ACVDL - 2026 . 18/1/26 .

Part → 1

→ basic pipeline.

* Basics → Pytorch ; Neural Network.

→ Notebook.

* Perceptron → basics.

* Multi-layer Perceptron / ANN → Theory

↙

Backpropagation → Basic DL theory

Activation functions / loss functions

↙ ↓

& their derivatives How did they formulate.

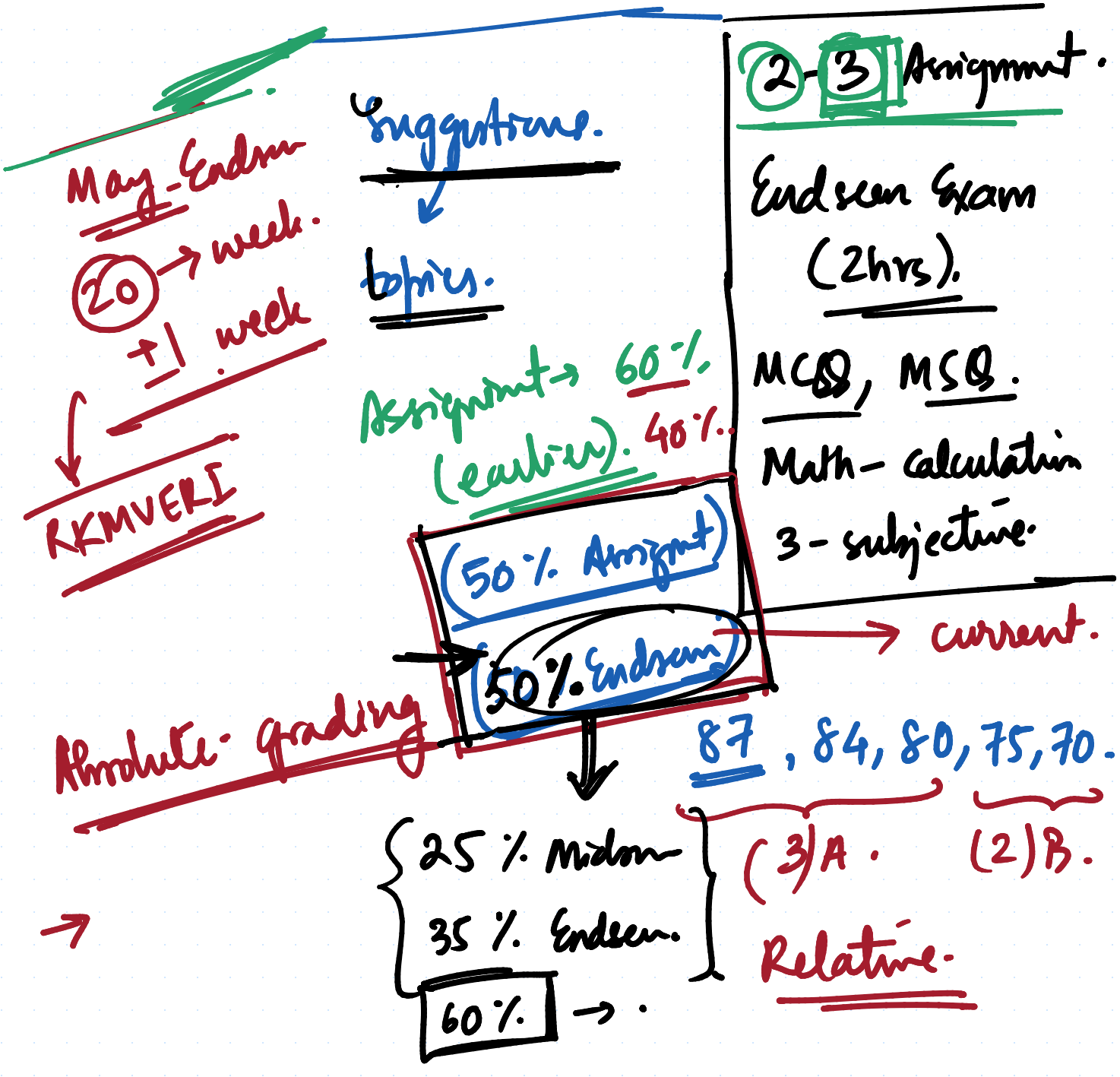
- Optimization → RMSProp, Adam . . . .

Part → 2 . (Pytorch)

- CNN → (c) Classifier (Code, basic thing).

(•) Segmentation → Multi-class, Binary (code)

(•) Autoencoders → Variational AE.



Part - 3

- Transformers.
- Paper-reading

(x) .
.
.
↓

(*) Prithwish ↴

Game related → RL?

(a) Sayan

→ Agentic - Application

↓ ↓

Model + Architecture.

(x) Indranil.

Paper.

10-15

(o) Transformer → Attn is All you need. ↓.

- LMMs

(o) GPT-2 → OpenAI

(o) T5 → Google.

(o) Deepseek ↓ → Tencent.

↓

Math.

(o) Mistral ↓

- Llama. → FB.
- Qwen.

first version of each model.

- RL-based.
  - R1 (Deepseek-R1.)
  - PPO
  - GRPO
  - DPO.
- General.
  - BLIP
  - LoRA
  - 8 LoRA.
  - Flash Attention → faster version.
- Multimodal →
  - Gemma
  - Gemini.

  } Google.
- VLMs
  - chosen.
    - GLM
    - RadFM
  - MedGemma
  - SmolVLM.
- Metrics → classics.
  - BLEU
  - ROUGE
  - bertscore
  - BLERT
  - LLM as a judge
  - METEOR