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**Fountain Pen Production: Depth Classification Version of CC.**  
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[A Freely-Faceted depth classification version of Colon Classification for compound subjects going with the Host Subject "MOJ.85 Fountain Pen Production" is given. An index to the schedule, fourteen examples of subjects classified according to the scheme, and an alphabetical index to the subjects, are given. The schedule was earlier used in building up a computer-readable classified catalogue forming a component of a computer-aided Document Finding System.]

**ABBREVIATIONS USED:**

(A1)	= Array of Order 1	(P)	= Personality
(A2)	= Array of Order 2	(1P1)	= Personality, Round 1, Level 1
(AD)	= Alphabetical Device	(1P2)	= Personality, Round 1, Level 2
(BS)	= Basic Subject	(1P3)	= Personality, Round 1, Level 3
CC	= Colon Classification	(2P1)	= Personality, Round 2, Level 1
(E)	= Energy	Tel	= Telescoping
(IN)	= Isolate Number		
(MM)	= Matter Method		
(MMt)	= Matter Material		
(MP)	= Matter Property		

**1 Introduction**

**11 SCOPE OF PAPER**

This paper demonstrates the design of a depth classification version of CC for compound subjects going with the Host Subject "MOJ.85 Fountain Pen Production". The methodology for designing a freely-faceted scheme for classification, based on a set of postulates, canons, and principles, has been used (3, 5).

**12 DESIGN OF A PILOT SCHEDULE**

This schedule was constructed by the students of DRTC (1967-68 Batch) under the guidance of Prof A Neelameghan. It was actually constructed for demonstration while teaching the methodology of design of depth classification (3,5).

**13 SOURCE OF ISOLATES**

About two hundred assorted micro-documents were scanned to select the isolates for enumeration in the schedules. In addition, several documents giving information on "Fountain Pen Production", such as Encyclopaedia, Handbook, and Trade-Publications were used.

**14 USE IN COMPUTER-BASED DOCUMENT FINDING SYSTEM**

This schedule was used in developing a catalogue-on-tape as a part of the DRTC experiments on the development of Computer-based Document Finding System (1).

**2 Isolates****21 SPECIATORS IN (IP1)**

The (Q1), helpful in deriving speciators to form compound isolates in (IP1), are given in Table 1. The sequence among the (Q1) is determined by using Group Strategy and Wall-Picture Principle (2, 3, 5).

211 Table 1. *List of (Q1) in (IP1)*

SN	Sector (S- )	Quasi Isolate
1	(1)	By Standard
2	ZA	By Brand
3	ZI	By Country of make
		By Purpose
		By User
4	S	By Occupation
5	Q	By Sex
6	P	By Age
		By Environment
7	N	By Physiography
8	M	By Latitude
9	L	By Special convenience
10	J	By Overall size
11	H	By Overall shape
12	E	By Filling mechanism
13	A	By Washing mechanism
		By Attributes of nib
14	9R	By Material
15	9Q	By Shape
		By Slit
16	9P	By Existence
17	9N	By Number
		By Retractibility of nib
18	9M	By Facility for retraction
19	9K	By Device for retraction
20	9H	By Kind of nib point
21	9A	By Material of tip of nib

SN	Sector (S- )	Quasi Isolate
		By Attributes of tongue
22	6A	By Material
23	66	By Transparency
24	65	By Colour
25	63	By Shape
		By Ink supply channel
26	62	By Visibility
27	61	By Position
28	60I	By Number
		By Attributes of neck
29	5A	By Material
30	56	By Transparency
31	55	By Colour
32	52	By Detachability
33	51	By Shape
		By Attributes of barrel
34	3A	By Material
35	36	By Transparency
36	35	By Colour
37	30Y	By Size
38	2Z	By Capacity
39	2Y	By Shape
		By Attributes of cap
40	2A	By Material
41	26	By Transparency
42	25	By Colour
43	24	By Kind of fitting point
		By Method of ventilation
44	23	By Top ventilation
		By Holes
45	22	By Shape
46	21	By Number
		By Attributes of clip
47	1A	By Material
48	11	By Position

## 22 PRINCIPLE FOR HELPFUL SEQUENCE USED

The Principles of Helpful Sequence used for arranging the ideas derived on the basis of the (Q1) mentioned in Sec 21 are given in the succeeding sections.

### 221 Principle of Later-in-Time

- Z9A By Model
- E By Filling mechanism
- A By Washing mechanism

### 222 Principle of Increasing Quantity

- P By Age of user
- M By Latitude

- J By Overall size  
 9R By Hardness of Material of nib  
 9N By Number of slit  
 9A By Material of tip of nib  
 6A By Material of tongue  
 66 By Transparency of tongue  
 65 By Colour of tongue  
 62 By Visibility of ink supply channel  
 5A By Material of neck  
 56 By Transparency of neck  
 55 By Colour of neck  
 3A By Material of barrel  
 36 By Transparency of barrel  
 35 By Colour of barrel  
 30Y By Barrel size  
 2Z By Barrel Capacity  
 2A By Material of cap  
 26 By Transparency of cap  
 25 By Colour of cap  
 21 By Number of holes  
 1A By Material of clip
- 223 *Principle of Geographical Contiguity*  
 (1) *By Standard*  
 Z1 By Country of make
- 224 *Principle of Bottom-upwards*  
 1 By Position of clip in cap
- 225 *Principle of Centre-to-Periphery*  
 61 By Position of tongue
- 226 *Principle of Increasing Complexity*  
 N By Physiography 51 By Shape of neck  
 H By Overall shape 2Y By Shape of barrel  
 9Q By Shape of nib 22 By Shape of hole  
 63 By Shape of tongue
- 227 *Principle of Increasing Concreteness*  
 5 By Occupation of user
- 228 *Principle of Alphabetical Sequence*  
 (A) By Brand
- 2291 *Canon of Scheduled Mnemonics*  
 The allocation of notation and arrangement of isolate ideas

have been made to conform, wherever possible, to the Schedule of common property isolates (4) and the schedule of main subjects.

### 23 SCHEDULE OF (1P2)

The schedule of (1P2) isolates consists of a list of organs or components of a typical fountain pen.

### 24 SCHEDULE OF (1M)

A schedule of (1M) isolates consisting of a list of properties is given at the end of the schedule of (1P1) isolates in Sec 7. In addition, the schedule of common property isolates (4) may also be used wherever necessary.

### 25 SCHEDULE OF (1E)

A schedule of special Energy Isolates is given in (1E). Isolates from the schedule of Common Energy Isolates can be used wherever found necessary.

### 26 SCHEDULE OF (2M)

Differentiated schedules of Method Isolates associated with some of the Energy Isolates in (1E) — such as, Assembly — are given in (2M).

## 3 Host Subject

In CC, Ed 7, "Fountain Pen Production" is enumerated as an isolate in (1P1) schedule for subjects going with (BS) "MOJ Stationery Material Production", as shown below:

- 8 Writing Instrument
- 81 Pencil
- 85 Fountain Pen

## 4 Notation

The notation assigned to different (Q1) in (1P1) is shown in Sec 21. It has largely used the Indo-Arabic numerals and Roman capital letters.

## 5 Devices Used

The following devices have been used in the schedule of (1P1) isolates.

1 Alphabetical Device.— Used for the brand names — such as Pilot Pen. The digit "+" (plus) is to be an indicator digit between abbreviated component words in a multinomial.

2 Chronological Device.— Used for "Model" isolate — such as, 1971 Model Pens.

3 Geographical Device.— Used for "Country of Make" isolate — such as, Japanese Pen.

4 Divide-Like Device.— Used for forming isolates such as "Rocket shape Pen".

5 Subject Device.— Used for forming isolates such as, Journalist's Pen, Engineer's Pen.

The use of these Devices has secured economy in schedule building, provided autonomy to the classifier, and helped the design to conform to the Canon of Consistent Sequence (6) and the Canons of Mnemonics (7).

## 6 Index to Schedule

Note.— 1 The (IN) given against an entry is the (IN) assigned to that isolate in the schedule.

2 A symbol, such as [E], [MP] and [2P] suffixed to each isolate term indicates the Fundamental Category of which the idea denoted by the isolate term is deemed to belong. The symbol [1P1] is not used since most of the terms are from the schedule for (1P1).

3 Abbreviations used: *irt* = in relation to

Accuracy [MP]	OAI	Tongue	659I
Adult user	P3	Blue colour	<i>irt</i>
Aeromatic filling	F8	Barrel	356
Age of user (QI)	P	Cap	256
Almond-shape nib	9Q3	Feeder	656
Assembly [E]	7	Neck	556
Attributes of		Tongue	656
barrel (QI)	2W	Bottom	
cap (QI)	1Z	as Organ	5I
clip (QI)	1	<i>irt</i> Position of clip	11I
feeder	5Z	Brand (QI)	ZA
neck (QI)	50Y	Brass	<i>irt</i>
nib (QI)	8Z	Barrel	3K2
point (QI)	8ZY	Cap	2K2
tongue (QI)	5Z	Clip	1K2
Automatic [2P]	6	Feeder	6K2
		Neck	5K2
		Tip	9C2
		Tongue	6K2
Bakelite	<i>irt</i>	Broad nib point	9H54
Barrel	3P6I	Bronze	<i>irt</i>
Cap	2P6I	Barrel	3K1
Clip	1P6I	Cap	2K1
Feeder	6P6I	Clip	1K1
Neck	5P6I	Feeder	6K1
Tongue	6P6I	Neck	5K1
Barrel		Tip	9C1
as Organ	3	Tongue	6K1
Attributes of (QI)	2W	Brown colour	<i>irt</i>
capacity	2Z	Barrel	3592
Below sea level	<i>irt</i> Purpose	Cap	2592
Black colour	<i>irt</i>	Feeder	6592
Barrel	359I	Neck	5592
Cap	259I	Tongue	6592
Feeder	659I		
Neck	559I		

- Cap  
   as Organ 2  
   Attributes of (Q1) 1Z  
   Capacity of barrel (Q1) 2Z  
 Celluloid *irt*  
   Barrel 3P62  
   Cap 2P62  
   Clip 1P62  
   Feeder 6P62  
   Neck 5P62  
   Tongue 6P62  
 Central ink supply channel 611  
 Centre *irt* Position of clip 115  
 Child user p1  
 Chocolate colour *irt*  
   Barrel 3595  
   Cap 2595  
   Feeder 6595  
   Neck 5595  
   Tongue 6595  
 Clip  
   as Organ OB  
   Attributes of (Q1) 1  
 Colour  
   *irt*  
     Barrel (Q1) 35  
     Cap (Q1) 25  
     Feeder (Q1) 65  
     Neck (Q1) 55  
     Tongue (Q1) 65  
   [MP] OES  
 Combed tongue feeder 634  
 Concealed tongue feeder 626  
 Conical  
   barrel 2Y5  
   feeder 635  
   neck 515  
   tongue 635  
 Conical-serrated nib 9Q5  
 Country of make (Q1) Z1  
 Conventional shaped nib 9Q1  
 Cream colour *irt*  
   Barrel 3541  
   Cap 2541  
   Feeder 6541  
   Neck 5541  
   Tongue 6541  
 Cylinder shape *irt*  
   Barrel 2Y1  
   Neck 51  
  
 Detachability of neck (Q1) 52  
 Detachable neck 521  
 Dirt [MM] 41  
 Drum [MM] 4  
 Dust [MM] 4  
  
 Efficiency [MP] OA17  
 Environment (Q1) M  
 Existence of slit in nib (Q1) 9P  
 Extra-fine nib point 9H1  
  
 Facility for retraction  
   of nib (Q1) 9M  
 Feeder as organ 6  
 Filling mechanism (Q1) D  
 Fine nib point 9H2  
 Finish [E] 955  
 Flame-proof [MP] OE4155  
 Flat  
   barrel 2Y2  
   feeder 632  
   neck 512  
   per H2  
   tongue 632  
 Foreign matter [MM] 4  
 Friction  
   fitting point 246  
   point as organ 06  
  
 Glass *irt*  
   Barrel 3P5  
   Cap 2P5  
   Clip 1P5  
   Feeder 6P5  
   Neck 5P5  
   Nib 9X5  
   Tongue 6P5  
 Gold *irt*  
   Barrel 3J1  
   Cap 2J1  
   Clip 1J1  
   Feeder 6J1  
   Neck 5J1  
   Nib 9R1  
   Tip 9B1  
   Tongue 6J1  
 Green colour *irt*  
   Barrel 355  
   Cap 255  
   Clip 155  
   Feeder 655  
   Neck 555  
   Tongue 655  
 Grey colour *irt*  
   Barrel 3593  
   Cap 2593  
   Clip 1593  
   Feeder 6593  
   Neck 5593  
   Tongue 6593  
  
 Hard rubber *irt*  
   Barrel 3P7  
   Cap 2P7

Clip 1P7  
 Feeder 6P7  
 Neck 5P7  
 Tongue 6P7  
 Heterogeneity [MP] PA76  
 High altitude N8  
 Hole  
   as Organ 08  
   for ventilation 21  
 Homogeneity [MP] 0A7  
 Horn *irt*  
   Barrel 3P93  
   Cap 2P93  
   Clip 1P93  
   Feeder 6P93  
   Neck 5P93  
   Tongue 6P93  
 Ink [MM] 5  
 Indigo colour *irt*  
   Barrel 357  
   Cap 257  
   Clip 157  
   Feeder 657  
   Neck 557  
   Tongue 657  
 Ink [MM] 5  
 Ink supply channel (Q1) 5ZY  
 Inner barrel as organ OG  
 Iridium  
   platinum tip 9D4  
   tip 9D3  
 Italic nib point 9455  
 Ivory *irt*  
   Barrel 3P91  
   Cap 2P91  
   Clip 1P91  
   Feeder 6P91  
   Neck 5P91  
   Tongue 6P91  
 Lady user Q5  
 Large  
   barrel 33  
   pen J3  
 Latitude (Q1) M  
 Left oblique nib point 9H75  
 Length [MP] OB611  
 Lever  
   filling F62  
   washing C62  
 Life [MP] 045  
 Man Q6  
 Manual  
   filling E  
   [2P] 6  
   washing B  
   Maroon colour *irt*  
   Barrel 3523  
   Cap 2523  
   Clip 1523  
   Feeder 6523  
   Neck 5523  
   Tongue 6523  
 Material of  
   barrel (Q1) 3A  
   cap (Q1) 2A  
   clip (Q1) 1A  
   feeder (Q1) 6A  
   neck (Q1) 5A  
   tongue (Q1) 6A  
   on tip (Q1) 9A  
 Medium  
   course nib point 9H4  
   size  
     barrel 32  
     pen J2  
 Metal *irt*  
   Barrel 3J  
   Cap 2J  
   Clip 1J  
   Feeder 6J  
   Neck 5J  
   Nib 9R  
   Tip 9B  
   Tongue 6J  
 Method of ventilation (Q1) 2OZ  
 Mouth as Organ OZ  
 Music point nib 9H8  
 Neck  
   as Organ 5  
   Attributes of (Q1) 5OY  
 Nib  
   as organ 8  
   Attributes of (Q1) 8Z  
   point, Attributes of (Q1) 8ZY  
   with slit 9P1  
   without slit 9P6  
 Nickel-silver *irt*  
   Barrel 3J4  
   Cap 2J4  
   Clip 1J4  
   Feeder 6J4  
   Neck 5J4  
   Nib 9R4  
   Tip 9B4  
   Tongue 6J4  
 Non-metal *irt*  
   Barrel 3P  
   Cap 2P  
   Clip 1P  
   Feeder 6P



- Neck 5P  
 Nib 5X  
 Tongue 6P  
 Non  
   detachable neck 526  
   retractable nib 9M4  
 Number of ink channel (Q1) 60  
 Occupation (Q1) *irt* User S  
 Oblique nib point 9H7  
 One  
   hole ventilation 211  
   slit nib 9N1  
 Opaque *irt*  
   Barrel 364  
   Cap 264  
   Feeder 664  
   Neck 564  
   Tongue 664  
 Orange colour *irt*  
   Barrel 353  
   Cap 253  
   Clip 153  
   Feeder 653  
   Neck 553  
   Tongue 653  
 Oval tongue feeder 633  
 Overall  
   shape of pen (Q1) H  
   size of pen (Q1) J  
 Palladium  
   platinum tip 9D2  
   tip 9B2  
 Pen with  
   camera L95  
   flash light L5  
   hearing aid L93  
   knife L4  
   pencil L1  
   radio L6  
   two nibs L2  
 Peripheral ink channel 616  
 Physiography (Q1) N  
 Pink colour *irt*  
   Barrel 3522  
   Cap 2522  
   Clip 1522  
   Feeder 6522  
   Neck 5522  
   Tongue 6522  
 Piston  
   as Organ OD  
   filling F63  
   washing C63  
 Plastics *irt*  
   Barrel 3P6  
   Cap 2P6  
   Clip 1P6  
   Feeder 6P6  
   Neck 5P6  
   Tongue 6P6  
 Platinum *irt*  
   Barrel 3J3  
   Cap 2J3  
   Clip 1J3  
   Feeder 6J3  
   Neck 5J3  
   Nib 9R3  
   Tip 9B3  
   Tongue 6J3  
 Polar environment M8  
 Position of  
   clip (Q1) 11  
   ink supply channel (Q1) 61  
 Protruding tongue feeder 621  
 Purple colour *irt*  
   Barrel 3524  
   Cap 2524  
   Clip 1524  
   Feeder 6524  
   Neck 5524  
   Tongue 6524  
 Purpose (Q1) KZ  
 Quantity [MP] OB11  
 Rectangular  
   barrel 2Y41  
   hole ventilation 2241  
   neck 5141  
 Red colour *irt*  
   Barrel 353  
   Cap 253  
   Clip 153  
   Feeder 653  
   Neck 553  
   Tongue 653  
 Retractability of nib (Q1) 9K  
 Retractable nib 9M5  
 Right oblique nib point 9H71  
 Ring as organ OA  
 Rocket shape  
   barrel 2Y8  
   pen H8  
 Rose colour *irt*  
   Barrel 3527  
   Cap 2527  
   Clip 1527  
   Feeder 6527  
   Neck 5527  
   Tongue 6527  
 Round  
   hole ventilation 21  
   tongue 631

Scarlet colour *irt*  
   Barrel 3543  
   Cap 2543  
   Clip 1543  
   Feeder 6543  
   Neck 5543  
   Tongue 6543  
 Screw retraction of nib 9K4  
 Self  
   filling F  
   washing C  
 Sex of user (Q1) Q  
 Shape [MP] OBB  
 Shape of  
   barrel (Q1) 2Y  
   hole for ventilation (Q1) 2Z  
   neck (Q1) 51  
   nib (Q1) 9Q  
   pen (Q1) H  
   tongue (Q1) 63  
 Shell *irt*  
   Barrel 3P95  
   Cap 2P95  
   Clip 1P95  
   Feeder 6P95  
   Neck 5P95  
   Tongue 6P95  
 Short-hand nib point 9H3  
 Silver *irt*  
   Barrel 3K3  
   Cap 2K3  
   Clip 1K3  
   Feeder 6K3  
   Neck 5K3  
   Nib 9S3  
   Tip 9C3  
   Tongue 6K3  
 Size of  
   barrel (Q1) 30Y  
   pen (Q1) J  
 Slim pen J6  
 Small  
   barrel 31  
   pen J1  
 Special convenience (Q1) L  
 Spherical barrel 2Y6  
 Spring retraction of nib 9K5  
 Square shape  
   Barrel 2Y4  
   Neck 514  
 Stainless steel *irt*  
   Barrel 3N2  
   Cap 2N2  
   Clip 1N2  
   Feeder 6N2  
   Neck 5N2  
   Nib 9V2  
   Tip 9E2  
   Tongue 6N2  
 Standard (Q1) (1)  
 Steel  
   nib 9T1  
   tip 9D1  
   Slit in nib (Q1) 9N  
   Stub nib point H5  
   Student user P4  
   Sub-tropical environment M2  
   Supply channel as Organ O91  
   Surface  
     area [MP] OB625  
     as organ 06  
   Test [E] OF6  
   Thermal resistivity [MP] OCP16  
   Thick pen J8  
   Thin pen J6  
   Thread as organ OY  
   Threaded fitting point 244  
   Three  
     hole ventilation 213  
     slit in nib 9N3  
   Tip as Organ 03  
   Titanium tip 9C4  
   Tongue  
     as Organ 6  
     Attributes of (Q1) 5Z  
   Top ventilation (Q1) 23  
 Translucent *irt*  
   Barrel 362  
   Cap 262  
   Feeder 662  
   Neck 562  
   Tongue 662  
   Transparency of  
     barrel (Q1) 36  
     cap (Q1) 26  
     neck (Q1) 56  
     tongue (Q1) 66  
 Transparent *irt*  
   Barrel 361  
   Cap 261  
   Feeder 661  
   Neck 561  
   Tongue 661  
 Triangular  
   barrel 2Y3  
   neck 513  
 Tropical environment M1  
 Two  
   hole ventilation 212  
   slit nib 9N2  
 User (Q1) NZ

Vacumatic filling F6	IJ	Metal (Hardness 25 to 50)
washing C6	IJ1	Gold
Vermillion colour <i>irt</i>	IJ3	Platinum
Barrel 3521	IJ4	Nickel-silver (Hardness 51 to 100)
Cap 2521	IK1	Bronze
Clip 1521	IK2	Brass
Feeder 6521	IK3	Silver (Hardness 101 to 200)
Neck 5521	IN2	Stainless steel
Tongue 6521	IP	Non-Metal
Violet colour <i>irt</i>	IP5	Glass
Barrel 358	IP6	Plastics
Cap 258	IP61	Bakelite
Clip 1558	IP62	Celluloid
Feeder 6558	IP7	Hard rubber
Neck 558	IP91	Ivory
Tongue 658	IP92	Wood
Visibility of tongue feeder (QI) 62	IP93	Horn
Visible tongue feeder 621	IP95	Shell
Volume [MP] OB63		T1 (A3) into (A2) ends
Washing mechanism (QI) A	1Z	By Attributes of cap
Weight [MP] OC11	20Z	By Method of ventilation
White colour <i>irt</i>		T1 (A3) into (A2) begins
Barrel 351	21	By Means of hole
Cap 251		T1 (A4) into (A3) begins
Clip 151		By Number
Feeder 651	211	One
Neck 551	212	Two
Tongue 651	213	Three
Woman user Q5		T1 (A4) into (A3) ends
Wood <i>irt</i>	22	By Shape of hole
Barrel 3P92	221	Round
Cap 2P92	224	Rectangular
Clip 1P92	23	By Top ventilation
Feeder 6P92	231	Through top of cap
Neck 5P92		T1 (A3) into (A2) ends
Tongue 6P92	24	By Kind of fitting point
Yellow colour <i>irt</i>	244	Threaded
Barrel 354	246	Friction
Cap 254	25	By Colour
Clip 154	251	White
Feeder 654	252	Red
Neck 554	2521	Vermillion
Tongue 654	2522	Pink
	2523	Maroon
7 Schedules	2524	Purple
MOJ,85 Fountain Pen	2527	Rose
Production	253	Orange
SCHEDULE OF (1P1) ISOLATES	254	Yellow
1 By Attributes of Clip	2541	Cream
11 By position	2543	Scarlet
111 Bottom	255	Green
115 Centre	256	Blue
118 Top	257	Indigo
1A By Material	258	Violet
T1 (A3) into (A2) begins		

2591	Black		' 1A Material of clip '
2592	Brown		(Illustrative)
2593	Grey	361	Gold
2595	Chocolate	3P6	Plastics
26	<i>By Transparency</i>	50Y	<i>By Attributes of neck</i>
261	Transparent		T4 (A3) into (A2) begins
262	Translucent	51	<i>By Shape</i>
264	Opaque	511	Cylinder
2A	<i>By Material</i>	5111	Drum type
	<i>Note.— Divide as</i>	512	Flat
	' 1A Material of clip '	513	Triangular
	(Illustrative)	514	Square
2J1	Gold	5141	Rectangular
2K1	Bronze	515	Conical
2N2	Stainless steel	52	<i>By Detachability</i>
2W	<i>By Attributes of barrel</i>	521	Detachable
	T2 (A3) into (A2) begins	526	Non-detachable
2Y	<i>By Shape</i>	55	<i>By Colour</i>
2Y1	Cylinder		<i>Note.— Divide as</i>
2Y11	Tubular		' 25 colour of cap '
2Y2	Flat	551	(Illustrative)
2Y3	Triangular	556	White
2Y4	Square	5591	Blue
2Y41	Rectangular	56	Black
2Y5	Conical	561	<i>By Transparency</i>
2Y6	Spherical	562	Transparent
2Y8	Rocket	664	Translucent
	T2 (A3) into (A2) ends	5A	Opaque
2Z	<i>By Capacity (in ml)</i>		<i>By Material</i>
	<i>Note.— Add the given figure</i>		<i>Note.— Divide as</i>
	<i>to 2Z and read it as in the</i>	5P5	' 1A Material of clip '
	<i>document.</i>	5P6	(Illustrative)
	(Illustrative)	5P7	Glass
2Z2	2ml		Plastics
2Z2+5	2.5 ml		Hard rubber
30Y	<i>By Size</i>	5Z	T4 (A3) into (A2) ends
	T3 (A3) into (A2) begins	5ZY	<i>By Attributes of tongue</i>
31	Small	60	T5 (A3) into (A2) begins
32	Medium	601	<i>By Ink supply channel</i>
33	Large	602	<i>By Number</i>
	T3 (A3) into (A2) ends	603	One
35	<i>By Colour</i>	61	Two
	<i>Note.— Divide as</i>	611	Three
	' 25 colour of cap '	616	<i>By Position</i>
	(Illustrative)	62	Centre
351	White	621	Periphery
356	Blue	626	<i>By Visibility</i>
3595	Chocolate	63	Protruding
36	<i>By Transparency</i>	631	Concealed
361	Transparent	632	<i>By Shape</i>
362	Translucent	633	Round
364	Opaque	634	Flat
		635	Oval
3A	<i>By Material</i>	65	Combed
	<i>Note.— Divide as</i>		Conical
			<i>By Colour</i>

	<i>Note.— Divide as ' 25 colour of clip '</i>	9K5	Spring
	<i>(Illustrative)</i>	9K6	Bearing
651	White	9M	<i>By Facility for retraction</i>
6591	Black	9M4	Non-retractable
66	<i>By Transparency</i>	9M5	Retractable
661	Transparent	9N	<i>By Slit</i>
662	Translucent		<i>By Number</i>
664	Opaque	9N1	One
6A	<i>By Material</i>	9N2	Two
	<i>Note.— Divide as ' 1A Material of clip '</i>	9N3	Three
	<i>(Illustrative)</i>	9P	<i>By Existence</i>
6P6	Plastics	9P1	with slit
67	Hard rubber	9P6	without slit
	<i>T5 (A3) into (A2) ends</i>	9Q	<i>By Shape</i>
8Z	<i>By Attributes of nib</i>	9Q1	Conventional
8ZY	<i>By Attributes of nib point</i>	9Q3	Almond
	<i>T1 (A3) into (A1) begins</i>	9Q5	Conical-serrated
9A	<i>By Material on tip</i>		<i>By Material of nib</i>
9A1	<i>Soft Material</i>	9R	Metal
9A2	<i>Hard Material</i>	9R1	Gold
	<i>T2 (A2) into (A1) begins</i>	9R3	Platinum
9B	Metal	9R4	Nickel-silver
9B1	Gold	9S1	Bronze
9B2	Palladium	9S2	Brass
9B3	Platinum	9S3	Silver
9B4	Nickel-silver	9T1	Steel
9C1	Bronze	9V2	Stainless-steel
9C2	Brass	9X	Non-metal
9C3	Silver	9X5	Glass
9C4	Titanium		<i>T1 (A3) into (A1) ends</i>
9C5	Tungsten	A	<i>By Washing mechanism</i>
9D1	Steel		<i>T3 (A2) into (A1) begins</i>
9D2	Palladium-platinum	B	Manual
9D4	Iridium	C	Self washing
9D4	Iridium-platinum	C6	Vacuomatic
9E2	Stainless-steel	C62	Lever
	<i>T2 (A2) into (A1) ends</i>	C63	Piston
9H	<i>By Kind of nib point</i>		<i>T3 (A2) into (A1) ends</i>
9H1	Extra-fine		<i>By Filling mechanism</i>
9H2	Fine	E	Manual
9H3	Shorthand	F	Self-filling
9H4	Medium-course	F6	Vacuomatic
9H5	Stub	F62	Lever
9H54	Broad	F63	Piston
9H55	Italic	F8	Aeromatic
9H7	Oblique	H	<i>By Overall shape of pen</i>
9H71	Right		<i>Note.— Divide as</i>
9H75	Left		<i>' 2Y Shape of barrel.'</i>
9H8	Music point		<i>(Illustrative)</i>
9HF	Ball-point	H2	Flat
9K	<i>By Retractability of nib</i>		
	<i>By Device for retraction</i>		
9K4	Screw		

FOUNTAIN PEN: DEPTH CLASSIFICATION

Q7

H8	Rocket		<i>Note.— To be derived by (GD). (Illustrative)</i>
J	<i>By Overall size</i>		
J1	Small	Z44	India
J2	Medium	Z56	United Kingdom
J3	Large	Z73	USA
J6	Thin/Slim		
J8	Thick	Z9A	<i>By Model</i>
JA	<i>By Material of pen</i>		<i>Note.— To be derived by (CD)</i>
	<i>Note.— Divide as</i>	Z9N65	1965 model
	1A Material of clip.*		
	(Illustrative)	ZA	<i>By Brand</i>
JP6	Plastic		<i>Note.— To be derived by (AD). (Illustrative)</i>
KZ	<i>By Purpose</i>		
	T4 (A2) into (A1) begins		
L	<i>By Special convenience</i>	ZD	Doric
L03	Pen set	ZP	Pilot
L1	Pen-pencil	ZW	Wilson
L2	Pen with 2 nibs		
L4	Pen with knife	(1)	<i>By Standard</i>
L5	Pen with flash light		<i>Note.— To be derived by (GD). (Illustrative)</i>
L6	Pen with radio		
L95	Pen with camera		
L98	Pen with hearing aid	(551)	DIN Standards
L9E	Instrument recording		
LE	Luxury type		
LF	Gift model		
LFC	Christmas gift		
LZ	<i>By Environment adapted to</i>		
M	<i>By Latitude</i>		
M1	Tropic		
MZ	Sub-tropical		
M8	Polar		
N	<i>By Physiography</i>		
N7	Below sea-level		
N8	High altitude		
NZ	<i>By User</i>		
P	<i>By Age</i>		
P1	Child		
P3	Adult		
Q	<i>By Sex</i>		
Q5	Woman		
Q6	Man		
S	<i>By Occupation</i>		
	<i>Note.— To be derived by (SD). (Illustrative)</i>		
S (4)	Journalist-Reporter		
S (D)	Engineer		
S (L)	Doctor		
	T4 (A2) into (A1) ends		
Z1	<i>By country of make</i>		
			<i>SCHEDULE OF (1P2) ISOLATES</i>
		2	Cap
		3	Barrel
		5	Neck
		6	Tongue
		8	Nib
			<i>SCHEDULE OF (1P3) ISOLATES</i>
		OA	Ring
		OB	Clip
		OD	Piston
		OG	Inner barrel (sac)
			<i>SCHEDULE OF (1P4) ISOLATES</i>
		01	Bottom
		02	Mouth
		03	Tip
		04	Thread
		06	Friction point
		07	Surface
		08	Hole
		091	Supply channel
			<i>ISOLATES IN [MMI]</i>
		4	Foreign matter
		41	Dirt
		4	Dust
		5	Ink
			<i>ISOLATES IN [MP]</i>
		OA1	Accuracy

OA17 Efficiency	OE5 Colour
OA7 Homogeneity	OG4 Breakage
OA78 Heterogeneity	OG7 Life
OB11 Quantity	ISOLATES IN [E]
OB611 Length	OFR Test
OB625 Surface area	7 Assembly
OB63 Volume	955 Finish
OBB Shape	
OC11 Weight	ISOLATES IN [2P] FOR 'ASSEMBLY'
OCP16 Thermal resistivity	2 Manual
OE4155 Flame proof	6 Automatic

### 8 Examples

#### 81 ALPHABETICAL INDEX TO SUBJECTS

Given below is an alphabetical index to the subjects of the documents listed in "Sec 82 Classified Part". The serial number is given as the index number against each entry in this section. The alphabetical subject index has been prepared according to chain indexing.

#### Ball point nib

- Fountain pen 4
- Instrument recording, Fountain pen 8
- Retraction through bearings, Fountain pen 5-6
- Calligraphy *influencing* Design, Nib point, Fountain pen 1
- Christmas gift, Fountain pen 9
- Design, Nib point, Fountain pen 1
- Drawing, Fountain pen 10
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- Ergonomics, Calligraphy *influencing* Design, Nib point, Fountain pen 1
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- German standards, Fountain pen 14
- Instrument recording, Fountain pen 8
- Luxury, Waterman Bic Corporation, Fountain pen 12
- Medium size, Waterman Bic Corporation, Fountain pen 13
- Nib point, Fountain pen 1
- Pen set, Fountain pen 7
- Plastic, Pen set, Fountain pen 7
- Retraction through bearings, Fountain pen 5-6
- Self-filling, Medium size, Waterman Bic Corporation, Fountain pen 13
- Soft tip nib, Fountain pen 2
- Tubular shape, Drawing, Fountain pen 10
- Tungsten tipped nib, Fountain pen 3
- Waterman Bic Corporation, Fountain pen 12-13.

#### 82 Classified part

- M Useful Arts
- MOJ Stationery Material
- MOJ.8 Writing Instrument
- MOJ.85 Fountain Pen
- MOJ.85,81;62&gPW1:8K
- FOUNTAIN PEN, NIB POINT, DESIGN *influenced* by CALLIGRAPHY; ERGONOMICS

- 1 N69 KAO (H S R), SMITH (K U) and KNUTSON (R). Experimental cybernetic analysis of handwriting and pen point design. (Ergonomics. 12; 1969; 453-8).
- MOJ,85-9A1  
FOUNTAIN PEN, SOFT TIP NIB
- 2 N66 REINERT (J). Report on soft tip pens. (Science digest. 60; 1966; 81-2).
- MOJ,85-9E5  
FOUNTAIN PEN, TUNGSTEN TIPPED NIB
- 3 N66 BREINISH (M). Metal scriber from pen: Tungsten tip pen. (Popular Mechanics. 125; 1966; 192).
- MOJ,85-9HF  
FOUNTAIN PEN, BALL POINT NIB
- 4 N65 BALL-POINT PENS. (Consumer bulletin. 48; 1965; 30-4).
- MOJ,85-9K6-9HF"v'N7  
FOUNTAIN PEN, RETRACTION THROUGH BEARINGS, BALL POINT NIB, HISTORY BROUGHT UPTO 1970S
- 5 N67 GRUNBERG (L). Example of technological tribology. (Chemistry in Britain. 3; 1967; 522-3).
- MOJ,85-9K6-9HF  
FOUNTAIN PEN, RETRACTION THROUGH BEARINGS, BALL POINT NIB
- 6 N67 GRUNBERG (L). Contribution of the chemist to tribology. (Instn of Mech Engrs Proc. 181, Part 3: 1966-67; 238-42).
- MOJ,85-LO3-JP6  
FOUNTAIN PEN, PEN SET, PLASTIC
- 7 N59 MATTSON (E B). Plastic pen set. (Industrial Arts and Vocational Education. 48; 1959; 206-7).
- MOJ,85-L9X-9HF  
FOUNTAIN PEN, INSTRUMENT RECORDING, BALL POINT NIB
- 8 N65 BOWDITCH (H L) and others. Instrument recording pen. (Materials in Design Eng. 61; 1965; 116-7).
- MOJ,85-LFC  
FOUNTAIN PEN, CHRISTMAS GIFT
- 9 N57 FOR THE Christmas stocking [Fountain Pens]. (Consumer Bulletin. 40; 1957; 18-9).
- MOJ,85-S (DV)-H11  
FOUNTAIN PEN, DRAWING PURPOSE, TUBULAR SHAPE
- 10 N71 PEN THAT revolutionised drawing office practice. (Reproduction. 8; 1971; 34-5).
- MOJ,85-(EV)  
FOUNTAIN PEN, EVERSHARP
- 11 N62 GUARANTEED FOREVER: Persistence pays off: Eversharp pens. (Consumer Reporter. 27; 1962; 62-3).



- MOJ,85-(W+B)-LE  
 FOUNTAIN PEN, WATERMAN-BIC CORPORATION, LUXURY  
 12 N68 WHERE LUXURY sells for 49 c. (Business Week. 1968; 112-4).
- MOJ,85-(W+B)-J2-F  
 FOUNTAIN PEN, WATERMAN BIC CORPORATION—MEDIUM SIZE—  
 13 N58 SELF-FILLING  
 GLOBAL PENMANSHIP. (Newsweek. 52; 1958; 80).
- MOJ,85-(551)-S (DV)  
 14 N69 FOUNTAIN PEN, GERMAN STANDARDS, DRAWING PURPOSE  
 DRAFTING PENS made to suit new DIN standards. (Engineering  
 Materials Design. 12; 1969; 874).

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- 2 Sec 21 NEELAMEGHAN (A) and GOPINATH (M A). Grouping  
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 4; 1966; Paper K).
- 3 Sec 11 —, —, DENTON (P H). Motor vehicle produc-  
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 12 (Lib sc. 1; 1964; Paper A)
- 6 Sec 2291 —. Prolegomena to library classification. Ed 3.  
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