

Instructions : 1) Answer 5 questions in full with atleast one question from each Module.

b) Differentiate between
c) Compare ESR & RDS.

2) Missing data, if any, may be suitably assumed.

MODULE – I

1. a) Explain circuit, geometrical and energy view point of capacitor. 6
 b) Determine the currents in the unbalanced bridge circuit of fig Q. 1 (b) also determine the potential difference across BD and the resistance from B to D. 8

iv) Amplitude

v) Cycle

- b) A current $i = I_0 \sin(\omega t)$ flowing through the ABC series circuit obtain an expression of voltage across the R and C combination in the form $v = V_{\max} \sin(\omega t - \phi)$. 7

- c) A sinusoidal source of emf $E = 220 \sqrt{2} \sin(314t)$ is applied to an RL series circuit. It is found that the current in the circuit is $I = 12A$ flows. 8

i) Find the power factor of the circuit.

ii) Calculate the value of impedance.

iii) Calculate the inductance of the circuit.

iv) Find the frequency of the sinusoidal source. 8

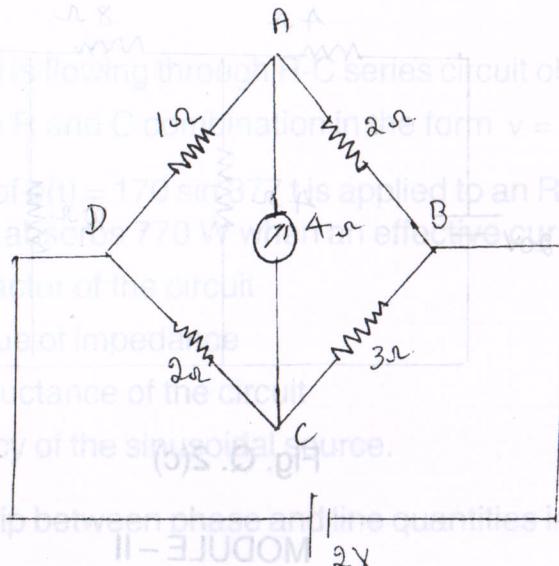


Fig Q. 1 (b)

6. a) Derive the relationship between phase and line voltages in star connected three phase system. 8

- b) Write a short note on unbalance 3-phase system. 8

- c) Explain with neat circuit diagram the two wattmeter method of 3-phase measurement. 8

- c) Derive expression for three inductances in series and parallel with neat diagram. 6



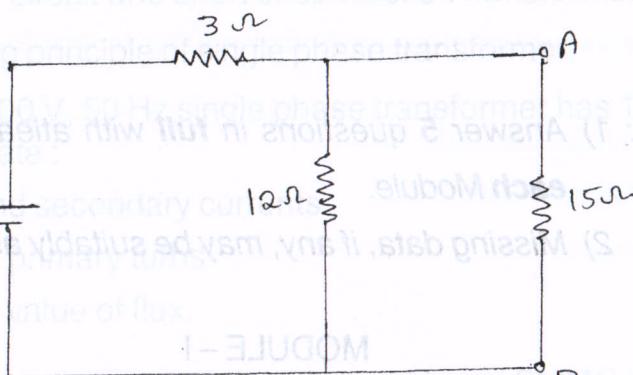
2. a) State and derive the maximum power transfer theorem with neat circuit diagram. 6
 b) Find current in the 15Ω resistor in the network shown in fig Q. 2. (b) by Thevenin's theorem. 8

Q. 2(b)

BASIC ELECTRICAL ENGINEERING

Q. 2(b) Explain the working principle of transformer.

- The primary to secondary current ratio.
- The primary to secondary voltage ratio.
- The number of turns in primary.
- The maximum value of flux.



8. a) With the help of neat diagram, explain the working principle of type of instrument. 6
 b) Write a short note on three phase system. 6
 c) Apply Norton's theorem to calculate current flowing through 5Ω resistor of fig Q. 2(c). 6

Fig. Q. 2(b)

Fig. Q. 2(c)

MODULE - II

3. a) Explain the following : 6

- Magnetic flux density
- Reluctance
- Magnetic flux.

O.T.R

- b) State and explain Faraday's law of electromagnetic Induction with neat diagram. 6
- c) Define Mutual Inductance and derive expression for co-efficient of mutual inductance. 8
4. a) Derive an expression for total MMF induced in series circuit with an air gap. 6
- b) Derive an expression for equivalent inductance for two inductors connected in series when
 i) Cumulatively coupled
 ii) Differentially coupled. 8
- c) Compare electric circuit with magnetic circuit. 6



MODULE - III

5. a) Define the following : 5
 i) Time period
 ii) RMS value
 iii) Frequency
 iv) Amplitude
 v) Cycle.
- b) 'A current $i = I_m \sin \omega t$ is flowing through R-C series circuit obtain an expression of voltage across the R and C combination in the form $v = V_{max} \sin(\omega t - \phi)$. 7
- c) A sinusoidal source of $e(t) = 170 \sin 377 t$ is applied to an RL series circuit. It is found that the circuit absorbs 770 W when an effective current of 12A flows. 8
 i) Find the power factor of the circuit
 ii) Calculate the value of impedance
 iii) Calculate the inductance of the circuit
 iv) Find the frequency of the sinusoidal source.
6. a) Derive the relationship between phase and line quantities in star connected three phase system. 8
 b) Write a short note on unbalance 3-phase system. 4
 c) Explain with neat circuit diagram two wattmeter method of 3-phase measurement. Write expression for each wattmeter readings. 8

**MODULE – IV**

7. a) Define voltage regulation of transformer. Derive the expression for voltage regulation. 6
 b) Explain brief open-circuit and short circuit test on transformer. 6
 c) Explain the working principle of single phase transformer. 4
 d) A 200 kVA 1000/400 V, 50 Hz single phase transformer has 100 turns on the secondary. Calculate : 4
- The primary and secondary currents
 - The number of primary turns
 - The maximum value of flux.
8. a) With the help of neat diagram, explain the working of PMMC type of instrument. 8
 b) Write a short note on efficiency of transformer. 4
 c) Three coils each of having impedance of $20\angle60^\circ$ are connected in star to supply of 400 V 3-phase, 50 Hz. Find the reading of each of the wattmeters connected to measure the input power. 8