Subblock of 120 addresses ⎱ — 65.24.74.0/25
⋮
— 65.24.74.119/25.

Subblock of 60 addresses ⎱ — 65.24.74.120/26
⋮
— 65.24.74.179/26.

Subblock of 10 addresses ⎱ — 65.24.74.180/28
⋮
— 65.24.74.189/28

① Address: 165·199·170·82 /27.

⇒ No. of addresses available

$$= 2^{32-27} = 2^5 = 32 \text{ //}.$$

⇒ __First__ __address__ = 165·199·170·64/24

⇒ __Last__ __address__ = 165·199·170·95/24

---

② Special addresses:

i) this·host ⇒ 0·0·0·0 /32

ii) limited broadcast ⇒ 255·255·255·255/32

iii) loopback ⇒ 127·0·0·0/8

iv) Private:

10·0·0·0/8

172·16-0-0/12·

192·16·4·0/16

~~169·2·5·~~

169·25·4·0/16.

---

⑥ __Fast__ __Ethernet__ implementations:

⇒ It should provide data rate of 100 Mbps.

⇒ It should be more compatible than standard ethernet.

⇒ It should follow the 32-bit address format.

⇒ It should follow the minimum and maximum frame formats.

---

⑧   Offset value = 120

HLEN' = 5

Total length = 100

⇒ Header length: 5×4 = 20

__First__ __byte__: 1.

__Last__ __byte__: 0

v) Multicast:

224·0·0·0/4.
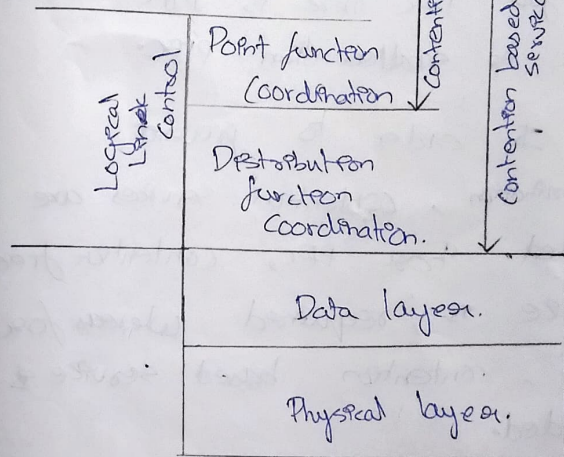
④ Advantages of dividing an Ethernet LAN with a bridge:

⇒ Collision rate is reduced.

⇒ Data transmission among each domain is flexible.

⇒ Low chances of transmission error.

⑤ Reservation access method:

The stations are able to transmit data when other stations have allowed it to pass. A station cannot send data unless it is authorized by other stations.

PART-B

⑨ MAC sublayer:

```
┌──────────┬─────────────────────┐
│          │  Point function     │ ← Contention free service
│ Logical  │  coordination       │
│ Link     ├─────────────────────┤
│ Control  │  Distribution       │
│          │  function           │ Contention based service
│          │  coordination.      │
├──────────┴─────────────────────┤
│         Data layer.            │
├────────────────────────────────┤
│         Physical layer.        │
└────────────────────────────────┘
```

⇒ Point function coordination:

⇒ It lies at the top of the MAC sublayer.

⇒ It is mainly applied for time-based transmissions.

⇒ In order to have priority over distribution function coordination (DFC),

internal spaced fragments are
introduced. For PFC, there is PIFC
and for DFC there is DIFC. However
DIFC is smaller than PIFC.

⇒ In order to prevent
domination, contention sources are
added. For PFC, contention free
source is required whereas for
DFC, contention based source is
needed.

Distribution function coordination. (DFC)

⇒ It lies below the PFC.

⇒ It has lower priority when
compared to PFC.