

**K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science**

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**Add-on course on Internet Of Things  
2021-22**

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**Course Co-ordinator**

**Sri. Shrikant Doddamani  
Assistant Professor in Computer Science**



Date: 26/10/2021

To,  
The Principal  
Karnatak Arts, Science and Commerce College, Bidar.

Sub: Request to grant permission to start add-on course on **Internet Of Things** for the academic year 2021-2022.

Respected Sir,

As per the guidelines issued by IQAC, we would like to start the add-on course on "**Internet Of Things**" from the academic year 2021-22. With intake of 50 students. Please permit us to start the add-on course and do the needful.

Thanking You.

Head  
Department of Computer Science  
SRIKANTH DODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR

K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science



**Meeting Minutes for Institutional Board of Studies for Add-on Course on  
Internet Of Things**

The institutional Board of Studies of the Department of Computer Science for the add-on course on **Internet Of Things** held on 30/10/2021 at 2:00pm .

Sl No.	Name	Institute	Designation
1	Sri.Shrikant. D	Head Department of Computer Science, KASCC, Bidar.	Course coordinator
2	Smt. Anita .M	Assistant Professor, Department of Computer Science , KASCC, Bidar.	Member
3	Smt. Shivaleela Patil	Assistant Professor, Department of Computer Science, KASCC, Bidar.	Member
4	Dr. Patil Pandit	Assistant Professor, Department of Computer Science, Govt. Degree College, Noubad, Bidar.	External Expert

In the beginning of the meeting the Chair Person of the BOS Sri. Shrikant Doddamani welcomed all members and briefed them about the academic activities of the Department of Computer Science . The members expressed their highly appreciation and satisfaction about the courses and activities of the department.

After that institutional BOS discussed and resolved the following items:

**Item 1. Starting of the add-on course on Internet Of Things.**

The BOS discussed the item and resolved to start the add-on course on Internet Of Things.

**Item 2. Approval of the Syllabus for add-on course.**

The BOS discussed and approved the syllabus for the add-on course on Internet Of Things.

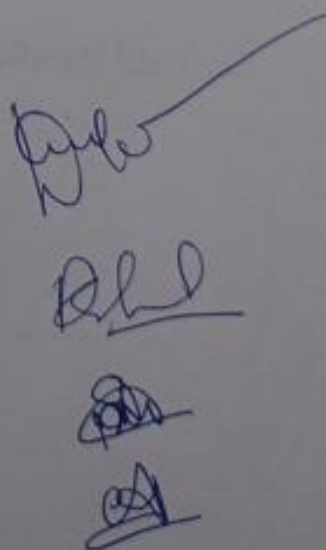
**Item 3. Approval of admission criteria**

The BOS discussed and approve the criteria for admission and resolved that any students enrolled in UG course in KASCC can enrol in this course. In addition to this BOS also finalized the exam pattern.

Meeting of the BOS was concluded with the vote of thanks by Smt. Anita M, Assistant Professor in Department of Computer Science.

The following members were present in the meeting:

- Sri. Shrikant Doddamani
- Dr. Patil Pandit
- Smt. Shivaleela Pail.
- Smt. Anita . M.





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Department of Computer Science  
Add-on Course on Internet Of Things



**Preamble:** Students will be explored to the interconnection and integration of the physical world and the cyber space. They are also able to design & develop IOT Devices.

**Objectives:**

1. To study fundamental concepts of IOT
2. To understand roles of sensors in IOT
3. To Learn different protocols used for IOT design
4. To be familiar with data handling and analytics tools in IoT
5. Appreciate the role of big data, cloud computing and data analytics in a typical IoT system.
6. Understand the role of IOT in various domains of Industry.
7. Able to understand the application areas of IOT
8. Able to realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks
9. Able to understand building blocks of Internet of Things and characteristics.

**Instructional Design:**

This course is of 40-hour duration which includes theory classes and assignments etc.

**Course Structure and Examination Scheme:**

**Total contact hours:**

Theory Classes:	30 Hours
Practical:	10 Hours
Total	40 Hours

**Mode of Examination:**

MCQ Exam:	60 Marks
Assignments:	40 Marks

**Eligibility:** Students enrolled in UG.

**No. of Seats:** 50

K.R.E Society's  
**Karnatak Arts, Science and Commerce College, Bidar**  
**Department of Computer Science**  
**Add-on Course on Internet Of Things**



**Syllabus**

**UNIT-I**

**10 Hours**

Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.

**UNIT-II**

**10 Hours**

Sensors Networks : Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.

**UNIT-III**

**05 Hours**

**Wireless Technologies for IoT:** WPAN Technologies for IoT: IEEE 802.15.4, Zigbee, HART, NFC, Z-Wave, BLE, Bacnet, Modbus.

**IP Based Protocols for IoT** IPv6, 6LowPAN, RPL, REST, AMPQ, CoAP, MQTT.  
Edge connectivity and protocols

**UNIT-IV**

**05 Hours**

**Applications of IoT:** Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.

## REFERENCES

1. Daniel Minoli, — “Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications”, ISBN: 978-1-118-47347-4, Willy Publications
2. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
3. [https://onlinecourses.nptel.ac.in/noc17\\_cs22/course](https://onlinecourses.nptel.ac.in/noc17_cs22/course)
4. [http://www.cse.wustl.edu/~jain/cse570-15/ftp/iot\\_prot/index.html](http://www.cse.wustl.edu/~jain/cse570-15/ftp/iot_prot/index.html)

K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science



Date: 02/11/2021

### NOTICE

All the students are hereby informed that, the Department of Computer Science is starting the add-on course on “**Internet Of Things**” from the 10/11/2021 to 15/02/2022. interested students can enroll their names on or before 07/11/2021 in the Department of Computer Science.

A handwritten signature in blue ink, appearing to be "Srikanth".

HOD

Department of Computer Science  
SRIKANTH DODD  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR

A handwritten signature in green ink, appearing to be "S. S. Srinivas".

Principal

PRINCIPAL  
Karnatak Arts, Sci. & Com. College  
BIDAR-585401



K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on Course on Internet Of Things

Time-Table (2021-2022)

(Course Duration November 2021 to February 2022)



Days/Time	9 to 10	10 to 11
Friday	AM	SP
Saturday	AM	SP

**HOD**  
SRIKANTH DODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR

Principal  
**PRINCIPAL**  
Karnatak Arts, Sci. & Com. College  
BIDAR-585401

K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on Course on Internet Of Things



Admission List (2021-2022)

Sl.No	Reg.No.	Name of the Student	Sign
1	2150237	Amar Patil S/O Dattari Patil	
2	2150238	Pavan Kumar S/O Maharudrappa	
3	2150239	Ganesh S/O Sanjureddy	Ganesh Nataraj
4	2150240	Nataraj S/O Sanjukumar	Nataraj
5	2150242	Rani D/O Ashok	Rani
6	2150243	Sagar S/O Shankar	Sagar
7	2150244	Lingarchana D/O Appanna	Lingarchana
8	2150245	Shivkumar S/O Rajkumar	
9	2150246	Santosh S/O Raju	Santosh
10	2150247	Ajay Kumar S/O Nagnath	Ajay
11	2150248	Swati D/O Dhanraj	Swati
12	2150249	Krutika D/O Baswaraj	Krutika P
13	2150250	Yogesh S/O Dattatri	Yogesh
14	2150251	Pavan S/O Ramesh	Pavan
15	2150252	Abhishek S/O Umakant	
16	2150253	Justina D/O Jairam	Justina
17	2150254	Md. Shoiab S/O Md. Mustafa	Md. Shoiab
18	2150255	Shivasagar S/O Sudhakar	
19	2150256	Mithun S/O Narsing	Mithun
20	2150257	Rajeshwari	
21	2150258	Prashanth S/O Tukaram	Prashanth
22	2150259	Shivani D/O Basavaraj	Shivani
23	2150260	Vaishanavi D/O Prakash	
24	2150261	Sunil.S S/O Sundaresh	Sunil



25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	Prasad K
26	2150263	Laxmi D/O Vijaykumar	Laxmi
27	2150264	Anuradha D/O Vijaykumar	Anuradha
28	2150265	Neha Patil D/O Shivkumar Patil	Neha
29	2150266	Christopher Colombus	Chris
30	2150267	Sudeep S/O Sanjukumar	Sudeep
31	2150268	Adarsh S/O Sudesh Kulkarni	Adarsh.k
32	2150269	Vaishnavi D/oShivasharanappa	Vaishnavi
33	2150270	Akshita D/O Rajkumar	Akshita
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	Sadiya
35	2150272	Swati Mankal D/OBasappa	Swati
36	2150273	Vaishnavi D/ORajshekar	Vaishnavi
37	2150274	Ganesh S/O Jatingrao	Ganesh
38	2150275	Asharahmed	Asharahmed
39	2150276	Rajeshwari D/OMahanand kumar	Rajeshwari
40	2150277	Sainath S/O Suryakant	Sainath
41	2150278	Mohsin S/O Imamsab	Mohsin
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	Sohel
43	2150280	Shaik Tauseef	Shaik Tauseef
44	2150281	Majunath S/O Ashoka	Majunath
45	2150282	Vijaylaxmi D/OSanganbasayya	Vijaylaxmi
46	2150283	B Shravani	B Shravani
47	2150284	Vinod	Vinod
48	2150285	Vishalreddy S/OVithalreddy	Vishalreddy
49	2150286	Priyadarshini	Priyadarshini
50	2150287	Santoshi D/OChandrakant	Santoshi

  
SKIKANI H DODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
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Add-on Course on Internet Of Things



Attendance List (2021-2022)

(Course Duration November 2021 to February 2022)


Sl.no	Reg.No.	Name of the student	12/11/21	12/11/21	13/11/21	13/11/21	19/11/21	19/11/21	20/11/21	20/11/21	26/11/21	26/11/21
1	2150237	Amar Patil S/O Dattari Patil	0	1	2	3	4	5	6	7	7	8
2	2150238	Pavan Kumar S/O Maharudrappa	1	2	3	3	4	5	6	7	7	8
3	2150239	Ganesh S/O Sanjureddy	1	2	3	4	5	6	7	8	8	9
4	2150240	Nataraj S/O Sanjukumar	1	2	3	3	4	5	6	7	8	9
5	2150242	Rani D/O Ashok	0	1	2	3	4	5	6	7	8	9
6	2150243	Sagar S/O Shankar	1	2	3	4	5	6	7	8	9	10
7	2150244	Lingarchana D/O Appanna	0	1	2	3	4	5	6	7	8	9
8	2150245	Shivkumar S/O Rajkumar	1	1	2	3	4	4	5	6	7	8
9	2150246	Santosh S/O Raju	0	1	2	2	3	4	5	6	7	8
10	2150247	AjayKumar S/O Nagnath	0	1	1	2	2	3	4	5	6	7
11	2150248	Swati D/O Dhanraj	1	2	3	4	5	6	7	8	9	10
12	2150249	Krutika D/O Baswaraj	1	2	3	4	5	6	7	8	9	10
13	2150250	Yogesh S/O Dattatri	0	1	2	3	4	5	6	7	8	9
14	2150251	Pavan S/O Ramesh	0	1	2	3	4	5	6	7	8	9
15	2150252	Abhishek S/O Umakant	1	2	3	4	5	6	7	8	9	10
16	2150253	Justina D/O Jairam	1	2	3	4	5	6	7	8	9	10
17	2150254	Md. Shoiab S/O Md. Mustafa	0	1	2	3	4	5	6	7	8	9
18	2150255	Shivasagar S/O Sudhakar	0	1	2	3	4	5	6	7	8	9

  
**SRIKANTH DODDAMANI**  
 Head & Associate Professor  
 Department of Computer Science  
 Karnatak Arts, Science and  
 Commerce College, Bidar



Sl.no	Reg.No.	Name of the student	12/11/21	12/11/21	13/11/21	13/11/21	14/11/21	14/11/21	20/11/21	20/11/21	20/11/21	26/11/21	26/11/21
19	2150256	Mithun S/O Narsing	0	1	2	3	4	5	6	7	8	9	9
20	2150257	Rajeshwari	1	2	3	4	5	6	7	8	9	10	10
21	2150258	Prashanth S/O Tukaram	1	1	2	3	4	5	6	7	8	9	9
22	2150259	Shivani D/O Basavaraj	1	2	3	4	5	6	7	8	9	10	10
23	2150260	Vaishanavi D/O Prakash	1	2	2	3	4	5	5	6	7	8	8
24	2150261	Sunil.S S/O Sundaresh	1	2	3	4	5	6	7	8	9	10	10
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	1	2	3	4	5	6	7	8	9	10	10
26	2150263	Laxmi D/O Vijaykumar	1	2	3	4	5	6	7	8	9	10	10
27	2150264	Anuradha D/O Vijaykumar	1	2	3	4	5	6	7	8	9	10	10
28	2150265	Neha Patil D/O Shivkumar Patil	1	2	3	4	5	6	7	8	9	10	10
29	2150266	Christopher Colombus	1	2	3	4	5	6	7	8	9	10	10
30	2150267	Sudeep S/O Sanjukumar	0	1	2	3	4	5	6	7	8	9	9
31	2150268	Adarsh S/O Sudesh Kulkarni	1	2	3	4	5	6	7	8	9	10	10
32	2150269	Vaishanavi D/oShivasharanappa	1	2	3	4	5	6	7	8	9	10	10
33	2150270	Akshita D/O Rajkumar	1	2	3	4	5	6	7	8	9	10	10
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	1	2	3	4	5	6	7	8	9	10	10
35	2150272	Swati Mankal D/OBasappa	1	2	3	4	5	6	7	8	9	10	10
36	2150273	Vaishanavi D/ORajshekar	1	2	3	4	5	6	7	8	9	10	10
37	2150274	Ganesh S/O Jatingrao	1	2	3	4	5	6	7	8	9	10	10
38	2150275	Asharahmed	1	2	3	4	5	6	7	8	9	10	10
39	2150276	Rajeshwari D/OMahanand kumar	1	2	3	4	5	6	6	7	7	8	8
			1	2	3	4	5	5	6	7	8	9	9

Sl.no	Reg.No.	Name of the student	12/11/21	12/11/21	13/11/21	13/11/21	19/11/21	20/11/21	20/11/21	26/11/21	26/11/21
40	2150277	Sainath S/O Suryakant	1	2	2	3	3	4	4	4	5
41	2150278	Mohsin S/O Imamsab	1	2	3	3	4	5	6	7	8
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	1	2	3	4	5	6	7	8	10
43	2150280	Shaik Tauseef	1	2	3	4	5	6	7	8	10
44	2150281	Majunath S/O Ashoka	1	2	3	4	5	6	7	8	10
45	2150282	Vijaylaxmi D/OSanganbasayya	1	2	3	4	5	6	7	8	10
46	2150283	B Shravani									
47	2150284	Vinod	1	2	3	4	5	6	7	8	10
48	2150285	Vishalreddy S/OVithalreddy	1	2	3	4	5	6	7	8	10
49	2150286	Priyadarshini	1	2	3	4	5	6	7	8	10
50	2150287	Santoshi D/OChandrakant	1	2	3	4	5	6	7	8	10
Sign of Faculty			<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>	<del>5</del>	<del>6</del>	<del>7</del>	<del>8</del>	<del>10</del>

  
**SKIKANITH DODDAMANI**  
 Head & Associate Professor  
 Department of Computer Science  
 Karnatak Arts, Science and  
 Commerce College BIDAR



K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on Course on Internet Of Things



Attendance List (2021-2022)

(Course Duration November 2021 to February 2022)


Sl.no	Reg.No.	Name of the student	27/11/21	03/12/21	3/12/21	4/12/21	4/12/21	10/12/21	10/12/21	11/12/21	11/12/21	12/12/21
1	2150237	Amar Patil S/O Dattari Patil	9	10	10	11	12	13	14	15	16	17
2	2150238	Pavan Kumar S/O Maharudrappa	9	10	11	11	12	13	14	15	16	16
3	2150239	Ganesh S/O Sanjureddy	10	11	12	13	14	14	15	16	17	18
4	2150240	Nataraj S/O Sanjukumar	10	10	11	12	13	14	15	16	17	18
5	2150242	Rani D/O Ashok	10	10	11	12	13	14	15	16	17	18
6	2150243	Sagar S/O Shankar	11	12	13	14	15	16	17	18	19	20
7	2150244	Lingarchana D/O Appanna	10	11	12	13	14	15	16	17	18	19
8	2150245	Shivkumar S/O Rajkumar	9	10	11	12	13	14	15	16	17	18
9	2150246	Santosh S/O Raju	9	10	11	12	13	14	15	16	17	18
10	2150247	AjayKumar S/O Nagnath	8	9	10	11	12	13	14	15	16	17
11	2150248	Swati D/O Dhanraj	11	12	13	14	15	16	17	18	19	20
12	2150249	Krutika D/O Baswaraj	11	12	13	14	15	16	17	18	19	20
13	2150250	Yogesh S/O Dattatri	10	11	12	13	14	15	16	17	18	19
14	2150251	Pavan S/O Ramesh	10	11	12	13	14	15	16	17	18	19
15	2150252	Abhishek S/O Umakant	11	12	13	14	15	16	17	18	19	20
16	2150253	Justina D/O Jairam	11	12	13	14	15	16	17	18	19	20
17	2150254	Md. Shoiab S/O Md. Mustafa	10	11	12	13	14	15	16	17	18	19
18	2150255	Shivasagar S/O Sudhakar	10	11	12	13	14	15	16	17	18	19

Sl.no	Reg.No.	Name of the student	27/11/21	3/12/21	3/12/21	4/12/21	4/12/21	10/12/21	10/12/21	11/12/21	11/12/21	17/12/21
19	2150256	Mithun S/O Narsing	10	11	12	13	14	15	16	17	18	19
20	2150257	Rajeshwari	11	12	12	13	14	15	16	17	18	19
21	2150258	Prashanth S/O Tukaram	16	11	12	13	14	14	15	16	17	18
22	2150259	Shivani D/O Basavaraj	11	12	13	14	15	16	17	18	19	20
23	2150260	Vaishanavi D/O Prakash	9	10	10	11	12	13	14	15	16	17
24	2150261	Sunil S S/O Sundaresh	11	12	12	13	14	15	16	16	17	18
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	11	12	13	14	15	16	17	18	19	20
26	2150263	Laxmi D/O Vijaykumar	11	12	13	14	15	16	17	18	18	19
27	2150264	Anuradha D/O Vijaykumar	11	12	13	14	14	15	16	17	17	18
28	2150265	Neha Patil D/O Shivkumar Patil	11	12	13	14	14	15	16	17	17	18
29	2150266	Christopher Colombus	11	12	13	14	15	16	17	18	19	20
30	2150267	Sudeep S/O Sanjukumar	10	11	12	13	14	15	16	17	18	19
31	2150268	Adarsh S/O Sudesh Kulkarni	11	12	13	14	15	16	17	18	19	20
32	2150269	Vaishanavi D/o Shivasharanappa	11	12	13	14	15	16	17	18	18	19
33	2150270	Akshita D/O Rajkumar	11	12	13	14	14	15	15	16	17	18
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	11	12	13	13	14	14	15	16	17	17
35	2150272	Swati Mankal D/O Basappa	11	12	13	14	15	16	17	18	19	20
36	2150273	Vaishanavi D/O Rajshekar	11	12	13	13	14	14	15	16	17	18
37	2150274	Ganesh S/O Jatingrao	11	12	12	13	14	15	16	17	18	19
38	2150275	Asharahmed	11	12	12	13	14	15	16	17	18	19
39	2150276	Rajeshwari kumar D/O Mahanand	9	10	11	12	13	14	15	16	17	18
			10	11	12	13	14	15	15	16	17	18



Sl.no	Reg.No.	Name of the student	27/11/21	3/12/21	3/12/21	3/12/21	4/12/21	4/12/21	5/12/21	6/12/21	7/12/21	8/12/21	9/12/21	10/12/21	11/12/21	12/12/21
40	2150277	Sainath S/O Suryakant	6	7	7	8	9	9	10	10	11	11	12	12	13	13
41	2150278	Mohsin S/O Imamsab	9	10	11	12	13	14	14	15	15	16	16	17	17	18
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	11	12	13	14	14	15	15	16	16	17	17	18	18	19
43	2150280	Shaik Tauseef	11	12	13	14	14	15	15	16	16	17	17	18	18	19
44	2150281	Majunath S/O Ashoka	11	12	13	14	14	15	15	16	16	17	17	18	18	19
45	2150282	Vijaylaxmi D/OSanganbasayya	11	12	13	14	15	15	16	16	17	17	18	18	19	20
46	2150283	B Shravani														
	2150284	Vinod	11	12	13	13	14	14	15	15	16	16	17	17	18	18
48	2150285	Vishalreddy S/OVithalreddy	11	12	13	13	14	15	16	16	17	17	18	18	19	19
49	2150286	Priyadarshini	11	12	13	14	15	16	16	17	17	18	18	19	19	20
50	2150287	Santoshi D/OChandrakant	11	12	13	14	15	16	16	17	17	18	18	19	19	20
Sign of Faculty																



  
 SHIKANTI DODDAMANI  
 Head & Associate Professor  
 Department of Computer Science  
 Karnatak Arts, Science and  
 Commerce College BIDAR

K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on Course on Internet Of Things



Attendance List (2021-2022)

(Course Duration November 2021 to February 2022)

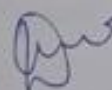
Sl.no	Reg.No.	Name of the student	17/12/21	18/12/21	19/12/21	24/12/21	24/12/21	31/12/21	31/12/21	7/1/22	7/1/22	8/1/22
1	2150237	Amar Patil S/O Dattari Patil	18	19	20	21	22	23	24	25	26	27
2	2150238	Pavan Kumar S/O Maharudrappa	17	18	18	19	19	20	21	22	23	24
3	2150239	Ganesh S/O Sanjureddy	19	20	21	22	23	24	25	26	27	28
4	2150240	Nataraj S/O Sanjukumar	19	20	20	21	22	23	23	24	24	25
5	2150242	Rani D/O Ashok	19	20	21	22	23	24	25	25	26	27
6	2150243	Sagar S/O Shankar	21	22	22	23	24	25	25	26	27	27
7	2150244	Lingarchana D/O Appanna	20	21	22	22	22	23	24	25	26	27
8	2150245	Shivkumar S/O Rajkumar	19	20	21	22	22	23	24	24	25	26
9	2150246	Santosh S/O Raju	19	20	21	22	23	23	24	24	24	25
10	2150247	AjayKumar S/O Nagnath	18	19	19	20	21	21	22	23	24	24
11	2150248	Swati D/O Dhanraj	21	22	23	24	24	25	25	26	27	28
12	2150249	Krutika D/O Baswaraj	21	21	21	22	22	23	23	24	25	26
13	2150250	Yogesh S/O Dattatri	20	20	20	21	22	23	24	25	25	26
14	2150251	Pavan S/O Ramesh	20	20	20	21	22	22	23	24	24	25
15	2150252	Abhishek S/O Umakant	21	22	23	24	24	25	25	26	27	28
16	2150253	Justina D/O Jairam	21	22	22	23	24	24	25	25	26	26
17	2150254	Md. Shoiab S/O Md. Mustafa	20	21	22	23	24	24	24	25	25	25
18	2150255	Shivasagar S/O Sudhakar	20	20	20	21	22	23	24	24	24	25



Sl.no	Reg.No.	Name of the student	7/12/22	18/12/22	19/12/22	24/12/22	24/12/22	31/12/22	31/12/22	7/1/23	7/1/23	8/1/23
19	2150256	Mithun S/O Narsing	20	20	21	21	22	23	23	24	24	25
20	2150257	Rajeshwari	20	21	21	22	23	24	24	25	26	27
21	2150258	Prashanth S/O Tukaram	19	20	21	22	23	23	24	25	25	26
22	2150259	Shivani D/O Basavaraj	21	21	22	23	23	24	25	25	26	27
23	2150260	Vaishanavi D/O Prakash	18	19	19	20	20	21	22	23	23	24
24	2150261	Sunil.S S/O Sundaresh	19	20	21	22	23	24	24	25	25	25
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	21	22	23	23	24	25	26	26	27	27
26	2150263	Laxmi D/O Vijaykumar	20	20	20	20	21	21	21	22	23	24
27	2150264	Anuradha D/O Vijaykumar	19	20	20	21	22	23	24	25	26	27
28	2150265	Neha Patil D/O Shivkumar Patil	19	20	21	22	23	24	24	25	25	26
29	2150266	Christopher Colombus	21	22	23	23	24	25	25	26	26	27
30	2150267	Sudeep S/O Sanjukumar	20	20	21	21	23	24	24	25	25	26
31	2150268	Adarsh S/O Sudesh Kulkarni	21	21	21	22	23	23	24	24	25	26
32	2150269	Vaishanavi D/oShivasharanappa	20	21	22	23	24	24	25	26	27	28
33	2150270	Akshita D/O Rajkumar	19	20	21	22	23	24	25	25	26	27
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	18	19	20	21	22	23	23	24	25	26
35	2150272	Swati Mankal D/OBasappa	21	22	23	23	24	24	25	25	26	27
36	2150273	Vaishanavi D/ORajshekar	19	20	20	20	21	22	23	24	25	25
37	2150274	Ganesh S/O Jatingrao	20	21	22	22	23	24	24	25	25	26
38	2150275	Asharahmed	19	20	20	20	21	21	21	21	22	23
39	2150276	Rajeshwari kumar D/OMahanand	19	20	21	21	21	21	22	23	24	25



Sl.no	Reg.No.	Name of the student	7/12/21	13/12/21	19/12/21	24/12/21	29/12/21	31/12/21	31/12/21	7/1/22	13/1/22	18/1/22
40	2150277	Sainath S/O Suryakant	7	7	8	8	9	10	10	10	10	11
41	2150278	Mohsin S/O Imamsab	8	9	10	11	12	13	13	14	15	16
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	12	13	13	14	15	16	17	18	19	20
43	2150280	Shaik Tauseef	12	13	14	15	16	17	18	19	20	21
44	2150281	Majunath S/O Ashoka	12	13	14	15	16	17	18	19	20	21
45	2150282	Vijaylaxmi D/OSanganbasayya	12	13	14	15	16	17	18	19	20	21
46	2150283	B Shravani										
47	2150284	Vinod	12	13	14	15	16	17	18	19	20	21
48	2150285	Vishalreddy S/OVithalreddy	12	13	14	15	16	17	18	19	20	21
49	2150286	Priyadarshini	12	13	14	15	16	17	18	19	20	21
50	2150287	Santoshi D/OChandrakant	12	13	14	15	16	17	18	19	20	21
Sign of Faculty												

  
SHIKANI H UODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Kamatak Arts, Science and  
Commerce College BIDAR



K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on Course on Internet Of Things



Attendance List (2021-2022)

(Course Duration November 2021 to February 2022)

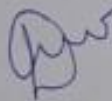
Sl.no	Reg.No.	Name of the student	8/1/22	15/1/22	15/1/22	2/1/22	2/1/22	28/1/22	28/1/22	11/2/22	11/2/22	12/2/22
1	2150237	Amar Patil S/O Dattari Patil	28	29	30	31	31	32	33	34	35	36
2	2150238	Pavan Kumar S/O Maharudrappa	25	26	27	27	28	28	29	30	31	32
3	2150239	Ganesh S/O Sanjureddy	29	30	31	32	33	34	35	36	36	37
4	2150240	Nataraj S/O Sanjukumar	26	27	28	29	29	30	31	32	33	34
5	2150242	Rani D/O Ashok	28	29	30	31	31	32	32	33	34	35
6	2150243	Sagar S/O Shankar	28	30	31	32	33	33	34	35	36	37
7	2150244	Lingarchana D/O Appanna	28	29	30	31	32	32	33	34	35	36
8	2150245	Shivkumar S/O Rajkumar	27	28	29	30	30	31	32	32	33	34
9	2150246	Santosh S/O Raju	26	27	28	28	29	30	31	32	32	32
10	2150247	AjayKumar S/O Nagnath	25	26	27	28	29	30	31	32	32	32
11	2150248	Swati D/O Dhanraj	29	30	31	31	32	32	33	34	34	35
	2150249	Krutika D/O Baswaraj	27	28	29	29	30	31	31	32	33	34
13	2150250	Yogesh S/O Dattatri	27	28	29	30	31	32	32	33	33	34
14	2150251	Pavan S/O Ramesh	26	27	28	28	29	30	31	32	32	33
15	2150252	Abhishek S/O Umakant	29	30	31	31	32	32	33	34	34	35
16	2150253	Justina D/O Jairam	27	28	28	29	30	30	31	31	32	33
17	2150254	Md. Shoiab S/O Md. Mustafa	26	27	28	28	29	30	31	31	32	33
18	2150255	Shivasagar S/O Sudhakar	26	26	27	28	28	29	30	30	30	30



Sl.no	Reg.No.	Name of the student	8/1/22	15/1/22	15/1/22	21/1/22	21/1/22	28/1/22	28/1/22	1/2/22	1/2/22	12/2/22
19	2150256	Mithun S/O Narsing	26	27	28	28	29	29	30	31	31	31
20	2150257	Rajeshwari	27	28	29	30	31	32	33	33	34	35
21	2150258	Prashanth S/O Tukaram	27	28	29	30	31	31	32	33	34	35
22	2150259	Shivani D/O Basavaraj	28	29	30	31	31	32	32	33	34	35
23	2150260	Vaishanavi D/O Prakash	25	26	27	28	29	30	31	31	32	32
24	2150261	Sunil.S S/O Sundaresh	26	27	28	29	30	31	31	32	33	34
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	28	29	29	30	31	32	33	34	35	36
26	2150263	Laxmi D/O Vijaykumar	25	26	27	28	28	29	29	30	31	32
27	2150264	Anuradha D/O Vijaykumar	28	29	30	30	31	31	32	32	32	32
28	2150265	Neha Patil D/O Shivkumar Patil	27	28	28	29	30	31	32	33	34	35
29	2150266	Christopher Colombus	28	28	29	30	31	31	31	32	33	34
30	2150267	Sudeep S/O Sanjukumar	27	28	28	29	30	31	31	32	32	33
31	2150268	Adarsh S/O Sudesh Kulkarni	27	28	29	30	31	32	33	34	34	35
32	2150269	Vaishanavi D/oShivasharanappa	29	30	31	31	32	32	33	34	35	36
33	2150270	Akshita D/O Rajkumar	28	29	29	30	31	32	33	34	35	36
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	27	28	29	30	31	32	33	33	34	35
35	2150272	Swati Mankal D/OBasappa	28	29	29	30	31	32	32	33	34	35
36	2150273	Vaishanavi D/ORajshekar	26	27	28	29	30	30	31	32	33	34
37	2150274	Ganesh S/O Jatingrao	27	28	28	28	28	29	29	30	30	31
38	2150275	Asharahmed	24	25	26	26	27	27	27	28	28	29
39	2150276	Rajeshwari D/OMahanand kumar	26	27	27	28	29	29	30	31	32	32



Sl.no	Reg.No.	Name of the student	31/1/22	1/2/22	15/1/22	21/1/22	21/1/22	28/1/22	28/1/22	1/2/22	4/2/22	12/2/22
40	2150277	Sainath S/O Suryakant	11	11	11	12	13	14	15	16	17	18
41	2150278	Mohsin S/O Imamsab	17	18	18	19	20	20	21	22	23	24
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	21	22	23	23	24	25	25	26	26	27
43	2150280	Shaik Tauseef	22	23	23	24	25	25	26	26	27	28
44	2150281	Majunath S/O Ashoka	22	23	24	25	26	27	28	29	30	31
45	2150282	Vijaylaxmi D/OSanganbasayya	22	23	23	24	25	26	27	28	29	30
46	2150283	B Shravani										
47	2150284	Vinod	22	23	24	24	25	25	26	26	27	28
48	2150285	Vishalreddy S/OVithalreddy	22	23	23	24	25	25	26	26	27	28
49	2150286	Priyadarshini	22	23	23	24	25	26	26	27	28	29
50	2150287	Santoshi D/OChandrakant	22	23	23	24	25	26	27	28	28	29
Sign of Faculty												

  
SHIKANTI M UODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR



K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science



Date: 16/02/2022

**NOTICE**

All the students enrolled in add-on course on **Internet Of Things** are hereby informed that, the course examination date is scheduled on 21/02/2022. Duration of examination is **1hr**.

**HOD**

SRIKANITH DODDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR

**Principal**

PRINCIPAL  
Karnatak Arts, Sci. & Com. College  
BIDAR-585101



K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Add-on course on Internet Of Things Exam Attendance List(2021-22)



Date:21/02/2022

Sl.No	Reg.No.	Name of the Student	Sign
1	2150237	Amar Patil S/O Dattari Patil	AB
2	2150238	Pavan Kumar S/O Maharudrappa	P
3	2150239	Ganesh S/O Sanjureddy	Ganesh
4	2150240	Nataraj S/O Sanjukumar	N
5	2150242	Rani D/O Ashok	AB
6	2150243	Sagar S/O Shankar	Sagar
7	2150244	Lingarchana D/O Appanna	Lingarchana
8	2150245	Shivkumar S/O Rajkumar	S
9	2150246	Santosh S/O Raju	S
10	2150247	AjayKumar S/O Nagnath	Ajay
11	2150248	Swati D/O Dhanraj	Swati
12	2150249	Krutika D/O Baswaraj	Krutika P
13	2150250	Yogesh S/O Dattatri	AB
14	2150251	Pavan S/O Ramesh	Pavan
15	2150252	Abhishek S/O Umakant	AP
16	2150253	Justina D/O Jairam	AB
17	2150254	Md. Shoiab S/O Md. Mustafa	md. Shoiab
18	2150255	Shivasagar S/O Sudhakar	S
19	2150256	Mithun S/O Narsing	M
20	2150257	Rajeshwari	Rajeshwari

21	2150258	Prashanth S/O Tukaram	<u>Prashanth</u>
22	2150259	Shivani D/O Basavaraj	<u>Shivani</u>
23	2150260	Vaishanavi D/O Prakash	<u>Vaishanavi</u>
24	2150261	Sunil.S S/O Sundaresh	<u>Sunil</u>
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	<u>Prasad</u>
26	2150263	Laxmi D/O Vijaykumar	<u>Laxmi</u>
27	2150264	Anuradha D/O Vijaykumar	<u>Anuradha</u>
28	2150265	Neha Patil D/O Shivkumar Patil	<u>Neha</u>
29	2150266	Christopher Colombus	<u>Chris</u>
30	2150267	Sudeep S/O Sanjukumar	<u>AB</u>
31	2150268	Adarsh S/O Sudesh Kulkarni	<u>Adarsh.k</u>
32	2150269	Vaishanavi D/oShivasharanappa	<u>AB</u>
33	2150270	Akshita D/O Rajkumar	<u>Akshita</u>
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig	<u>AB</u>
35	2150272	Swati Mankal D/OBasappa	<u>Swati</u>
36	2150273	Vaishanavi D/ORajshekar	<u>Vaishanavi</u>
37	2150274	Ganesh S/O Jatingrao	<u>Ganesh</u>
38	2150275	Asharahmed	<u>AB</u>
39	2150276	Rajeshwari D/OMahanand kumar	<u>Rajeshwari</u>
40	2150277	Sainath S/O Suryakant	<u>AB</u>
41	2150278	Mohsin S/O Imamsab	<u>Mohsin</u>
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	<u>Sohel</u>





43	2150280	Shaik Tauseef	<i>Tauseef</i>
44	2150281	Majunath S/O Ashoka	<i>Majunath</i>
45	2150282	Vijaylaxmi D/OSanganbasayya	<i>Swamy</i>
46	2150283	B Shravani	<i>AB</i>
47	2150284	Vinod	<i>Vinod</i>
48	2150285	Vishalreddy S/OVithalreddy	<i>Vishalreddy</i>
49	2150286	Priyadarshini	<i>AB</i>
50	2150287	Santoshi D/OChandrakant	<i>Santoshi</i>

Present: 39

Absent: 11

Total: 50

Invigilator Sign

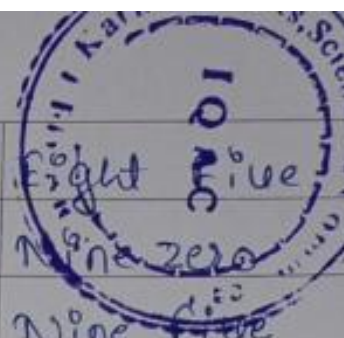


K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science  
Marks List Of Add-on course on Internet Of Things (2021-22)



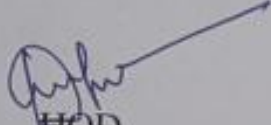
Sl.No	Reg.No.	Name of the Student	Marks Obtained	
			In figure	In words
1	2150237	Amar Patil S/O Dattari Patil		AB
2	2150238	Pavan Kumar S/O Maharudrappa	90	Nine zero
3	2150239	Ganesh S/O Sanjureddy	80	Eight zero
4	2150240	Nataraj S/O Sanjukumar	85	Eight five
5	2150242	Rani D/O Ashok		AB
6	2150243	Sagar S/O Shankar	82	Eight Two
7	2150244	Lingarchana D/O Appanna	92	Nine Two
8	2150245	Shivkumar S/O Rajkumar	91	Nine One
9	2150246	Santosh S/O Raju	90	Nine zero
10	2150247	AjayKumar S/O Nagnath	89	Eight nine
11	2150248	Swati D/O Dhanraj	88	Eight Eight
12	2150249	Krutika D/O Baswaraj	86	Eight Six
13	2150250	Yogesh S/O Dattatri		AB
14	2150251	Pavan S/O Ramesh	89	Eight nine
15	2150252	Abhishek S/O Umakant	90	Nine zero
16	2150253	Justina D/O Jairam		AB
17	2150254	Md. Shoiab S/O Md. Mustafa	95	Nine five
18	2150255	Shivasagar S/O Sudhakar	96	Nine six
19	2150256	Mithun S/O Narsing	94	Nine four
20	2150257	Rajeshwari	93	Nine three

21	2150258	Prashanth S/O Tukaram	94	Nine Four
22	2150259	Shivani D/O Basavaraj	96	Nine Six
23	2150260	Vaishanavi D/O Prakash	97	Nine Seven
24	2150261	Sunil.S S/O Sundaresh	95	Nine Five
25	2150262	Prasad Kulkarni S/O Sunil kumar Kulkarni	94	Nine Four
26	2150263	Laxmi D/O Vijaykumar	93	Nine three
27	2150264	Anuradha D/O Vijaykumar	90	Nine zero
28	2150265	Neha Patil D/O Shivkumar Patil	89	Eight nine
29	2150266	Christopher Colombus	75	Seven Five
30	2150267	Sudeep S/O Sanjukumar		AB
31	2150268	Adarsh S/O Sudesh Kulkarni	95	Nine Five
32	2150269	Vaishanavi D/oShivasharanappa		AB
33	2150270	Akshita D/O Rajkumar	94	Nine Four
34	2150271	Sadiya Aiman D/O Mirza Mansoor baig		AB
35	2150272	Swati Mankal D/OBasappa	83	Eight three
36	2150273	Vaishanavi D/ORajshekar	82	Eight two
37	2150274	Ganesh S/O Jatingrao	81	Eight One
38	2150275	Asharahmed		AB
39	2150276	Rajeshwari D/OMahanand kumar	79	Seven nine
40	2150277	Sainath S/O Suryakant		AB
41	2150278	Mohsin S/O Imamsab	69	Six nine
42	2150279	Mohd. Sohel Ahmed S/OMd. Abdul Gaffar	75	Seven Five



43	2150280	Shaik Tauseef	85	Eight Five
44	2150281	Majunath S/O Ashoka	90	Nine zero
45	2150282	Vijaylaxmi D/OSanganbasayya	95	Nine five
46	2150283	B Shravani		AB
47	2150284	Vinod	96	Nine Six
48	2150285	Vishalreddy S/OVithalreddy	85	Eight Five
49	2150286	Priyadarshini		AB
50	2150287	Santoshi D/OChandrakant	88	Eight Eight

  
Staff Incharge

  
HOD  
SRIPAM H. UDDAMANI  
Head & Associate Professor  
Department of Computer Science  
Karnatak Arts, Science and  
Commerce College BIDAR

  
Principal  
PRINCIPAL  
Karnatak Arts, Sci. & Com. College  
BIDAR-585401



K.R.E. Society's  
Karnatak Arts Science and Commerce college, Bidar  
Computer Science Department  
Report on Add-on course Internet Of Things 2021-22



Add-on course on "**Internet Of Things** " was successfully completed by 50 students. All the students got the basic knowledge about IOT. They understood the role of sensor in IOT, Learn different protocols used for IOT design, role of IOT in various domains of Industry, understand the application areas of IOT. Students are now able to realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks

After Completion of this add-on course He/She has more opportunities in their career and placements.

K.R.E. SOCIETY'S



KARNATAK ARTS SCIENCE AND COMMERCE COLLEGE, BIDAR



(ESTD 1970, AFFILIATED TO GULBARGA UNIVERSITY, KALABURAGI)


COLLEGE WITH POTENTIAL FOR EXCELLENCE STATUS AWARDED BY UGC, NEW DELHI

NAAC RE ACCREDITED AT "A" GRADE (3.24 CGPA)

### CERTIFICATE

THIS CERTIFICATE IS PRESENTED TO \_\_\_\_\_ FOR COMPLETION OF

CERTIFICATE COURSE ON "INTERNET OF THINGS" ORGANIZED BY DEPARTMENT OF COMPUTER  
SCIENCE, FROM 10/11/21 TO 15/02/22.

  
HOD





PRINCIPAL  
PRINCIPAL

Karnatak Arts, Sci. & Com. College  
BIDAR-585401



KRE Society's

# Karnatak Arts, Science and Commerce College, Bidar

ESTD : 1970

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



## ADMISSION FORM

Certificate/Value added/Skill Development/Diploma/Advance Diploma Courses  
&  
IAS/IPS/NET/SET Coaching Classes

Name of the Department computer science Year 2021-22

Name of the Student Pavan Kumar

Father's/Guardian's Name Maharudrappa

Date of Birth

Date

Month

Year

01

10

2001



Address for Correspondence :

Neas Hanuman temple shekapus  
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Semester/Class :

IV<sup>th</sup> semester

Register No :

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Percentage of previous semester :

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Course to be Joined:

internet of things

Signature of the Student

HOD/Coordinator

PRINCIPAL  
Karnatak Arts, Sci. & Com. College  
BIDAR-585401



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K.R.E Society's  
Karnatak Arts, Science and Commerce College, Bidar  
Department of Computer Science



Add-On course Examination 2021-2022

**QUESTION PAPER**

Subject: Internet Of Things Class: BCAIII Sem Duration: 1 Hours Max. Marks: 60

Name of the Student : PAVANKUMAR

Reg.No: 2105238

Note:

- I. All questions are compulsory.
- II. Answer the questions after carefully reading the text.
- III. 30 Questions of 2 mark each.

1). \_\_\_\_\_ are the applications of IOT

- 02
- i. House
  - ii. Virtual environment
  - iii. Regional office
  - iv. All of the above

2). \_\_\_\_\_ are the main components in IOT

- 02
- i. Low power embedded systems
  - ii. Cloud computing
  - iii. Availability of big data, networking connection
  - iv. All of the above

3). What is the standard form of MQTT?

- 02
- i. Sequence Message Queue Telemetry Transport
  - ii. Secure Message Queue Telemetry Transport
  - iii. Message Queue Transport Telemetry
  - iv. None of the above

4). What is the standard form of GFSK?

- 02
- i. Gaussian Frequency Shift Keying
  - ii. Gain Frequency Shift Keying
  - iii. Gaussian Filter Shift Keying
  - iv. None of the above

5). The sensor nodes are \_\_\_\_\_

- 02
- i. Typically small in size
  - ii. Consumes less power
  - iii. Cost is low
  - iv. All of the above

6). The IOT is a \_\_\_\_\_ based technology

- 02
- i. Software
  - ii. Hardware
  - iii. Both a and b
  - iv. None of the above

7). Which one is an example for IOT?

- 02
- i. Remote monitoring
  - ii. Smart cities
  - iii. Fleet control
  - iv. All of the above

8). In IOT, the business type is \_\_\_\_\_

- i. B2B
- ii. B2C
- iii. Both a and b
- iv. None of the above

9). The NFC tags stores between \_\_\_\_\_ of data

- i. 10 and 20 bytes
- ii. 50 and 100 bytes
- iii. 96 and 512 bytes
- iv. None of the above

10). The HART protocol operates only in \_\_\_\_\_ band

- i. Highway Addressable Remote Transducer
- ii. Highway Addressable Remote Transformer
- iii. Highway Addressable Routing Transducer
- iv. None of the above

11). \_\_\_\_\_ are the types of actuators

- i. Hydraulic, pneumatic actuators
- ii. Electrical, thermal actuators
- iii. Mechanical actuators
- iv. All of the above

12). The sensor classes are categorized into \_\_\_\_\_ based on the data type

- i. One
- ii. Two
- iii. Three
- iv. Four

13). The RPL routing is used for \_\_\_\_\_ networks

- i. Low power
- ii. Lossy
- iii. Both a and b
- iv. None of the above

14) The design of the network is called the network

- i. Architecture
- ii. Server
- iii. Transmission
- iv. Type

15) The server on the internet is also known as:

- i. Repeater
- ii. Host
- iii. Gateway
- iv. AND Gate

16) Which of the following is not a network ?

- i. Local Area Network
- ii. Wide Area Network
- iii. Optical Fibre
- iv. All are networks

17) The internet is \_\_\_\_\_

- i. A large network of networks
- ii. an internal communication system for a business
- iii. a communications system for the Indian government
- iv. All of these

18). The HART protocol operates only in \_\_\_\_\_ band

- i. 1.7 GHz ISM
- ii. 1 GHz ISM
- iii. 2 GHz ISM
- iv. 2.4 GHz ISM



19) How many numbers of the element in the open IoT architecture?

- 02
- i. Four elements
  - ii. Five elements
  - iii. Six elements
  - iv. Seven elements

20) Which of the following is the way in which an IoT device is associated with data?

- 02
- i. Internet
  - ii. Cloud
  - iii. Automata
  - iv. Network

21) An IoT network is a collection of \_\_\_\_\_ devices.

- 02
- i. Signal
  - ii. Machine to Machine
  - iii. Interconnected
  - iv. Network to Network

22) Which one of the following is not an IoT device?

- 02
- i. Amazon echo voice controller
  - ii. Google Home
  - iii. Nest Smoke Alarm
  - iv. None of these

23) What is the main purpose of WoT (Web of Things) in the IoT?

- 02
- i. Improve the usability and interoperability
  - ii. Reduce the security
  - iii. Complex the development
  - iv. Increase the cost

24) Which of the following is not an application of IoT?

- 02
- i. Wearables
  - ii. Smart Grid
  - iii. Arduino
  - iv. Smart City

25) What is the real example of a smart grid device in IoT?

- 02
- i. Mobile phone
  - ii. Television
  - iii. Smart Speaker
  - iv. Smart Meters



02 26) What is the full form of the MQTT?

- i. Multi-Queue Telemetry Things
- ii. Multiple Queue Telemetry Things
- iii. Message Queue Telemetry Things
- iv. Message Queue Telemetry Transport

02 27) Which of the following layers provides end-to-end communication in IoT?

- i. Logical layer
- ii. Data link layer
- iii. Transport layer
- iv. Session layer

28) Which of the following touch sensors is used in a cell phone?

- 02
- i. Resistive touch sensors
  - ii. Human sensor
  - iii. Capacitive touch sensor
  - iv. Follow sensor

29) Which one of the following protocols is lightweight?

- 02
- i. IP
  - ii. HTTP
  - iii. MQTT
  - iv. CoAP

30) Which of the following IoT networks has a very short range?

- 02
- i. Short Network
  - ii. LPWAN
  - iii. SigFox
  - iv. Short-range Wireless Network