

**SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY**  
**B.E. 7<sup>TH</sup> SEMESTER MID-SEMSTER EXAMINATION 2014**  
**SUBJECT: CONTRIBUTOR PERSONLALITY DEVELOPMENT (1990001)**

Date: 15/10/2014

Total Marks: 30

Time: 2:00 to 3:15

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**Instructions:** There are 30 questions in this paper. All questions are compulsory. Each question carries 1 mark. Select ONLY ONE option that is the most appropriate and write it on the sheet given to you.

1. Sumit and Shyam work in restaurant. Sumit clears the table and Shyam is a waiter. One day, Sumit has to suddenly rush home as his father is unwell. As a contributor, which choice should Shyam make?
  - a) He tells his seniors that some other temporary worker is needed for clearing the dishes.
  - b) He decided to clear his table himself and tells the other waiters to do the same.
  - c) He call his co-worker to find the best way to deal with the situation together so that customers are not inconvenienced.
  - d) He continues to do his own work.
  
2. Raman has been promoted to the post of quality supervisor in the factory where he works. As a contributor, how does he view his role?
  - a) My role is to protect my company's reputation.
  - b) My role is to conduct quality checks
  - c) My role is to ensure that our customers are happy with the quality of our products
  - d) My role is to ensure our product fall within the quality requirements.
  
3. Kanu is doing his MBA and desperately wants to take up a career in investment Banking. What questions should he ask himself before taking a final decision?
  - a) Am I interested in this job because the pay is good and the money will help me fulfill my dreams?
  - b) Am I interested because this is the type of job where through my work others can benefit?
  - c) Am I interested because I am good at numbers and also interact with people well?
  
4. Ajay's company manufactures a popular brand of soaps. They have found that many people are selling counterfeit soaps using their brand name. Although Ajay prefers to ignore this and concentrate on his business, he decides to do something about it

because he will have to bear the consequences otherwise. What is the consequence that he should be most concerned about?

- a) Seeing that no action is being taken, more people will be emboldened to misuse the company's brand name.
  - b) Customers will be cheated. They will buy low quality soaps assuming that they are of a high quality brand.
  - c) Other people will benefit from the hard work put in by him and his employees.
- 5 Varma Enterprises has earned a lot of profit this year. Which of the following options of using this money adds most value?
- a) He sets up a high level training program for his employees.
  - b) Mr. Sharma uses it to make investments in the names of his children.
  - c) He launches a program for rewarding customers for their loyalty.
- 6 Ram's cousin has joined an automobile company. He complains about his company, his salary, his colleagues etc. all the time. If you were in Ram's place, what would you as a contributor tell your cousin?
- a) Why don't you look for a new job?
  - b) Why don't you look at some positive points?
  - c) Why don't you change your attitude?
  - d) Why don't you focus on your work and learn to enjoy it?
- 7 Swapnil is a traffic policeman. What is his contributor vision of work?
- a) "I make the roads of my town/city safer for everyone."
  - b) "I regulate traffic on the roads where I am posted."
  - c) "I keep rash drivers in check."
  - d) "I ensure people don't break the traffic rules."
- 8 Mamta is sweeper in a locality, how can she increase her scope of contribution?
- a) By not only doing her work well but also talking to co-workings about separating dry and well garbage.
  - b) By cleaning the dirtiest areas in the locality
  - c) By shouting at passers-by throwing garbage on the pavement.
  - d) By clearing the garbage and also making sure the garbage of the locality is taken by the collection trucks regularly.
- 9 The College Sports Day is a couple of months away. Denai wants to win the 'Best Athlete' Award again. Which of these thoughts would help him the most?
- a) I must improve my stamina and my speed so I can become better as an athlete.
  - b) Anyway, I won the award last year. So it will be easy to win this year too.
  - c) I should try to practice before the Sports Day so as to win the award this year also.
  - d) I must start regular running practice to beat my last year's record

- 10 Prachita applied for participating in the cookery contest show on T.V. She did not win but was chosen for the second round. How can you help her to expand her vision of success?
- "You were at least selected for the contest, which means there is something in you that deserves."
  - "Look at the confidence you have gained by competing against so many people who are so good."
  - "You went till the second round – that means you were better than some of the other participants."
  - "Don't worry, you can participate next year and win the contest."
- 11 Manroop works in the customer sales office of the passenger ship company (which offers holiday cruises). Her boss congratulates her for meeting her targets. She has achieved success because...
- her boss is happy with her for meeting the sales target.
  - she enjoyed convincing customers to go for a holiday.
  - she is happy she managed to sell enough of tickets.
  - she enjoyed the challenge of selling the tickets.
- 12 Chain snatching has become common in Chavda's neighborhood. In such a situation, how would a contributor design a solution?
- The local police and other residents can be called to implement some solutions like police patrolling, ensuring that street lights are working, using decoys to catch the chain-snatchers etc.
  - One solution is that people must be told to avoid wearing gold jewelry and wear imitation only.
  - We could call for a meeting to make residents alert and the need for caution. Ladies who wear gold chains must be careful.
- 13 Trained, qualified teachers are usually unwilling to go to rural schools for teaching. How do you suggest that the problem can be solved?
- Make 1 year rural internship compulsory so there will always be some teachers in the rural schools.
  - Have more colleges in rural areas for rural teachers but setting up of the colleges will take time.
  - Increase teacher salary by offering rural allowance but this might drain government resources.
  - Maybe all the different solutions can be tried out like e-learning for rural teachers,

compulsory internship etc. It is necessary to have teachers in rural schools.

- 14 Rima notices for the last one week that the (drainage) gutter outside her building has been left open by the corporation workers. Which of these responses show that she focuses on value?
- a) “This may lead to diseases like malaria etc. in the locality. If we can get it closed, it will be a safety precaution for now”
  - b) “This is so unhygienic! It may lead to someone getting injured even. Not just for now but we need to find ways to avoid such instances in the future”
  - c) “This is a careless act on the workers part. We must bring it to their notice”
  - d) “The workers don’t do their work well and others like us have to suffer”
- 15 Shilpa feels that she is a good singer. But she is unable to sing properly in the competitions she participates in. As a contributor who focuses on value, what does she decide?
- a) I have learned that I need to practice singing along with instruments being played.
  - b) I will give up participating in competitions. It is of no use and is a waste of time.
  - c) I have learned that I need to do a lot of dedicated practice.
  - d) I have learned that I have to first train myself in classical music
- 16 Javed has now joined a karate class in the afternoon after her college hours. Which of these options would help her see the situation as a contribution to self?
- a) It is great to learn a martial art like karate.
  - b) I can learn how  
to protect myself as well as learn a great martial art.
  - c) I can learn a few kicks and punches to show my friends.
  - d) It is just something to keep me busy in the afternoons.
- 17 Avadhuta teaches aerobics in a gym. Which of these options show that she has a purpose Vision of her work?
- a) “I help people to improve their energy levels – due to the classes they are able to become more energetic.”
  - b) “I work to ensure that through the training people are able to stay physically and mentally healthy over a long period of time.”
  - c) “I help people to lose weight.”
  - d) “I teach aerobic exercises.”
- 18 The CEO of a company says that he has contributed in many ways to society. Which of the options is the widest contribution the company has made?

- a) The company takes care of all its employees' needs within the framework of society
  - b) The company follows all the rules and regulations given by law.
  - c) The company pays all their taxes and ensures all their employees also pay their taxes correctly.
  - d) The company implements various development projects and plans to provide more employment to people within the framework of society.
- 19 Minaxi works as a receptionist in a big organization. What is the widest possible way in which she can contribute to her organization?
- a) She should direct people to whoever they want to meet.
  - b) She should be friendly and welcoming to everybody who enters the office.
  - c) She should be quick and efficient and help all visitors inside the office.
  - d) She should make sure of the smooth execution of all activities as she makes the first impression of the organization to all visitors.
- 20 Urvi thinks her boss is always finding fault with her work. She doesn't know how to handle the situation. As a contributor what can you advise her?
- a) She can look at his comments as positive feedback and use it to improve her work constantly.
  - b) She can do her work better so that she doesn't allow him to find so many faults.
  - c) She can listen to his comments with a positive attitude.
  - d) She can keep complaining about him behind his back.
- 21 Kapis is a commerce graduate and has been offered a job from a bank. Which approach should he use so that he can grow in his career (as a contributor)?
- a) He should enquire about what kind of projects are done by the bank
  - b) He should ask about the salary package and join if it meets his expectation.
  - c) He should find out whether there will be opportunities to expand himself and contribute to the community.
  - d) He should consider if the work is interesting and whether he will enjoy it.
- 22 Purva had to move to a new town, so she now has to look for a new job. What would she be thinking as a contributor?
- a) This is a new town, I cannot do anything on my own until I get a job.
  - b) Till I get a job, I can use the time to not only settle down but to also learn something that will help me in future jobs.
  - c) I have to keep applying for jobs and wait till I get one.
  - d) While I am applying for a job I can also use the time to settle down in the new town.
- 23 Monali wants to spread awareness about saving trees by using less paper for printing in her office. Which of these options reflect the most that she is a contributor?

- a) "I really want to do this but getting permission might be difficult."
- b) "I can put up a sign near the printer 'to use less paper' or 'print on both sides of the paper' but people might ignore the sign."
- c) "I can request for a talk with all the staff and managers to spread the message."
- d) "The message has to reach people. I can do this in any way - put up posters, talk to my colleagues and even ask the manager to help."

24 Hitesh wants to develop his real estate business in a new city. Their family business is well established in another city. What advice could a contributor give him about facing the challenge?

- a) He can develop contacts by approaching big companies and their employees – this is also an approach that has chances of success.
- b) He can adopt the ways which his father used – the chances that the same approach will work are high.
- c) He can increase his client base by having an online real estate business – this will certainly be challenging.
- d) He can go global (open to any customer across the world) – it could fail or succeed but why not try?

25 Election campaigning for your college student council has begun. Which candidate has Higher chances of being elected again?

- a) The one who promised many changes but tried to implement a few
- b) The one who promised very few changes but did more than he promised
- c) The one who promised a lot of changes but forgot them as soon as he was elected
- d) The one who promised some changes and got them done

26 Madhav and his team are making a cheap eco-friendly light bulb for villagers. But every day there are different problems that arise. His team starts to panic. Which of these thoughts would help Raghu and his team mates to not give up easily?

- a) "We shouldn't worry too much about it. We will have to give ourselves more time to reach our goal."
- b) "There seem to be too many problems. What if the problems keep increasing?"
- c) "Let's go through each and every issue one at a time. If we continue to think, we will be able to solve the issues."
- d) "These problems will force us to look for new answers and new ways of working. Answers will come to us if we continue to work on it."

27 Nikita joined as an intern in the HR department of a bank. She is asked to update the attendance everyday from the register to the computer. Which of the following statements show the most that she has completely lost the vision of her work?

- a) This is easy but monotonous work. I wonder how it can be used?

- b) This is just for my internship certificate. Let me just do what they ask me to.
- c) This is valuable data to understand trends in attendance and absence. It could also be used later for research purposes.
- d) This is valuable for the HR head to keep track of all the employees and their leave of absence.

28 When a Regional Manager of a bank calls for a meeting of the Branch Managers to make a decision on a future initiative, he follows one of the following approaches. In order to be considered trustworthy, which approach must he not follow?

- a) Listen to everyone's concerns and take a collective decision
- b) Listen to all the Managers to make them feel included but use his 'sixth sense' to decide (which has developed over many years of experience)
- c) Listen to the Managers who have had previous experience of big projects to take the decision
- d) Consider the views of only the Managers as they are the ones who will roll out the initiative

29 Agnel and his friends have just moved into a new society. All other residents are traditional families that disapprove of late nights and parties (which is a way of life for Agnel and his friends). What is the choice they should make?

- a) "We must respect the accepted rules of the society as we have decided to be a part of it."
- b) "We don't like such traditional mentality. But we must accept it or else the house owner could ask us to leave."
- c) "We are legal citizens of the country and no one can dictate how we behave."
- d) "We have to live in the society. So we will ensure we do not disturb anyone through our actions."

30 Kshitij is a folk singer. He has been given a chance to participate in a TV music competition. Which of these options indicate that he thinks like a contributor?

- a) He also starts mixing folk songs with others types of music like Ghazals and film music.
- b) He sings what he is confident in (that is, folk songs he already knows).
- c) He tries to change the usual folk tune to see how the judges and audience react to it.
- d) He sings folk songs but tries to sing different styles of folk music.





**SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY****B.E. Semester- VII (EC) - MID SEMESTER EXAMINATION (Winter'14 session)****SUBJECT: Digital Signal Processing (171003)**

DATE: 16/10/2014

TIME: 2:00 to 3:15 PM

Total Marks: 30

**Instructions:** 1. Attempt all questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

- Q.1 (a) Draw the Direct form I and II Structure for the following systems [5]  
 $y(n) = 3/4 y(n-1) - 1/8 y(n-2) + x(n) + 1/3 x(n-1)$
- (b) Using DIT-FFT Algorithm find  $X(K)$  for  $x(n) = \{1, 2, 3, 4, 4, 3, 2, 1\}$  [5]

- Q.2 (a) Find the Z transform of  $x(n) = \left(\frac{1}{3}\right)^n u(n) + \left(\frac{1}{2}\right)^n u(-n-2)$  [3]
- (b) State and Prove the differentiate property of Z transform. [3]
- (c) Find I.Z.T. for  $X(Z) = \frac{Z}{Z-a}$ ,  $|Z| < |a|$  using the power series method. [4]

**OR**

- Q.2 (a) Find Z.T. of  $x(n) = \cos w_0 n u(n)$  [3]
- (b) Find I.Z.T. for  $X(z) = \frac{z}{(z-1)(z-2)}$  [3]
- (c) State & Prove the convolution property of Z.T. [4]
- Q.3 (a) Determine whether the following system is linear, time invariant, static and causal.  $y(n) = x(n) + nx(n+1)$  [3]
- (b) Prove the Causality Criteria for LTI system. [3]
- (c) Perform the convolution sum using mathematical equation of convolution. [4]  
 $x(n) = \{1, 2, 3, 1\}$  and  $h(n) = \{1, 2, 2, -1\}$

**OR**

- Q.3 (a) Find the autocorrelation of following sequence  $\{4, 3, 2, 1\}$  [4]
- (b) Find out the DTFT of following system.  $x(n) = u(n) - u(n-4)$  [3]
- (c) Determine the following system is stable or unstable. [3]  

$$h(n) = \begin{cases} a^n, & n \gg 0 \text{ and even} \\ 0, & \text{otherwise} \end{cases}$$

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**SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY****B.E. Semester- (VII) - MID SEMESTER EXAMINATION (Winter'14 Session)****SUBJECT: Wireless Communication (171004)****Date: 14-10-2014****TIME: 2:00 P.M. to 3:15 P.M****Total Marks: 30**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Define the following terms, 5
- (a) Frequency reuse
  - (b) Soft handoff
  - (c) Umbrella cell concept
  - (d) Adjacent channel interference
  - (f) Co-channel interference.
- (b) Compare GSM, IS-136 and IS-95 standards in terms of modulation schemes, multiple access schemes, and frequencies used, physical channel bandwidth and number of users/ physical channel and typical power radiated by mobile stations using these standards .Give your answer in tabulated form. 5
- Q.2 (a) Explain any two basic propagation mechanisms which impact the propagation of signal in a mobile environment. 4
- (b) Explain free space propagation of radio signal. Establish the relation for the received power in free space. Define path loss in free space. Calculate the received power at a distance of 3 KM from the transmitter if the path loss exponent  $\alpha$  is 4. Assume that the transmitting power of 4 W at 1800MHz., a shadow effect of 10.5 dB, and the path loss at a reference distance ( $d_0=100$  m) of -32dB. What is the allowable path loss? . 6

*OR*

- Q.2 (a) Explain Cell Splitting and Sectoring technique. 7
- (b) A normal GSM has 3 start bits, 3 stop bits, 26 trailing bits for allowing adaptive equalization, 8.25 guard bits and 2 bursts of 58 bits of encrypted data which is transmitted at 270.833 kbps in the channel, find, 3

(a) Number of overhead bits per frame

(b) Total number of bits/frame

(c) Frame efficiency.

Q.3 (a) Explain GSM speech processing in brief. 6

(b) Explain in detail about the various types of control channel used in GSM. 4

*OR*

Q.3 (a) Write only formula to find number of channels in FDMA and TDMA.. 4

(b) What is non-linear effect in FDMA? , and Explain CSMA protocols in detail. 6

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**SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY****B.E. Semester- (VII) - MID SEMESTER EXAMINATION (Winter'14 Session)****SUBJECT: Microwave Engineering (171001)****Date: 09-10-2014****TIME: 2:00 P.M. to 3:15 P.M****Total Marks: 30****Instructions: 1. Attempt all questions.****2. Make suitable assumptions wherever necessary.****3. Figures to the right indicate full marks.**

- Q.1 (a) The dimension of a waveguide is  $2.5 \times 1$  cms. The frequency is 8.6 GHz Find the possible modes that can propagate through the waveguide also find the cutoff frequencies for the same. 05
- (b) Derive necessary equations for attenuation constant and phase constant with reference to EM wave propagating along transmission line. 05
- Q.2 (a) What is impedance matching? Explain impedance matching using single stub. 07
- (b) Difference between Strip line and Micro Strip line, with advantages and disadvantages 03
- OR*
- Q.2 (a) Explain the mechanism of oscillations of Magnetron Oscillator with suitable diagram. 07
- (b) Define: 1.Group velocity, 2.Phase velocity, 3. VSWR. 03
- Q.3 (a) Describe the construction and working of a reflex klystron. Explain how velocity and current modulation takes place using the Applegate diagram. 06
- (b) Explain advantages of RADAR. Give its applications. 04
- OR*
- Q.3 (a) Derive the range equation of RADAR. Briefly discuss the factors which influence the range of radar. 06
- (b) Explain the operation of Magic TEE with its s-parameter. 04

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# SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY

B.E. Sem (VII) MID SEMESTER EXAMINATION (Winter'14 Session)

SUBJECT: Power Electronics (171002)

DATE: 10-10-2014

TIME: 02:00 PM to 03:15 PM

Total. Marks: 30

**Instructions:** 1. All the questions are compulsory.  
2. Figures to the right indicate full marks.  
3. Assume suitable data if required.  
4. Draw neat sketches, wherever necessary.

	Marks
Q.1 (A) Explain in brief about the operation of series-connected thyristors. Derive an expression for the worst case steady state voltage across thyristor $T_1$	[7]
(B) A chopper circuit is operating on Time Ratio Control (TRC) principle at a frequency of 1KHz.on a 220V dc supply. If the load voltage is 170 V, calculate the conducting and the blocking period of the power device in each cycle .	[3]
Q.2 (A) Draw the circuit arrangements for the Three Phase half-wave converter. Derive expression for the average output voltage and RMS output voltage. Sketch the voltage and current waveforms.	[7]
(B) Draw Symbol, Construction and V-I Characteristics of IGBT.	[3]
OR	
Q.2 (A) Draw the circuit arrangements for the Single Phase full converter with Resistive load. Derive expression for the average output voltage and RMS output voltage. Sketch the voltage and current waveforms.	[7]
(B) Explain the di/dt protection circuit for thyristor	[3]
Q.3 (A) Define and discuss switching mode regulators. Explain Boost regulator with circuit diagram and waveforms.	[5]
(B) Explain three-phase bridge Inverter for $120^\circ$ conduction with waveform.	[5]
OR	
(A) Define and discuss switching mode regulators. Explain Buck regulator with circuit diagram and waveforms.	[5]
(B) Explain three-phase bridge Inverter for $180^\circ$ conduction with waveform.	[5]



**SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY****B.E. Semester-VII (ELECTRONICS & COMMUNICATION)****MID SEMESTER EXAMINATION****SUBJECT: (171007) SATELLITE COMMUNICATION**

DATE: 11/10/2014

TIME: 02:00pm to 03:15pm

MAX. MARK: 30

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**Instructions:** 1. All the questions are compulsory.  
2. Figures to the right indicate full marks.

- Q.1 (A) What are kepler's three laws of planetary motion? Give the mathematical formulation of kepler's third law of planetary motion. 05
- Q.1 (B) Calculate the radius of a geostationary satellite. 05
- Q.2 (A) List the orbital elements and explain each of them in detail. 05
- Q.2 (B) Draw and explain the TT&C. 05
- OR**
- Q.2 (A) List Five major types of orbits and explain any two of them in detail. 05
- Q.2 (B) Write a short note on attitude control system. 05
- Q.3 (A) List the types of Multiple Access Scheme used in the satellite communication and give its comparisons. 05
- Q.3 (B) Draw and explain the Direct Broadcast satellite TV system in detail. 05
- OR**
- Q.3 (A) What is VSAT? Draw and explain the block diagram of VSAT in detail. 05
- Q.3 (B) Write a short note on demand access multiple access techniques. 05

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