Date: 14/10/2018

To,

The Principal

Karnatak Arts, Science and Commerce College, Bidar.

Sub: Request to grant permission for continuation Certificate course on "Basics of Cellular Communication" for the academic year 2018-19- Reg.

Respected Sir,

As per the guidelines issued by IQAC, we would like to start the Certificate course on "Basics of Cellular Communication" for the academic year 2018-19 with intake of 15 students. Please permit us to continue the Certificate course mentioned above and do the needful.

Thanking You.

Course in thange

Dept, of Electronics

Marmatak Arts Sci. & Com. College Bldar

Department of Electronics

Dept. of Electronics

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College With Potential for Excellence

Department of Electronics

Date: 17/10/2017

Minutes of Meeting of institutional Board for Certificate Course on

Basics of Cellular Communication

The institutional BOS meeting of the Department for the Certificate Course on "Basics of Cellular Communication" is held on 17/10/2017 in Electronics Department at 10.30AM.

INSTITUTIONAL BOS

Sl.No.	Name of Member	Institute	Designation				
1.	Sri. Biradar Rajendra	Associate Professor and Head, Deartment of Electronics, Karnatak Arts, Science and Commerce College, Bidar.	Chairman				
2.	Sri. M. S. Chelva	Associate Professor, Department of Electronic	Member, Internal Expert				
3.	Sri. A. V. Chikkamanur	Associate Professor, Department of Electronic	Member, Internal Expert				
	Sri. S. V. Biradar	Associate Professor, Department of Electronic	Member, Internal Expert				
	Dr. S. B. Gama	Associate Professor and Head, Department of Electronic, B. V. B. College, Bidar.	Member, External Expert				

In the beginning of the meeting the Chairman of the Institutional BOS welcomed all the members and briefed them about the Department activities. The members expressed their appreciation and satisfaction about the courses and activities of the Department.

The institutional BOS discussed and resolved the following agendas.

Agenda 1. Start of the Certificate Course on "Basics of Cellular Communication".

Resolution: The BOS discussed the agenda 1 and resolved to start the said Certificate Course From the month of January 2018.

Agenda 2. Approval of syllabus for Certificate Course "Basics of Cellular Communication".

Resolution: The BOS discussed and approved the Syllabus for the said Certificate Course.

Agenda 3. Criteria for admission, regulation and policies to run the course pattern and Conduct of examination.

Resolution: The BOS discussed and approved the criteria for admission and resolved that the Student should have completed successfully 10+2 with Science faculty and Should be currently in B.sc Program with electronics as one of the subject of our College. In addition to this, BOS also discussed the rules and regulations to Smooth Conduct of course. ...

Meeting of the BOS is concluded with vote of thanks by Sri. Biradar Rajendra, HOD, Department of Electronics.

Members Present

1. Biradar Rajendra

2. Sri M. S. Chelva

3. Sri. A. V. Chikkamanur

4. Sri. S. V. Biradar

5. Dr. S.B.Gama (External member)

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IQAC Coordinator Kamatak Arts, Science and Commerce College

IQAC Co-Ordina

Marratak Arts Sci. &Com. College हैंबिक्शिक्षेत्र तोकाश्चित्रहरूको

Certificate Course on Basics of "Cellular Communication"

<u>SYLLABUS</u>

max Hours: 30

Week 1: Overview of Cellular Systems and evolution of 2G/3G/4G.

Week 2: Cellular Concepts-Frequency reuse, Co channel and Adjacent channel Interference, C/I, Handoff, Blocking, Erlangen capacity. 1h78-

Week 3: Wireless Propagation Part I-Link budget, Free Space path loss, Noise 3473 Figure of receiver.

Week 4: Wireless Propagation Part II-Multipath fading, Shadowing, Fading 3248 Margin, shadowing margin.

Week 5: Antenna Diversity.

44-8

Week 6: Wireless Channel Capacity.

4478

Week 7: Necessities of Multiple input multiple outputs (MIMO) in Cellular 4 278 Communication.

Week 8: Introduction of CDMA.

Marnatak Arts Sci. &Com. College Bidar



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Department of ABC

Date: 28/12/2018

NOTICE

All the students are hereby informed that, the Department of Electronics is starting the Certificate Course on Basics of "Cellular Communication" from the 16/01/2019 for two months; interested students can enrole their names on or before04/01/2019 in the Department of Electronics.

Course Incharge/H O D

Dept. of Flectronics

Ramatak Arts Sci. &Com. College Bidar

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KRE Society's

Karnatak Arts, Science and Commerce College, Bidar



ESTD: 1970

(Affiliated to Gulbarga University, Kalaburagi) College with Potential for Excellence

Certificate/Value added/Skill Development/Diploma/Advance Diploma Courses	
& IAS/IPS/NET/SET Coaching Classes	
Name of the Department Electronics Year 2018-19	
Name of the Student <u>Geefg</u>	
Father's/Guardian's Name Basavara	1
Date of Birth Date Month Year	
01 06 1998	
	• (
Address for Correspondence :	
H.NO. 2-40-1,	
Multani colony,	
Brown E	
Semester/Class: B(cV)	
Register No : 1746721	
Percentage of previous semester: 86.33)	
Contact No : 9353 290478	
E-Mail ID :	
Course to be Joined: Basics of Collular Communication"	

Signature of the Student

HOD/Coordinator ctronics Karnatak Arts Sci. &Com. College Bidan

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College With Potential for Excellence

DPARTMENT OF ELECTRONICS

Subject: Basics of Cellular Communication

Sl. No.	Register Number	Name of the student
1	1746714	Shivsharnapa Veershetty
2	1746721	Geeta Baswaraj
3	1746729	Mamta Rajkumar
4	1746736	Deepak Ramesh Garje
5	1746809	Shivkumar Sharnappa
6	1746829	Pradeep Sangamesh
7	1746836	Dinsh Shivaraj
8	1746837	Vachanashree Kashinath Biradar
9	1746855	Siddharoodh S K Shambu
10	1746857	Akash Goyal
11	1746862	Nikita Rajesh
12	1746874	Salomi Shankar
13	1746878	VinitaVasanth
14	1746892	Anuja NarayanRao
15	1746902	Pratibha Kashinath

Course Inchargwe

Dept. of Electronics

Earnatak Arts Sci. &Com. College Bidar

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IQAC Coordinator Kamatak Arts, Science and Commerce College, BIDAR





College With Potential for Excellence

Department of ABC

Date: 21/03/2018

NOTICE

All the students enrolled in Certificate Course on "Basics of Cellular Communication" are hereby informed that, the course examination is scheduled on 26/03/2019 from 9-10AM.

Course Incharge



Date: 26/03/2019

Karnatak Arts, Science & Commerce College, Bidar (Affiliated to Gulbarga University)



Time: 1hour

College With Potential for Excellence

DPARTMENT OF ELECTRONICS

Subject: Basics of Cellular Communication

Date: 26/03/2019	Max.Marks:50
Answer all the questions carrying one mark each.	
 Does AMPS separate transmissions in frequency doma a) Yes b) No c) Maybe Subscribers in an analog cellular phone are assigned _ a) Voice channels b) Audio channels c) Video channels which of the following is the process performed at received 	d) Both a and b

a) Voice channels b) Audio channels c) Video channels d) Both a and b
3. which of the following is the process performed at receiver end in mobile
communication? a) Modulation b) Decoding c) Demodulation d) Both b and c
4. Audio channels are also called as 4. Audio channels are also called as Also channels d) Both a and b
4. Audio channels are also called as a) Voice channels b) Image channels c) V ideo channels d) Both a and b number of audio
a) Voice channels b) image channels b) that a state of the state of th
channels for mobile call purpose. Add description mobile
a) 2 b) 3 c) 4 d) 5 6. Which of the following are analog cellular phones, audio channels for mobile call
purpose? a) Forward b) Reverse c) One way d) Both a and b
7 techniques are used by a user to share the spectrum in an efficient way.
a) Multiple access technique b) Frequently decess technique
c) Rarely access techniques d) None of the above
8. Wireless communication uses method. a) Multiplexing b) Quantizing c) Equalizing d) None of the above
9. Wireless communication uses number of Multiplexing methods.
a = a + b + c + c + c + c + c + c + c + c + c
10 Which of the following are multiplexing methods used in mobile communication?
a) TDMA b) FDMA c) CDMA d) All the above
11. In which spectrum available spectrum is divided and further these narrow bands
and divided equally into time slots?
a) TDMA b) FDMA c) CDMA d) All the above
12. In North America, the digital cellular standard at IS 136 for each frequency channel
is assigned with frequency.
a) 30 KHz b) 50 KHz c) 59 Hz d) 70 Hz
13 multiplexing technique allows user to share traffic channels.
a) TDMA b) FDMA c) CDMA d) All the above
14. The process where users share available spectrum in the frequency band is called
14. The process where users share available spectrum in the frequency band is cause 2

a) Traffic channel b) Congestion channel c) Noise d) Disturbance

15. In which multiplexing technique are
15. In which multiplexing technique, different users are assigned with the different channels.
a) TDMA b) FDMA c) CDMA d) All the above
16 cellular systems use FDMA type system.
a) Digital b) Analog c) Both a and b d) Discrete
17. Which of the following is a multicellular transmission type technique? a) FDMA b) OFDM c) CDMA d) TDMA
18. OFDMA stands for
a) Orthogonal frequency division multiplexing b) Original frequency division multiplexing
c) Orthogonal frequency derived multiplexing d) Orthogonal frequency-division mutant
a) Robert W b) Williams c) Richard d) Charles
20. OFDMA was introduced by Robert W in year.
a) 1966 b) 1967 c) 1965 d) 1999
21. Is OFDM a FDMA technique?
a) Yes b) No c) Maybe 22. OFDMA was incorporated into standard. 22. OFDMA was incorporated into standard.
A TIP - I
23. In OFDMA, data stream are carried by multiple rate subcarrier type to be subcarrier.
a) High b) Low c) Zero d) Infinite
24. Does OFDMA overcomes hostile frequency selective type fading?
a) Yes b) No c) Maybe
25. OFDMA combines benefits of techniques. a) Coherent detection b) OFDM modulation c) OFDM demodulation d) Both a and b
26. OFDM technique reduces electrical BW using
a) Un-down conversion b) Frequency conversion
c) Increasing frequency bandwidth d) None of the above
27 OFDM is suitable for speed circuit design.
a) High b) Low c) Medium d) Zero
mathematical techniques for processing signal.
a) FFT b) IFFT c) DFT d) Both a and b
29. Centre excited hexagonal cells use
a). Sectored directional antennas b). Omni directional antenna d). None of the above
The strategies acquired for channel assignment are
- 11 Dona and a Vaniar al. Dona a XV
14 In a fixed channel assignment strategy, If all the assigned channels are
Cots transferred to another cell. D). Gets blocked
c). Is kept on waiting. d). All of the above.
32. 2G mobile communication operates up to speed.
a) 64 kbps b) 50 kbps c).60 kbps d) 40 kbps a) 64 kbps b) 50 kbps c).60 kbps d) 40 kbps a) 64 kbps b) 50 kbps c).60 kbps d) 40 kbps
33. Which of the following are the features of 2G mobile communication technology? a) Better quality compared to 1G b) Supports multimedia c) Supports text d) All the above
a) Better quality compared to 10 b) supports multimedia c) supports end a) 7 m and 34. Is GPRS technology introduced along with 2G mobile communication technologies?
a) Yes b) No c) Maybe
u) 1 vo -/

35. Which of the following are the features supported by GPRS in 2G technology?a) Emails b) Web browsing c) Downloads d) All the above	
36. 2G technology with GPRS is also called as a) 2.5 G b) 3G c) 4G d) 5G	
37. Third-generation mobile communication technology is represented as a) 3G b) 3.4 G c) 4G d) 2G	
38. Which of the following are the 3G mobile communication features? a) High internet speed b) High data speed c) 3D gaming d) All the above	
39. What is the data speed range of 3G mobile communication? a) 144kbps to 2Mbps b) 100kbps to 2Mbps c) 200kbps to 2Mbps d) 300 kbps to 345 Kbps	
40. Which of the following are web-based applications used by 3G? a) Video conference b) Emails c) Multimedia d) All the above	
41. Which of the following are the disadvantages of 3G technology? a) Costly mobile devices b) Requires high infrastructure c) High maintenance cost d) All the above	
42. The next generation of 3G is a) 3.2G b) 3.5G c) 3.6G d) 4G	
43. Mobile is also called as a) Cell phone b) Hand phone c) Mobile cellular network d) All the above	
44. GPS stands for a) Global positioning systems b) Global partial system	
c) Geo-positioning system d) All the above	
 45. The function of GPS is a) Navigates to correct address on earth b) Locates address on earth 	
c) Points address d) All the above	
46. Which of the following are the components of GPS? a) Satellites b) Ground stations c) Transmitter and receiver d) All the above	
47. GPRS stands fora) General packet radio receiverb) Geo packet radio receiver	
c) Gradient packet radio receiver d) None of the above	
48. GPRS is used in mobile technology. a) 2G b)3G c)4G d)Both a and b	
49has led to the growth of mobile communication services. a) Increase in battery consumption b) Increase in IC technology	
c) Increase in DSP d) All the above	
50. In cellular network frequency spectrum are divided into a) Discrete channels b) Non-discrete channel c) Class of frequency d) None of the above	ve





College With Potential for Excellence

DPARTMENT OF ELECTRONICS

Subject: Basics of Cellular Communication

		Examination Attendance - 2018-19	Octo: 26/03/20
Sl. No.	Register Number	Name of the Student	Signature
1	1746714	Shivsharnapa Veershetty	
2	1746721	Geeta Baswaraj	Greate
3	1746729	Mamta Rajkumar	mander
4	1746736	Deepak Ramesh Garje	Boopak
5	1746809	Shivkumar Sharnappa	Share
6	1746829	Pradeep Sangamesh	Dadie
7	1746836	Dinsh Shivaraj	Cathar
8	1746837	Vachanashree Kashinath Biradar	Vaga
9	1746855	Siddharoodh S K Shambu	Same
10	1746857	Akash Goyal	AKarb
11	1746862	Nikita Rajesh	reskita
12	1746874	Salomi Shankar	Salomi
13	1746878	VinitaVasanth	A BOY
14	1746892	Anuja NarayanRao	A
15	1746902	Pratibha Kashinath	N. C.

KRE SOCIETY'S KARNATAK ARTS SCIENCE AND COMMERCE COLLEGE BIDAR

DEPARTMENT OF ELECTRONICS

RESPONSE SHEET

1)	Name of the course:	Basics	of Lellular	Communication	9
2)	Name of the student:		anesh		
3)	Class in which studying:		ic VI	(27)	
4)	Reg. No. of student:	1	146836	(350)	
5)	Date of exam:	2	6/3/2019		
N	ote: All the students are i	nformed to pu	it Right mark for th	e correct answer in	the

Note: All the students are informed to put Right mark for the correct answer in the appropriate circle

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Dept. of Electronics

Marnatak Arts Sci. & Com, College Blds



College With Potential for Excellence



DPARTMENT OF ELECTRONICS

Subject: Basics of Cellular Communication

MARKSTIST

Sl. No.	Register Number	Name of the student	Marks obtained out of 50
1	1746714	Shivsharnapa Veershetty	38
2	1746721	Soumya Baswaraj Deshmukh	42
3	1746729	Anand S Biradar	44
4	1746809	Shivayogi Virpakshayya	38
5	1746829	Kiran Mallikarjun	40
6	1746836	B. Ganesh	37
7	1746837	Lumure VushalReddy	37
8	1746855	Basvaprasad Navaling Patil	41
9	1746857	Priya Biradar	39
10	1746862	Arun Kanteppa	35
11	1746874	Kalyani Shivraj	44
12	1746878	KushalRao BheemRao	38
13	1746892	Shilpa Rajkumar	37
14	1746892	Rajeshwari C	40
	3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Divyashree Dhanraj	42
15	1746902	Divyasinee Dhamaj	

Course Inchangwe

Dept. of Flectronics

IQAC CO-ORDINATOR

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m . College **FIQAC Coordinator ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಿಯ, ಜಲ್** Kamatak Arts, Science and Commerce College, Tarmatak Arts Sci. &Com. College POAC Coordinator

BIDAR





Karnatak Arts, Science & Commerce College, Bidar

(Affiliated to Gulbarga University)
College With Potential for Excellence



Add-on course Report and Outcome Analysis (2018-19)

Name of the Course: Add —on Basics of Cellular Communication

Name of the Department: Electronics

Name of the BOS Chairman: Dr. Rajendra Biradar(Assoc. Prof. and Head Dept. of Electronics)

No. of the Students Enrolled: 15

Date of BOS Meeting: 17 October, 2017

Date of Start of Course: 16, Jan, 2019

Date of End of Course: 16 March 2019

Our college offers the curriculum as prescribed by Gulbarga University Kalaburagi. The curriculum does not address every local need, thus we considered teaching our students about local technological demands. In this regard, the Department established Institutional BOS, created a syllabus that was appropriate for our students, and obtained Institutional BOS approval. Applicants from the electronic stream were invited to apply, and students were chosen based on their prior academic performance in electronic-related topics. The course provides an overview of mobile communication, the usage of frequencies and the preservation of the frequency spectrum, channel accommodation, handoff, and multipath fading MIMO and CDMA, among other topics. We are enrolling in 30-hour classes for two credits to finish our curriculum. The programme enables students to start their own businesses and helps them obtain employment as technical assistants in the communication industry.

The course was 30 contact hrs of 2 credits, total 15 students actively participated in the course and certificates were distributed after conducting the MCQ based course end examination.

Outcome of the Course: The course helps to gain the entrepreneur and industrial skills which helps the students to become self entrepreneur and get opportunity in UPS and Inverter Industries.

Dept. of Tiectronics

Dept. Of LCom. College Blass

Vice-Principal &

IQAC

IQAC. Coordinator Karnatak Arts, Science & Commerce College, Bidar PRINCIPAL Com. College

BIDAR-585401

St Students Attenda								nce	Re) Oi	and Tud							
Admission No.	Roll Number	Names	o Date	1		oz Date	1 2	3		5	6	7	8		10			13 14
1	121	Shiverpoor Virgal@house					25/21									1	†	+
2	124	Shiveyogi Umpakehoyy G Bawapralad abrahag Past				- {	42	1									1	†
3	125				1	£	526					\perp						
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2	128	44.3			_	Q.	1/25	`	1	\perp	\perp	L	\perp	L	\perp	L	L	
6	129				_	Q.	324		4	\perp	\perp	L	L	L	L	L	L	L
7	31	Rajeshwari - C			- 1	9	74	4	\downarrow	+	\perp				L			L
8	137				_	21	125	+	+	\perp	+			L	\vdash	-	L	L
9	133	Borya Biradas			_	29	53	+	+	+	\vdash		-		H	\vdash	L	╀
10	137	Soumya Brivaraj. D	\parallel		_		74	+	+	+	\vdash	L	\vdash		\vdash	┝	H	\vdash
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	G	ignature of Lecturer with Date	N.		7	y de		1	1	-	rts	Sei	. & (ge.	Bide
		of HOD.	4		_71_					7	Ц		_		100			