

PROFORMA
(Forwarding of APC)

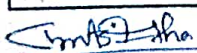
Name of College/Institution/Centre : M.E.S.Asmabi College,P.Vemballur

Name of Course : BSc.Physics

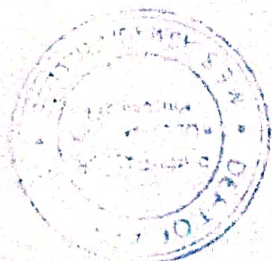
Name of Examination (Semester/Year) : IV Semester (2021-2024)

Date of Commencement of Examination :

Register No	Name of candidate	No.of working days	Attendan ce secured	Percentage of attendance secured	Remarks
AIAVSPH001	FAHMIDA FIRDOUSE P M	90	85.5	95	
AIAVSPH002	NESMAH UMER	90	79	88	
AIAVSPH003	MUHAMMAD SINAN	90	76	84	
AIAVSPH004	FATHIMA THASNI V M	90	86	96	
AIAVSPH005	FATHIMA YUSRAA P Y	90	90	100	
AIAVSPH006	SALMATH P A	90	88	98	
AIAVSPH007	DEEPAK T U	90	86	96	
AIAVSPH009	K N NASIM	90	84	93	
AIAVSPH011	ATHULYA SUNIL	90	82	91	
AIAVSPH012	FATHIMA NOURINE T S	90	88	98	
AIAVSPH013	FATHIMATHUL HANNA E	90	71	79	
AIAVSPH014	JISMINA T A	90	70	78	
AIAVSPH015	K S MISNA	90	75	83	
AIAVSPH016	NESRIYA K A	90	76	84	
AIAVSPH017	NISSIRIYA P H	90	75	83	
AIAVSPH018	SAHALA THASNEEM C M	90	83	92	
AIAVSPH019	SAHLA THASNIM P S	90	79	88	
AIAVSPH020	SHAISA M N	90	90	100	
AIAVSPH021	RASEEB E A	90	68	76	
AIAVSPH022	SAJIN NIZAM	90	86	96	
AIAVSPH023	SALIH HAIDER	90	85.5	95	
AIAVSPH024	SHAHADULLAH T S	90	84.5	94	
AIAVSPH025	SUBEESH S	90	84	93	
AIAVSPH026	SUHAIL HAIDER	90	85.5	95	
AIAVSPH027	VAISHNAV K H	90	84	93	


Signature of tutor

Signature of Principal



MES ASMABI COLLEGE

B.VOC LOGISTICS MANGEMENT

3RD SEMESTER (2021-2022 BATCH)

INTERNAL EXAM CONSOLIDATED MARKS

Rol I No	Name	Business Communicati on(15)	Shipp ing	E- comm erce	Busin ess statis tics (15)	Professi onal busines s skills	Inventor y manage ment	Basics mathem atics & general awarene ss	Proj ect TOT AL (20)
1	AASHISH KRISHNA P S	50	32	50	26	40	43	46	17
2	AHAD K S	38	29	34	25	34	28	51	16
3	AJMAL SADHATH P S	13	9	6	25	28	24	50	14
4	AMAL RASIK P S	21	9	13	30	18	35	44	18
5	ARSHAD ROSHAN P N	25	24	13	40	21	24	52	16
6	HIBA R S	54	46	58	60	56	56	58	17
7	KARTHIK K K	35	32	33	35	37	44	54	18
8	MUNEEB K N	47	38	52	51	41	37	57	18
9	NAZIM AHAMMED	55	40	55	48	42	35	57	20
10	NEERAJ T R	42	30	52	47	35	35	42	16
11	SAMEENA P S	38	27	9	26	24	30	58	15
12	SHABAN K M	36	25	42	30	32	34	42	18
13	THANVEER P M	29	11	36	37	24	30	42	14
14	UMAR MUKTHAR K S	33	20	14	36	24	24	47	14
15	VAISHNAV T H	26	24	23	42	27	25	41	17
16	ABHAY P A	24	25	30	24	30	28	48	14
17	ADARSH K N	50	34	51	31	36	38	53	18
18	AHAMMED JASEER K T	33	24	28	25	27	29	49	16
19	ALDRIN BENNY	36	24	36	38	38	33	53	17
20	ALOKNIRANJ	33	24	16	45	32	10	36	14

	AN M P								
21	AMAL JOY V	52	39	54	56	47	55	56	20
22	AMALJITH N S	29	17	31	26	27	36	52	16
23	ANEESA A A	25	15	12	38	27	31	53	15
24	ARYA P R	48	24	32	24	38	43	56	16
25	ASWIN V S	35	33	34	26	25	29	42	17
26	AYANA C S	43	40	51	35	41	42	58	18
27	C S AMAL	37	25	33	25	35	24	47	14
28	ELJO EBY P	14	16	11	44	28	16	43	18
29	MIDHUN K M	22	24	11	28	28	24	32	14
30	MOHAMED FADIL A Y	34	30	41	30	34	38	48	15
31	MOHAMMED NASAL P N	55	37	52	24	48	37	54	20
32	MOHAMMED ROSAMSHA T M	20	14	19	25	27	24	47	15
33	MOHAMMED YASEEN KABEER	27	28	31	24	33	25	37	17
34	MUHAMMED ARIF	37	18	24	25	24	25	35	15
36	NAHALA K M	48	36	44	30	32	43	55	17
37	NAVANEETH T P	52	46	52	49	46	35	54	16
38	NIDHIL NASEER K N	45	25	34	39	31	28	55	14
39	NIHAL O M	51	31	41	29	38	33	36	16
40	NIKHILESH T N	31	24	33	37	27	31	41	16
41	NISANA P S	46	35	50	47	39	44	56	17
42	P H MOHAMED ASKER	31	24	28	24	0	0	32	15
43	SAMSON M D	42	24	31	34	31	24	46	17
44	SHAKKIRA	52	40	53	42	44	47	57	16
45	SHUHAIB P S	41	24	32	29	29	33	54	15
46	VIVEK KRISHNA SATHEESAN	31	14	32	32	29	31	45	15
47	SARUN P S	32	26	41	28	27	28	41	15

10 Assignment

10/19/2022

Afras Sameel. M.A

BCA

Roll No: 15

Hashing

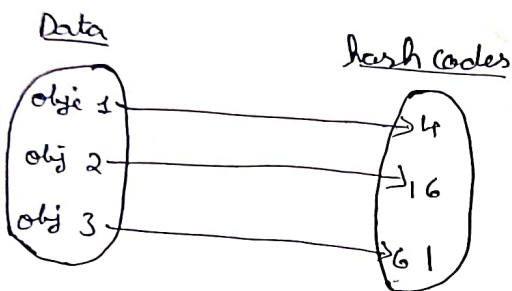
What is hashing :-

Hashing is a technique that is used to uniquely identify a specific object from a group of similar objects.

example :-

- * Students registration no. in university
- * Roll no. of students in class.

Object \longrightarrow Integer



Hash table

In computing, a hash table, also known as hash map is a data structure that implements an association array or dictionary. It is an abstract data type that maps keys to values.

Types of hash functions :

which are used to place the data in a hash table.

- ① Division method
- ② mid square method
- ③ Digit folding method

① Division method

In this hash function is depend upon the remainder of an division.

eg: - If the record 52, 84 is to be placed in a hash table take the table size is = 5

$$h(\text{key}) = \text{record} \% \text{table size}$$

$$2 = 52 \% 5$$

$$4 = 84 \% 5$$



0	
1	
2	52
3	
4	84

② Mid square Method

In this method firstly key is squared and then mid part of the result is taken as the index.

eg: - Consider we want to place a record of 3101 and the size of Table is 1000.

$$\text{So } 3101 \times 3101 = 9616201$$

that is h of (310) = 162 (middle 3 digits)

③ Digit folding Method

In this method key is divided into separate parts and by using some simple operations this parts are combined to produce a hash key.

eg: - Consider a record of 12465512 then it will be divided into parts.

i.e, 124, 655, 12 after dividing the parts combining by adding it.

$$h(\text{key}) = 124 + 655 + 12$$
$$= \underline{791}$$

Characteristics of good hashing function

- (1) The hash function should generate different hash values for the similar string.
- (2) The hash function is easy to understand and simple to compute.
- (3) The hash function should produce the key which will get distributed uniformly on an array.
- (4) A no. of collisions should be less when storing the data in the hash table.
- (5) The hash function is a perfect hash function when it uses all the input data.

Collision:

It is a situation in which the hash function returns the same hash key for more than one record. It is called as collision.

Collision resolution technique

If there is a problem of collision occurs then it can be handled by apply same technique. These techniques are called as collision resolution techniques.

There are generally four techniques which are discussed below.

(i) Chaining

It is a method in which additional field with data i.e. chain is introduced a chain is maintained at the same bucket. In this when a collision occurs then a linked list is maintained for colliding data.

Let us consider a hash table of size 10 and we apply a hash function of

$$h(\text{key}) = \text{key} \% \text{size of Table}$$

Let us take the key to be inserted as 31, 33, 77, 61

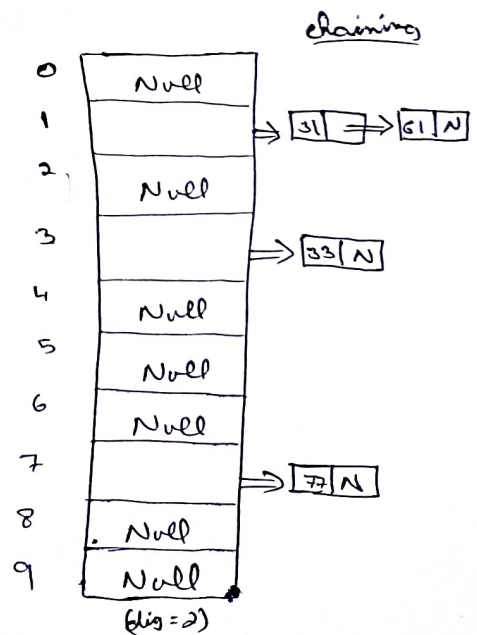
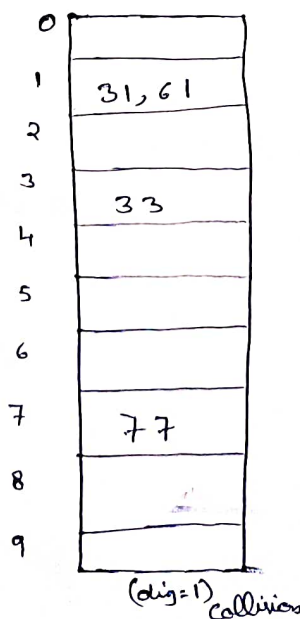
$$H(\text{key}) = \text{key} \% \text{size of table}$$

$$h(31) = 31 \% 10 = 1$$

$$h(33) = 33 \% 10 = 3$$

$$h(77) = 77 \% 10 = 7$$

$$h(61) = 61 \% 10 = 1$$



In the above diagrams : 2 we can see at some bucket one there are two records which are maintained by linked list as we can say by chaining method .

1) Linear probing

It is very easy and simple method to resolve or to handle the collision. In this collision can be solved by placing the second record linearly down, wherever the empty space is found. In this method there is a problem of clustering which occurs at some place block of data is formed in a hash table.

eg: - let us consider a hash table of size 10 and hash function is defined as $H(\text{key}) = \text{key} \% \text{table size}$. Consider that following keys are to be inserted that are 56, 64, 36, 71.

0	Null
1	71
2	Null
3	Null
4	64
5	Null
6	56
7	36
8	Null
9	Null

In this diagram we can see that 56 and 36 need to be placed at same bucket but by linear probing technique the records are only placed downward if space is empty i.e, it can be seen 36 is placed at index 7.

3) Quadratic probing

This is a method in which solving of clustering problem is done. In this method the hash function is defined by the $H(\text{key}) = (H(\text{key}) + x * x) \% \text{table size}$. let us consider we have to insert following elements that are : 67, 90, 55, 17, 49.

0	90
1	
2	
3	
4	
5	55
6	
7	67
8	17
9	49

In this we can see if we insert 67, 90 and 55 it can be inserted easily but at case of 17 hash function is used in such a manner that :- $(17 + 0 \times 0) \% 10 = 7$ (when $x=0$ it provides the index value 7 only) by making the increment in value of x , let $x=1$ so $(17 + 1 \times 1) \% 10 = 8$ in this case bucket 8 is empty hence we will place 17 at index 8.

Double Hashing

It is a technique in which two hash functions are used when there is an occurrence of collision. In this method 1st hash function is simple as same as division method but for the second hash function there are two important rules which are :

1. It must never evaluate to zero.

2. Must see about the buckets that they are probed.

The hash function for this technique are:

$$H_1(\text{key}) = \text{key} \% \text{table size}$$

$$H_2(\text{key}) = P - (\text{key} \bmod P)$$

where P is a prime number which should be taken smaller than the size of a hash ^{table} ~~function~~.
 Example :- Let us consider we have to insert 67, 90, 55, 77, 49.

0	
1	90
2	17
3	
4	
5	
6	55
7	
8	67
9	49

In this we can see 67, 90 and 55 can be inserted in a hash table by using first hashing function but in case 17 as the bucket is full and in this case we have to use the second hash function which is $H_2(\text{key}) = P - (\text{key} \bmod P)$ hence P is a prime number which should be taken similar than the hash table so value of P will be 7.
 i.e., $H_2(17) = 7 - (17 \% 7) = 7 - 3 = 4$ that means we have to take 4 jumps for placing the 17 there hence 17 will be placed at index 4.